

THE EXAMINER CORPORATION

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Assessment Solutions Since 1985

*Examiner*

*Scoring*

*Utility*

*assessment management system*

*18 March 2019*

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*Let's Start at the Very Beginning,  
a Very Good Place to Start  
Rodgers and Hammerstein's The Sound of Music*

## Introduction

**D**ocumentation is the scourge of software developers and users alike. Developers hate to write the stuff, and users universally hate to read it. I'm hoping that this manual won't suffer from those scourges. While I love technobabble<sup>1</sup> as much as the next geek, it really doesn't belong in a manual targeted at people that want to use an application and not have to learn a complex new job skill.

What I'm getting at is that you probably don't want to get buried in the minutia of assessment theory when all you want to do is see how your examinees<sup>2</sup> performed on the last chapter quiz. As I write this, I'm going to try to imagine *you* sitting across from me in a one-on-one training session. I'm going to tell you what you need to do to accomplish a task...and then move on.

### How to use this user's guide<sup>34</sup>

Here's what's going to be covered in the text:

1. Setting up the system for the first time.
2. Creating an answer key.
3. Scoring using the key.
4. Looking at the results by assessment.

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<sup>1</sup> "Technobabble" is that incomprehensible string of words that engineers on shows such as Star Trek™ like to spout. They give you the feeling that *something* is being conveyed to you in a very technical manner...but you haven't a clue as to what it actually is.

<sup>2</sup> You're going to see "trainer", "examinee", and "proctor" used in here. I could have said "classroom", "teacher", and "student". I've done it the other way around when developing software for classroom use. This time around, you win "examinee" and its kin.

<sup>3</sup> Footnotes! Read the footnotes! See... you're reading THIS footnote! They will (hopefully) amuse you. They may, on occasion, give you some extra information that will make your use of this software a more pleasant task.

<sup>4</sup> About the illustrations in this manual... I'm constantly making changes and adding new features to the software. Sometimes the software will "get ahead" of the manual and you'll see buttons and the like in the software that isn't in the manual. You can probably figure out what is going on with Words of Wisdom in here, but if you get stuck give me a yell.

## 5. Looking at the results by examinee.

Before you even start playing with the software I'd recommend reading through the manual<sup>5</sup>

Next, “play” with the system in a not-ready-for-prime-time set of files. You don't want to experiment on your examinees<sup>6</sup>. Get some familiarity with the software before you inflict the process on your charges.

Finally, jump into the deep end and start using the software regularly. If you don't use this software on a regular basis, you'll probably find it gathering dust. Once you get over the initial learning curve, you'll wonder how you got along without the software<sup>7</sup>.

### **A little bit of background...**

This software is built on the foundation of The Examiner System, a full-featured assessment and examinee management system that was originally released in 1985. That release was built on the experiences gained from the PLATO system, the first large-scale, multi-user, computer-based educational system in the world<sup>8</sup>. Along the way I've seen what works, and what doesn't work. The databases, structures, and features that you'll be working with in this program are based on well over a quarter-century of input from Real Users. When I give a training session I often will sit across the table from a new user and watch their forehead. If I see a wrinkled brow, I'll ask “what's wrong?” I'll then tweak the software so that the next time a user wanders past that point a smooth forehead will be present. If you don't understand something, the fault is mine, not yours. Send me an email<sup>9</sup>, call me on the phone<sup>10</sup>, bang on the office door<sup>11</sup>; I'll listen to you.

Ready? Let's get started!

---

<sup>5</sup> You do read manuals for bed-time reading, don't you? Both my sons and I do, and look at us! We're perfectly normal people.

<sup>6</sup> Then again, maybe you do. I Hear Stories...

<sup>7</sup> Then again, you may end up using this thin missive to prop up that shaky leg on the dining room table. That works for me...

<sup>8</sup> Read the 2017 book by Brian Dear, “The Friendly Orange Glow”. (ISBN: 978-1101871553) to learn all about PLATO. If you want to have a classic, old-school computer-based education experience check out cyber1.org on the internet. You can sign up for access to a real, live, PLATO system hosted on a PC server. You can even check out some of the programs that I wrote 30 years ago!

<sup>9</sup> Go to our website to see the current support email address. A human being will actually read your note and respond to it.

<sup>10</sup> Ditto.

<sup>11</sup> Monday – Friday, 9AM – 5PM.



*Begin at the beginning and go on till you come to the end; then stop.*  
*The King in Alice in Wonderland – Lewis Carroll*

## Getting Started

In this chapter you'll perform a number of tasks:

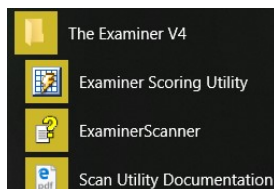
- Learn what's going on in the software.

And once you know that:

- Create a history file that will store information on your assessments and students.
- Create a key file that will store the answer keys used for scoring your assessments.

First off, install the software<sup>12</sup>.

After the installation, look in your program listings<sup>13</sup>. There will be an entry in there that should look something like this:



Great! You're good to go. We'll get back to running the software in a bit. First off, though, let's talk about how the program operates.

## Scoring Utility Basics

At the end of the day this utility was created to make it easy to score an assessment and see how the folks that took that assessment performed. Here are the bare-bone steps that take place:

---

<sup>12</sup> If you haven't, how are you reading this? Oh! You cleverly printed out a copy of the documentation in advance of running the software. If you haven't installed the software, run "ExaminerScoring\_YYYYMMDD.exe" (YYYYMMDD is the date the software was built) on your installation CD or file image and follow the directions. I'll wait while you do it.

<sup>13</sup> I'll assume you know where to look for programs. It's different depending on what flavor of Window you are using.

1. You create your assessment<sup>14</sup>.
2. You take the answer key from that assessment and add it to the Scoring Utility.
3. You use the answer key to score a set of completed assessments.
  - a. Do it manually with the built-in tool.
  - b. Do it speedily with an OMR (bubble sheet) scanner.
4. You analyze and print the results.

Let's first look at the main files that make the system run.

## History File

The History File, sometimes called the “Records File”, is where the results of your assessments end up. Inside it's a Microsoft Access<sup>TM</sup> file<sup>15</sup>, specially formatted for use with this software. It's not protected, so you can use Access to look inside and see what's going on. However, it's probably not a good idea to change things inside the file unless you really understand what you are doing<sup>16</sup>. There are three main tables that are created and updated when you score an assessment. There are a lot of other tables in the history file. Generally, you don't need to worry about them since they are for the internal use of the program.

### Examinees Table

Each assessment that you score must have an examinee ID on it. If it's not scanned in, you'll be prompted for it. There is an option to automatically create an ID. The ID is what is called the “Primary Key” of that table. It's unique. What this means is that you can't have two different people with the same ID. Each record in this table will “own” one or more records in the Exams table. This is known as a “one to many” relationship.

### Exams Table

Each assessment that you score will create a unique record in the Exams<sup>17</sup> table. That record will contain information about the exam such as the score, mastery information, how many items there are... it's a snapshot of the assessment. Each record is owned by a single record in the Examinees table. It's what's

---

<sup>14</sup> May I humbly suggest that you look into my flagship product, The Examiner? It's got item banking and assessment design wrapped up into one tidy package. Its assessment printing utility let's you create ready-to-reproduce assessments and answer keys. Guess where you use the answer keys.

<sup>15</sup> And before you ask, you do not need to have Access on your computer. The software contains all the code necessary to work with Access files.

<sup>16</sup> If you do want to muck about inside the History File, I heartily recommend that you make a backup copy of the file and play in that. If you, ummm, Foul Things Up, you won't be destroying any of your valuable data.

<sup>17</sup> And, yes, I know I call those things “Assessments” everywhere else. The History File has been around in one form or another since the early 1990's. Back then, we had “Exams” and “Tests” and nobody called them “Assessments”. Changing the name of that table would require a lot of code rewrites. It's much easier just to write a footnote like this and say: “That's the way it is.” I knew you'd understand.

know as a “many to one” relationship. In turn, each record in the Exams table will own one or more entries in the Items table. Again, a “One to many” relationship.

## **Items Table**

Each item<sup>18</sup> in an assessment has a unique record in the Items table. This contains information such as an ID for the item, how it was answered, and what the mastery information was. Each item is owned by the exam record relating to the assessment that the item was in.

## **Key File**

The Key File is another specially formatted Access database that contains the information necessary for scoring an assessment. There are two main tables in the key file that concern us. Again, you probably should let the program be the only thing that plays with this file. If you cause problems in it, you could very easily lose the information necessary for scoring your assessments.

## **Keys Table**

Each record in the Keys table contains the information necessary for scoring a single assessment. The data the assessment was generated, how many item, and what the mastery point is are some of the important things in this record. Each record in the Keys table is associated with one or more records in the Item table.

## **Item Table**

Each record in the Item table represents a single item in an assessment. Each record is owned by one record in the Keys table. Information in the item table contains such things as an item ID and mastery information for that particular item.

## **Form Definition**

When you use a scanner, you need to have a form definition to tell the software how to interpret the information that’s coming out of the scanner<sup>19</sup>. Sekonic form definitions are specialized files created with the Examiner’s Sekonic Utility. This is a separate product. You can also request that The Examiner Corporation create a form definition for you<sup>20</sup>.

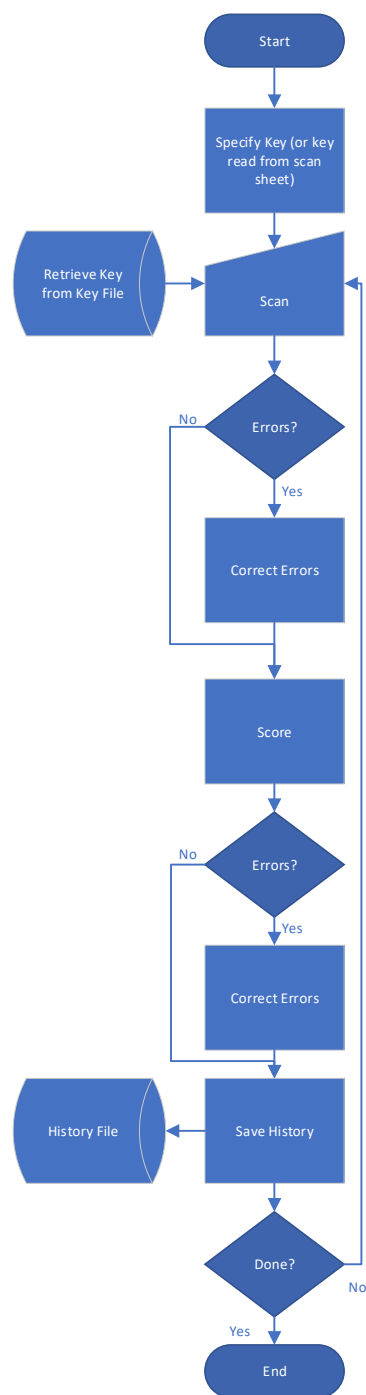
---

<sup>18</sup> Item = Question. Kind of like Assessment = Exam. It’s jargon. Check out the appendix on page 69. There’s a discussion on naming and the like.

<sup>19</sup> Without the form definition the scanner is a rather expensive hunk of metal and plastic that’s too big to use as a door stop and too small to use as a coffee table. In this, the Sekonic edition of the scanning utility, we’ll concentrate (obviously!) on the Sekonic scanner. You should be aware that the software supports other scanners.

<sup>20</sup> You get one free form. After that, you will need to rain down Shiny Gold Coins on the developer to create additional forms.

## Program Flow



This is a very generalized flow chart<sup>21</sup> showing how the scoring process works. In this case we are looking at bubble-sheet scanning. Manual scanning works pretty much the same, except you fill out a grid on the screen rather than having the scanner do it for you. In all places where an analysis takes place you can say “skip” and the sheet won’t be scored.

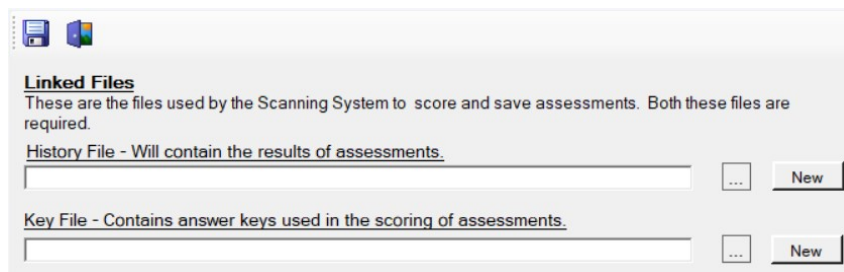
1. The key file is either specified manually or it can be read from the bubble sheet.
2. The sheet is scanned. If a key is needed you will be prompted.
3. The sheet is analyzed for pre-scoring errors. Again, you will be prompted to correct them.
4. The sheet is scored.
5. The sheet is analyzed for post-scoring errors. Again, you will be prompted to correct them.
6. The results are then saved to the history file.
7. The scanner is queried to see if there are any more sheets.
8. If not, you are finished. If there are more sheets the process repeats.


---


<sup>21</sup> Sometimes the archaic “flow chart” is the best way to show how something works. I learned how to do ‘em back in ‘68, and I’ve used ‘em ever since.

## Specifying Your Files

Before you can use your software you need to specify the history and key files. On starting up the software for the first time you'll get a message saying you need to do just that. Click on "Files" and then "Linked Files" in the menu bar in the upper-left corner of the display. The Linked Files page will be shown:



To use an existing file click on this box, , to the right of the file field. A browse box will open up allowing you to look for and attach the file. If you need to create a new file, and for first-time users this is a given, click on the "New" button. When you are attaching an existing file, the file will be examined to make sure it is of the appropriate type and version for use with this software.

When you are done, click on the save button, <sup>22</sup>, to save the file locations and return to the main screen. The screen will update to show the full suite of options.

---

<sup>22</sup> How long will be using archaic symbols like this little floppy disk? I suppose we still talk about "dialing" the phone, eh?

# Main Option Screen

Examiner Scoring Utility

Files

Scoring

Scan Sheets

Manual Scoring

Read Scan File

Key Options

Existing Key

New Key

Tools

History Field Fix

Key and History Validation

Performance Title Fix

Backup and Purge

Results

Assessments

Examinees

Export

System

Help

Version

Exit Program

Congratulations<sup>23</sup>! You figured out how to attach the files and get the software up and running. Now you can see all the nifty things the software is capable of. Let's look at each of the groups and see what they are about. To run the software, click on an option!

**Scoring**

This is where you input the assessment into the system for scoring. You can use a bubble sheet (OMR) scanner. You can manually fill out a scoring grid on the screen. You can read a specially-formatted file<sup>24</sup>.

**Key Options**

This is where you can create a new key or edit an existing key. New keys can be created manually or can be scanned off an OMR bubble sheet. If you use the Examiner's Assessment Printing Utility to create your assessments, you can view the answer keys created by the utility in here.

**Tools**

Sometimes things are filled out on the forms incorrectly and bad data ends up in the history file<sup>25</sup>. The History Field Fix lets you create things such as incorrect examinee ID's and the like. If you use the appropriate controls whilst scanning to check your data, you will probably never have to use this option. Sometimes folks edit the item bank and don't do it the right way... The Key and History tool will help you find out where the problems lie<sup>26</sup>. The Performance Title Fix will resynchronize item bank titles with those in the attached history file. The backup and purge options let you take snapshots of your files for backup purposes and then purge old records in order to speed up the operation of the software.

**Results**

This wouldn't be much of a system if you couldn't view the results of all your scoring activity. You can view the data from the viewpoint of assessments ("How did all the examinees do on assessment Math392?") or examinees ("How did Jeff Brown do on the last series of assessments?). You can also export the results to an external file.

**System**

That first option, "Help", is there to help you! Use it! I spent many an hour creating it Just For You. The second option, "Version" will tell you when this version of the software was created and when it was installed. If you call for support, I'll probably ask you for this information, so be

<sup>23</sup> Don't you just love products that start out with "Congratulations on getting our nifty widget!" What are they going to say? "Boy, are we ever taking YOU for a ride, bucko! KaChunk! There's another Shiny Gold Coin dropping into the till!"

<sup>24</sup> This one's pretty obscure, and hardly anyone uses it. However, if you have some Special Gizmo that can read a sheet (read a person's brain waves, perchance?) and squirt out an appropriately formatted file you can use this to score an assessment.

<sup>25</sup> And this is why that there are so many checks and balances in place whilst scanning. It's always better to catch a problem before it's committed to the history file.

<sup>26</sup> ...and you will be Yelled At for letting this happen in the first place!

	prepared! “Exit Program”. If you can’t figure out what that one does, you probably should just give up and work as a burger flipper <sup>27</sup> . If you are using the automatic backup feature (see page 47) you will be shown a “Press OK to backup...” message. It’s recommended that you actually hit “OK” <sup>28</sup> .
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<sup>27</sup> Hey, I had to pick some trite meme occupation for this. I know a lot of burger flippers that are pretty darn smart. Then again, if they were so darn smart why did they get a Doctorate in “Advanced Babylonian Art of the Fifth Century BC”?

<sup>28</sup> You do, of course, realize that if you don’t hit OK and don’t do a backup it all but guarantees that you will need that backup within a few hours. That’s the way the universe rolls and you should get used to it. So, be a smart cookie and hit “OK”, eh?

---

Of course, it is very important to be sober when you take an exam.

Many worthwhile careers in the street-cleansing,  
fruit-picking and subway-guitar-playing industries have been  
founded on a lack of understanding of this simple fact.

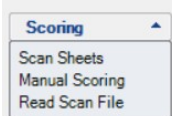
*Terry Pratchett, Moving Pictures*

## Scoring

Scanning, and all its other scoring variations, is at the core of this program. This section of the documentation will deal with the various ways you get information from an examinee and turn it into a scored assessment in your history file. It is assumed that you know the basic rudiments of creating assessments<sup>29</sup>.

Scoring a single assessment isn't bad. You tally up the examinee's correct marks, compare them to the rubric<sup>30</sup> and assign them mastery or non-mastery<sup>31</sup>. Before you can do this, you need to have access to an answer key. So.... Before we get wound up in scoring, pop over to the chapter on answer key. It starts on page 28.

## Introduction



All the scoring methods, scanner, manual, and file, have the same basic approach:

- 1) A key is selected.
- 2) Scoring criteria are set.
- 3) Field stamping and markings are set.
- 4) The examinee's responses are received.

<sup>29</sup> Of course, this may be a totally invalid assumption. This is why some of the support calls I handle end with me going downstairs and cracking open a bottle of single-malt whisky.

<sup>30</sup> "Rubric". A fancy way of saying in one word: "The set of instructions on how to interpret the examinee's answer and see if they tally with what you want them to know by a series of item-by-item mastery points and a full-assessment mastery point." See why folks in the biz say "rubric"?

<sup>31</sup> "Mastery". "Pass" and "Fail" sound so judgmental. "Mastery" ...there's a nice warm and fuzzy word. So much better than saying: "Jimmy... you have FAILED!"



- 5) The assessment is scored against the key.
- 6) The assessment results are stored in the history file.

The choice of a scoring system gives you the flexibility to handle most any situation. The easiest, obviously, is to use a bubble-sheet, “OMR<sup>32</sup>”, scanner to get the examinee’s responses into the system. What if, heaven forbid, the scanner has a problem or, more commonly, you’ve gotten a pile of answer sheets in that some kind person has stapled together and folded into an envelope<sup>33</sup>. In that case, you turn to manual scoring. Transcribing an examinee’s answers to the screen can be time consuming. But, at the end of the day, it’s a lot speedier than manually adding things up and recording them in a book.

And now, I hear you ask<sup>34</sup>, what is this “Read Scan File” all about. There are Other Things out there that can read or receive an examinee’s responses and put those responses in a file. There are gizmos<sup>35</sup> that can scan a bubble sheet on a flat-bed scanner and convert the image into a file. There are other gizmos that will receive an examinee’s responses via a touch-tone phone and convert that into a file. And the internet...gizmos galore there, too. The bottom line is that the “Read Scan File” option doesn’t care where the data comes from. So long as it is formatted in the approved Examiner fashion (which you will find in Appendix B on page 82).

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<sup>32</sup> OMR = Optical Mark Reader. Now you too can speak Real Jargon!

<sup>33</sup> I provide a scoring service for some very interesting customers. No, I can’t tell you who they are. In spite of me begging and pleading, I will often receive bubble sheets in the post that look like a small bull terrier has had a field day destroying. Scan? I don’t think so.

<sup>34</sup> “Hearing you ask...” is what’s called a “rhetorical statement”. I’m writing this manual with the attitude that you’re in the room with me and I’m patiently explaining things to you. And while you’re here...would you run downstairs and grab me a cup of coffee? Milk. No sugar. Back now? Ok... let’s get on with our story.

<sup>35</sup> Techie name for a “hunk of interesting hardware that does some obscure task”.

## Scanning

Click on “Scan Sheets” on the main screen to launch the scanning process<sup>36</sup>.

The screenshot displays the Scanning software interface with the following components:

- Answer Key:** A text field containing "Not specified." with "Pick" and "Clear" buttons.
- Force Item Bank:** A dropdown menu showing "-- Not specified. --".
- Low Score Warn Active:** A checked checkbox with a value of "50 %".
- Force Assessment Date To:** An empty date field.
- Stop if ID is blank:** A checked checkbox.
- Use Auto-ID Option:** An unchecked checkbox with a "Next ID to use:" field containing "202".
- Required ID Length:** A field containing "10".
- Require Last Name:** A checked checkbox.
- Review blank/multi mark:** An unchecked checkbox.
- Review while scanning:** An unchecked checkbox.
- Scanner Control File:** A text field showing the path "C:\Users\gbrow\Documents\ProctorSystemFiles\SekForms\262L-REV.SKF" with "Change File" and "Change Scanner" buttons.
- Show extended progress messages:** A checked checkbox.
- Activate support options:** An unchecked checkbox.
- ALWAYS use this key. Override sheet key:** An unchecked checkbox.
- Added Fields:** A table with columns "Use", "Name", and "Value". It contains two rows: "LOCATION" with value "ST PAUL" and "PROCTOR" with value "John". Buttons for "Add New Field" and "Delete" are present.
- Scan:** A button with a scanner icon.
- Session Name:** A text field containing "Session: 20190115 10:47:48" with a "Use default." checkbox.
- Post-scan review active:** A checked checkbox.
- Adjust Threshold:** A button with a threshold icon.

The first time you use the software you will be asked to select a scanner and to specify for the scoring file. For information on how to set up your scanner refer to the scanning portion of this document on page 73 in Appendix A. Some of the fields on the screen will need to be filled out while others are optional. Most of the fields will be remembered from session to session.

---

<sup>36</sup> Remember earlier when I talked about what you see in the software not being quite the same as what you read here? Well, you're probably going to see that a bunch in here. There are a TON of little options, and to be quite honest, I really don't want to have to redo ALL the little illustrations. So... you are going to just have to Look At The Screen and see that "Oh, that clever lad moved the control OVER HERE!". See, that's not too hard, is it? And just think...you'll be saving me from having to do a lot of busy work that really won't, in the long run, make much of a difference in anything. That's my story, and I'm sticking with it.

## Answer Key

Bank	Profile	Key Number	Created On	Memo
44042001	44042001_CM	506	12/21/2017	ExamPrintUtility-V3
44042001	44042001_CM	507	12/21/2017	ExamPrintUtility-V3

Click on the “Pick” button to select the answer key. The list of available keys will be shown at the bottom of the screen. Double-click on a key to select the one you want to you. You can double-click on a column heading to sort the column. You also need to make a check in the “Always use this key...” box to the right of the “Pick” button. This tells the system to, well, ALWAYS use that key. To remove the key from the field, click on the “Clear” button.

One time when you shouldn't use this option is when the key is embedded on the answer sheet. This allows you to put a stack of sheets in the scanner and not have to worry about sorting them. The software will read the key off the sheet and load it as needed.

## Force Item Bank

If the key number of the assessments are saved on the bubble sheet but the bank name isn't specified, you need to specify it. Click on the Item Bank drop-down to select an item bank. If you use this option you need to make sure that the “ALWAYS use...” check box is not checked, as that will override anything that is on the bubble sheet. The bank names in the drop-down are loaded from all the bank names that are in the attached key file. If you select this option and the key number read off the sheet doesn't match a key in the answer key an error message will be shown during scanning.

## Low Score Warning

While you are scoring an assessment it's important to know if you are scoring the assessment with the correct answer key. Catching errors before they are committed to the history file is a good rule to follow! It's easy to know what number to put in the box. If you are using predominately four-alternative multiple

choice items, the score a person would get just by random chance would be 25%. Five-alternative would be 20%. Knowing this, you set the warning value around 5 or 10 percent higher than the random chance value. So, for an assessment with four alternatives you'd set the value to 35%. When a sheet is scanned that is scored below the value a box is shown on the screen. At that point you can decide to accept the score or skip that sheet. If you get a lot of bad-score sheets you can be pretty confident that you are trying to score the assessment with the wrong key. At this point you can pull the sheet out of the "read" pile on the scanner or leave it for later handling.

## Assessment Date

Force Assessment Date To:  
(Always used as default date.)

☒ Stop if ID is blank.

☐ Use Auto-ID Option. Next ID to use: [ ]

☒ Require Last Name.

☐ Review while scanning.

Scanner Control File (Scanner: Sekonic)

Monday, March 18, 2019

March 2019

Sun	Mon	Tue	Wed	Thu	Fri	Sat
24	25	26	27	28	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	1	2	3	4	5	6

Today: 3/18/2019

The assessment date can be scanned off the OMR sheet. You can override this date by clicking on the drop-down and selecting a date. To force the use of this date, make a mark in the box. If the date is missing from the sheet, the date shown will be used. It

should be noted that this is the date for the assessment, not the date the sheet was scanned. An entry is automatically made in the records for the date and time of scanning.

## ID Options

☐ Stop if ID is blank.

☐ Use Auto-ID Option. Next ID to use: [1]

Required ID Length: [10]

A number of ID options are available. The ID is very important as it is the primary key used in the Examiner's history file. Note that if a blank or error character is detected INSIDE of the ID the system will display an error message and will take you to the sheet editing page.

### Stop if ID is Blank

If the ID is blank or missing the scanning process will pause with an error box. The sheet will not be scored and should be removed from the output tray of the scanner.

### Required ID Length

If the ID must be of a certain length fill in the length in the box and make a check in the box. If the ID is not of the required length the scanning process will pause with an error box. The sheet will not be scored and should be removed from the output tray of the scanner.

### Auto-ID Option

Sometimes an examinee's ID is unknown at the time they are taking an assessment. Using this option will detect a missing ID and will create a new ID starting with the number in the box. The box on the left must be checked in order for this operation to be active. Each time a new ID is created this number will increment by 1. The History File will be examined to see if that number is already in use. If it is, the system will auto-increment the ID number to the highest number found in the History File, plus one.

### Last Name

☒ **Require Last Name.**

Strictly speaking, a name isn't required when scoring assessments. If one isn't found the value "Unknown" is entered into the History record. If you want to require that a last name be present, make a check in the "Required Last Name" box. If the name is not found the scanning process will pause with an error box. You will be taken to the review screen to fix the error.

### Review While Scanning

☐ **Review sheet while scanning.**

Sometimes you'll want to review each sheet for errors before committing it to scoring. Making a check in the box will display an image of the sheet on the screen. You can make any changes to the sheet at this point and then decide whether to score or skip the sheet. Refer to "Manual Scoring" on page 23.

### Review Blank/Multi Mark

☐ **Review blank/multi mark.**

If this option is set and an unanswered item or an item with more than one mark in it (when there should only be one) is detected the review sheet mode will be activated. On that page the line with the first error will be displayed in red. Problems with multi-marks and unmarked bubbles can often be fixed by adjusting the sensitivity or "threshold" of the scanner. Refer to page 79 for information on adjusting this setting.

### Session Name

Session Name:  ☒ **Use default.**

Each time a set of sheets is scanned a unique name is created for the set. This allows the user to quickly find a set of sheets in the history file. A manually-entered name can be used, or the system can create a default-formatted name. The default session id is of the format "Session: YYYYMMDD HH:MM:SS". For example, the session ID of "Session: 20180201 13:53:20" would tell us that the scan took place at 1:53PM on the 2<sup>nd</sup> of February 2018. If you enter a session name that is the duplicate of an existing name, you will be asked to confirm your selection.

### Post-Scan Review Active

☒ **Post-scan review active.**

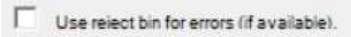
If this option is active you will be taken to the Assessments Screen with in the Results section of the program. The list scored assessments that were just read in this session will be on the screen. This is a quick way to score an assessment and immediately see the results. Results are discussed starting on page 51.

### **Added Fields**

Added Fields:			Add New Field	Delete
Use	Name	Value		
<input checked="" type="checkbox"/>	INSTRUCTOR	John		
<input checked="" type="checkbox"/>	LOCATION	ST PAUL		

When an assessment record is written to the exam table in the records database you can added extra fields. The contents of these fields can be used to unique stamp the records. The fields can then be used as search targets to, say, see just the assessments that were taken at a certain location, or were proctored by a specific proctor. To create a new field, click on the “Add New Field” button. A line will be added to the “Added Fields” table. In the left-hand column enter the name of the field. In the right-hand column enter the value that you want this field to have. You must make a check in the “Use” column for the field to be active. Field names will be saved from session to session. You can delete a field from the list by clicking on the “Delete” button.

## Reject Bin



If your scanner is equipped with a “Stacker<sup>37</sup>” you can make a check in this box and most, but not all, sheets with errors will be sent to the secondary bin rather than the main storage bin. Refer to page 78 for information on stacker options. This option might not appear on your screen depending on how you answered the “stacker” questions when you added or changed your scanner.

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<sup>37</sup> I suppose it’s called a “stacker” since the regular part of the scanner is “stacked” on to top of the other part. Maybe it’s because it controls the way the sheets are “stacked”. Beats me.

## Adjust Threshold



Sometimes when you're scanning, you'll notice that not all the marks are making it into the records. Other times, bubbles that have been erased are still showing up. You can eliminate a lot of these errors by adjust the threshold of the scanner. What you'll be doing when you select this option is telling the scanner that marks darker than a certain point will be accepted as "marked" and those below will be judged "not marked". Click on the button to access the option.

Put a sheet in the scanner and click on the "Scan" button. The sheet will feed and the screen will change to something like this:

Sensitivity Control

Use the drop-down to select a threshold level and then click on the Scan button. The grid (front and back) will show you the levels that have been read off the scanner. Bubbles that will be evaluated as "marked" will be shown in green. Bubbles with a value, but lower than the threshold, will be light red. When you are satisfied with your setting, click on the Save button.

Threshold: 6

Scan

Save

Cancel

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33
1	0	14	15	0	0	0	0	0	15	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	0	0	0	11	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	12	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5	0	0	0	0	0	0	0	0	10	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	9	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	10	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	11	0	5	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	12	0	7	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	8	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	10	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	11	0	0	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	11	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15	0	0	0	0	0	10	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0
17	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	0	0	0
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Each cell contains a number that represents the density of the mark in that cell. The higher the number, the darker the mark. The "Threshold" drop-down sets the point between "accept" and "reject". On this example it is set to "6". Looking at the sheet you can see how this has resulted in the accepted and rejected cells.

Use of a decent Number 2 pencil<sup>38</sup> will go a long way to ensuring a correctly interpreted sheet.

When you are done, click on the "Save" button to save the settings.

<sup>38</sup> My wife, the retired teacher, swears by the classic, yellow-colored, "No. 2 Ticonderoga". She has seen a LOT of bubble sheets in her life and she HATED having to deal with mis-read sheets. The use of the No. 2 Ticonderoga will make your life more pleasurable. If you can't trust an elementary teacher, who can you trust?

## Scanning – Running the Scan

Once all the options have been selected you are ready to actually run sheets through the scanner. Make sure you have done this before clicking on the “Scan” button<sup>39</sup>:

- 1) Powered up the scanner and connected it to your computer<sup>39</sup>.
- 2) Double-checked the options.
- 3) Placed your bubble sheets in the feed tray and moved the feed tray into the “feed” position<sup>40</sup>.

Click on the “Scan” button to start the process. The “Scan Progress” box at the bottom of the screen will give you an on-going check on the scanning and scoring operation. If all goes well you’ll see a series of messages that let you know that. If not... error messages of one stripe or another. Refer to page 76 in the appendix for the most common messages.

## Scanning – Successful

If all goes according to plan<sup>41</sup>, this is what you’ll see on scanning a single sheet:

The screenshot displays the ProctorSystem software interface. The top section, titled 'Answer Key', includes fields for 'Answer Key: 982 in SampleBank / FiftyItems', a 'Force Item Bank' dropdown, and various checkboxes for 'Low Score Warn Active', 'Force Assessment Date To', 'Stop if ID is blank', 'Use Auto-ID Option', 'Require Last Name', and 'Review while scanning'. It also features a 'Scanner Control File' section with a file path and buttons for 'Change File' and 'Change Scanner'. On the right, there's an 'Added Fields' table with columns 'Use', 'Name', and 'Value', containing entries for 'INSTRUCTOR' (John) and 'LOCATION' (ST PAUL). A 'Scan' button is prominently displayed. Below the main settings, a 'Session Name' field shows 'Session: 20180205 10:53:40' with a 'Use default' checkbox. The bottom section, 'Scan Progress', has a table with 'Time' and 'Status' columns, showing a sequence of messages from '2/5/2018 10:53 AM' including 'Scanning session stopped', 'The scanner hopper is empty', 'Requesting sheet scan', 'Scoring completed', 'Scanned: \$\$LNAME.L\$\$FNAME.GARY\$\$MI.\$\$ID:2396655\$\$MONTH:April\$\$DAY:14\$\$YEAR:175\$\$IT:CDABBDDBBDDCCCAADCBABCDAAABCBACADBCBDBDBDACBDBAA', 'Requesting sheet scan', 'Load completed OK', and 'Opening with C:\Users\lgrow\Documents\ProctorSystemFiles\SekForms\F-262-L SKF'. Navigation buttons like 'Progress', 'Sheet', 'Clear', and 'Export' are also visible.

Time	Status
2/5/2018 10:53 AM	Scanning session stopped.
2/5/2018 10:53 AM	The scanner hopper is empty.
2/5/2018 10:53 AM	Requesting sheet scan.
2/5/2018 10:53 AM	Scoring completed.
2/5/2018 10:53 AM	Scanned: \$\$LNAME.L\$\$FNAME.GARY\$\$MI.\$\$ID:2396655\$\$MONTH:April\$\$DAY:14\$\$YEAR:175\$\$IT:CDABBDDBBDDCCCAADCBABCDAAABCBACADBCBDBDBDACBDBAA
2/5/2018 10:53 AM	Requesting sheet scan.
2/5/2018 10:53 AM	Load completed OK.
2/5/2018 10:53 AM	Opening with C:\Users\lgrow\Documents\ProctorSystemFiles\SekForms\F-262-L SKF

<sup>39</sup> Yeh... I know I've got a footnote on this elsewhere. But seriously, I am always amazed at the “Oops!” responses I get when people call to me whinge on about my AWFUL software and I tell them to check the wiring and power. So, to avoid hearing me roll eyes at you (Yes, you can actually hear them roll. Don't ask.) check the Appropriate Things before you start blaming me. By the way, I'm not immune to the “Stupid Software!” comment when I'm doing some scanning. I hit the “Scan” button and see an error message. “Grrr”, I say to myself. “Grrr... I screwed something up in the programming!”. And then I remember I'd pulled out the USB cable from the scanner and had shoved a memory stick into the slot. –Forehead slap–. Put back the cable and all is well.

<sup>40</sup> That “Feed Position” varies from scanner to scanner. Sometimes that feed tray is persnickety! If you don't have the sheets in *just so* the scanner will feed a sheet and make a horrible grinding sound and hold tight to the sheet. If you haven't been taking care of your scanner gunk might accumulate on the rollers and jam things up. The scanner isn't delicate, but it can and will act up. If you find yourself with a munged answer sheet that won't feed, you can use the Manual Scoring options to Manually Score the sheet. See? I'm always thinking about you!

<sup>41</sup> Best made plans... etc. etc.



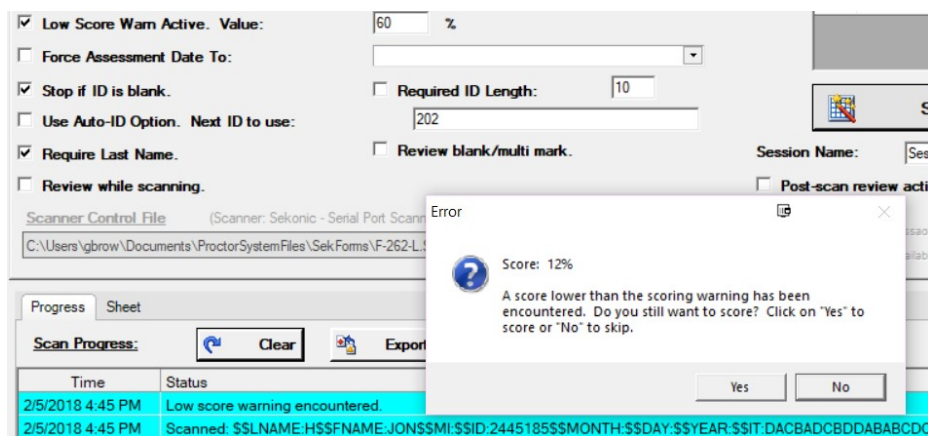
Let's look at the Scan Progress. Events are added at the top, so starting at the bottom:

- 1) The scanner reads the form.
- 2) It says, "Load Completed OK", so that's good.
- 3) The system tells the scanner to feed a sheet.
- 4) "Scanned" shows us what was scanned.
  - a. This is where the form definition comes in. The matrix of bubbles that the scanner sends out is interpreted by the software using the parameters in the form definition to create this line.
- 5) "Scoring Complete" means that the sheet was OK and that none of the controls at the top of the screen came into play.
  - a. Those controls will stop or pause the scanning if certain conditions are met. In this case, the scan passed all the tests and the data was stored.
- 6) The system requests another sheet.
- 7) The hopper is empty!
- 8) The session stops.

## Scanning - Problems

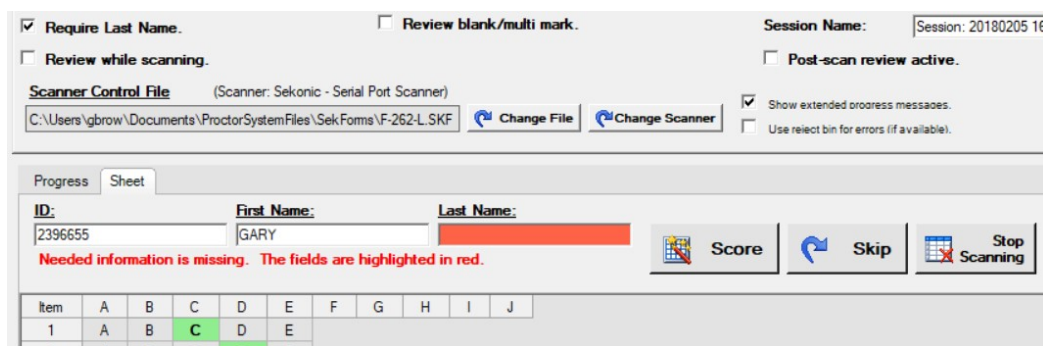
Things don't always go as planned. This section of the document will show you a number of the most common errors, and how to correct them.

### Low Score Warning



With the Low Score Warn Active option checked, the system will do a preliminary score and if the score is less than the trigger point show this message. In this case a score of 12% was achieved. This probably means that the wrong answer key was used to score this sheet. You should pull the sheet and click on the "No" (the default) button to skip scoring. You could press "Yes", but you will probably end up deleting the record from the history database since it was scored with the wrong key<sup>42</sup>. If you have a stacker attached to your scanner you will be asked if you want to automatically send all the low score sheets to the secondary tray.

### Missing Last Name



If you have make a check mark in "Require Last Name" and the last name wasn't on the bubble sheet this error will occur. You will be taken to the sheet editing page with the "Last Name" field highlighted. You

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<sup>42</sup> And in spite of me saying this people will still hit "Yes" to use the wrong key and then call me up and say "Hey, what's with the score???". People just don't listen. Don't be like those people, eh?

should enter the examinee's name into the field and click on the "Score" button. You could, of course, click the other two buttons to give up on the whole affair.

### Name – ID Mismatch

If you remember, the Examinee ID is the primary key in the history file. What that means is that the first time an assessment with a specific ID is read into the system a single record in the examinee table is created. The examinee's last and first names are also stored in that record.

This error occurs when a sheet is read in with an existing ID, but the name(s) on the examinee record in the database don't match the name(s) on the scanned sheet. In this case the ID "101121" exists with a first name of "GAIA". A sheet was read in with the same ID but a first name of "GAIIA". This was probably an error on the part of the examinee, doubling that "I". In this case you would select the second option to "Use the name that's in the history file" since it's probably correct. If, for some odd reason, the "GAIIA" was correct chose the first option. Remember, though, that any assessment that was read in earlier that has an id of 101121 will henceforth be seen with the name GAIA.

If you want the system to always do the selected operation if future errors of this type are detected, make a check in the box at the bottom of the page. Click on "Continue" to proceed.

If you want to correct this on the OMR sheet itself, pull the sheet out of the scanner and click on the "Skip Sheet" button. The sheet will not be stored in the system. Correct the sheet and feed it through again.

## Review Blank/Multi Mark

☒ Require Last Name. ☒ Review blank/multi mark. Session Name: Session: 20180205 16:5

☐ Review while scanning. ☐ Post-scan review active.

Scanner Control File (Scanner: Sekonic - Serial Port Scanner)  
C:\Users\gbrow\Documents\ProctorSystemFiles\SekForms\F-262-L-SKF [Change File](#) [Change Scanner](#)

☒ Show extended progress messages.  
☐ Use reject bin for errors (if available).

Progress Sheet

ID: 2445185 First Name: JON Last Name: H

First Action Item: 31

[Score](#) [Skip](#) [Stop Scanning](#)

Item	A	B	C	D	E	F	G	H	I	J
28	A	B	C	D	E					
29	A	B	C	D	E					
30	A	B	C	D	E					
31	A	B	C	D	E					
32	A	B	C	D	E					

This screen will appear if you have the “Review blank/multi mark.” option checked. If there are items on the bubble sheet that should have been answered, but weren’t, an error of this type is generated. There are a number of possible causes. The simplest one is that the examinee skipped the item or didn’t bubble it in correctly<sup>43</sup>. The “First Action Item” tells you what the first item with an error is. There may be more... When you are done fixing things (if they are fixable) click on the “Score” button to score the text. You might get a low score warning... in that case the “blank” item is shown because you are trying to score a 30 item test with a key that has more than 30 items on it.

ID: 2445185 First Name: JON

First Action Item: 31

Item	A	B	C	D	E	F
29	A	B	C	D	E	
30	A	B	C	D	E	
Multi Mark 31	A	B	C	D	E	
32	A	B	C	D	E	

Sometimes the problem isn’t a blank. The examinee may have bubbled in two or more bubbles on the same line. This can be caused if they changed their mind and didn’t fully erase the first bubble. Again the “First Action Item” shows us the first offending line. The multi mark error is highlighted in magenta. Refer to the bubble sheet and correct. You can handle a lot of multi-mark and blank bubble options by adjusting the scanner’s sensitivity. Refer to page 79.

## Review While Scanning

☒ Review while scanning. ☐ Post-scan review active.

Scanner Control File (Scanner: Sekonic - Serial Port Scanner)  
C:\Users\gbrow\Documents\ProctorSystemFiles\SekForms\F-262-L-SKF [Change File](#) [Change Scanner](#)

☒ Show extended progress messages.  
☐ Use reject bin for errors (if available).

Progress Sheet

ID: 2396655 First Name: GARY Last Name: Unknown

[Score](#) [Skip](#) [Stop Scanning](#)

Item	A	B	C	D	E	F	G	H	I	J
1	A	B	C	D	E					
2	A	B	C	D	E					
3	A	B	C	D	E					
4	A	B	C	D	E					
5	A	B	C	D	E					
6	A	B	C	D	E					
7	A	B	C	D	E					
8	A	B	C	D	E					
9	A	B	C	D	E					

You can use the “Review on error” type options to show an image of the sheet when something is wrong,

marked “wrong” on general principle. You tell them to ne.

you sometimes may want to look at every sheet as it passes through the scanner. In that case, make a mark in the “Review while scanning” option.

The “Score”, “Skip”, and “Stop Scanning” buttons do exactly what they say they do.

## Manual Scoring

Manual scoring lets you use the power of the Scanning Utility without having to have a scanner. This method is used when:

- 1) You are scoring answer sheets that have written answers rather than bubbles on an OMR form.
- 2) You’ve run out of bubble sheets.
- 3) Your scanner is on the fritz<sup>44</sup>.

This is, more or less, the same display that you see during the scanning process except without the options related to scanning. There is no “Scan” button, for example. To see how the options on this page work refer to the scanning section of this document.

Use	Name	Value
<input checked="" type="checkbox"/>	INSTRUCTOR	John
<input checked="" type="checkbox"/>	LOCATION	ST PAUL

Item	A	B	C	D	E	F	G	H	I	J
1	A	B	C	D	E					
2	A	B	C	D	E					
3	A	B	C	D	E					
4	A	B	C	D	E					
5	A	B	C	D	E					

There are a few differences that are worth noting. There is no “Force Bank” option. You must explicitly select the answer key you want to use. If you clear the answer key the bottom of the screen will clear. The “Stop Scanning” button has been replaced with “Stop Scoring”. This button will clear the display and return you to the main program screen.

<sup>44</sup> ...and no one seems to know where that phrase “on the fritz” came from! If you are not in North American, or of a Young and Tender Age you might not know that this means “broken”. Isn’t “on the fritz” a neat way of saying that? Well, I think it is, and it’s MY MANUAL, so “on the fritz” it is!

## Answer Sheet Maneuvering

If you are transcribing a large number of answer sheets you should know of the keyboard shortcuts that will make your life easier. Rather than having to move your mouse from square to square, you can click the answer in the first item and then use the keyboard to move through the sheet<sup>45</sup>. Follow these steps to fill out an answer sheet:

- 1) Make sure your key is selected and that the top-of-display options are set correctly.
- 2) Enter the name and ID of the examinee. Remember that the ID is a required field.
- 3) Click on the examinee's response in the first item. It will turn green.
- 4) To move to the next item, click on the down arrow on your keyboard. This will move you to the next item on the display. If you look carefully you will see a light grey box on that item.
- 5) On your keyboard, click on the letter (or letters for multiple-correct) that the examinee answered. That response will turn green. To un-do a selection, click on it again.
- 6) Click the down arrow to move to the next item. Repeat for all the items.
- 7) Click on "Score" and you're done!

After you have clicked on "Score" your sheet image will be evaluated. Depending on how you have set the other options on the page, you may see one or more messages such as "Low Score...". These are handled in the same way as described in the previous section.

---

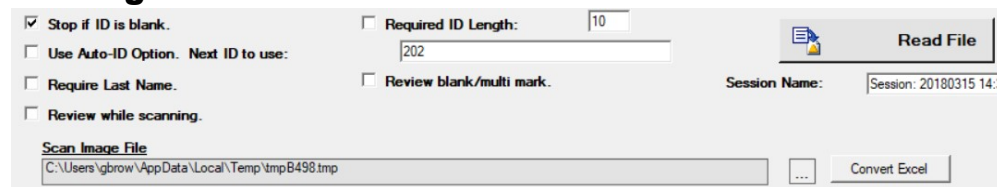
<sup>45</sup> I added this option to the system when I had a lot of answer sheets to score and none of my scanners were available. Matter of fact... quite a few options in my various programs are in the system because I didn't want to hassle with something. And that, my friends, is one of the pleasures of programming my own software!


## Read Score File

One of the powers of the Scanning Utility is that you can hook up a lot of different devices to it and it will do what it is supposed to do: score an assessment. When I designed the first version of the software many, many years ago<sup>46</sup> I realized that if I created a standard way for the internal scoring mechanism in the software to accept an image of a scanning sheet I wouldn't have to write massive amounts of code for each new device that I had to support. All I would have to do is write a much smaller piece of code that that would take the output of the device and convert that into my standard format<sup>47</sup>.

Some devices and programs, however, don't physically hook into my software. For example, there is software that will scan an OMR sheet on a flatbed scanner and create a file that represents that sheet. The software can output that information in the format that the Scanning Utility understands. Put that file into the "Read Scan File" section of the program, and "Bob's your uncle!"<sup>48</sup>.

### Reading the Score File



Before you can read a score file you need to tell the software where the file resides. Click on the browse box, , to the right of the Scan Image File box. Specify your file. Next, make sure all the options that you want active are set. These, more or less, are the same as for running the scanner as described on page 12. Click on "Read File" to commence reading. You can also read from many specially formatted Excel or delimited spreadsheets<sup>49</sup>. Click on "Convert Excel" to do read from a spreadsheet.

---

<sup>46</sup> 1985, to be precise. Yes, kids, I have been doing this for a long time!

<sup>47</sup> When I showed this to my late father he was suitably impressed. As the engineer that oversaw the development the telephone switching computer that your phone calls probably wander through, this was high praise indeed! It's good to be a geek...and why I'm glad that my son is a geek!

<sup>48</sup> As with "on the fritz" this British-ism is of obscure origin. It means, more-or-less, "and there you have it". As a certified Anglophile, dropping the odd British phrase into my day to day life is a requirement. Feel free to use this phrase in your day to day life. You, and your friends, will be better people for it.

<sup>49</sup> Of course, not all spreadsheets will be readable by the software. However... the application of the usual Shiny Gold Coins can usually result in the development of a file conversion interface for your favorite format!



## The Reading Process

Reading a scan file is a bit different from the other scoring processes. The entire file is read in one go, and then each of the lines is interpreted. You can see this by looking at this record from the Scan Progress box:

Scan Progress:	
Clear  Export	
Time	Status
2/12/2018 3:21 PM	Scoring completed.
2/12/2018 3:21 PM	Score sheet: (3) \$SLNAME:P\$SFNAME:MICHELE\$SMI:M\$SID:21403422\$SMONTH:February\$SDAY:28\$SYEAR:17\$SIT:BA?CCABACDBDCABCCBDA
2/12/2018 3:21 PM	Score sheet: (2) \$SLNAME:B\$SFNAME:LAWRENCE\$SMI:B\$SID:2555668\$SMONTH:February\$SDAY:28\$SYEAR:17\$SIT:CBDBCACACBDDCBACCCDA
2/12/2018 3:21 PM	Score sheet: (1) \$SLNAME:B\$SFNAME:TERRY\$SMI:R\$SID:2160248\$SMONTH:February\$SDAY:28\$SYEAR:17\$SIT:CADCCAC CBDDCADCCBDA
2/12/2018 3:21 PM	Reading completed. Commencing to score.
2/12/2018 3:21 PM	All the records in the scanner file have been processed.
2/12/2018 3:21 PM	Read image: 3
2/12/2018 3:21 PM	Read image: 2
2/12/2018 3:21 PM	Read image: 1
2/12/2018 3:21 PM	Reading scan image file.

This session has three records in it. You can see the system reading this as images 1, 2, and 3. The system states “Commencing to Score”, and each of the images is processed. If there are errors, and the appropriate options have been selected, the system will display the editing page so they can be corrected.

## Reading an Excel Spreadsheet

Click on the “Convert Excel” button on the main Read Scan File page to start the process.

Excel File Import

Scan Image File

C:\examinerdata\ScoreSpreadsheet.xls

...

Convert Excel

Select what the column contains using the drop-down list. When you have labeled the appropriate columns, click on the “Convert Excel” button to continue.

Column: 1 

Not Selected - Clear

☐ Ignore First Row in Table (contains labels)

Jane	Smith	453103334	03/10/2018 15:08	Base_exam	1	1	D	C	D	B	C	A	B	C	B	D	D	A	C	C	C	D	B	C	B	B	A	D	C	A	C
Tom	Ellison	42676423	03/10/2018 10:05	Base_exam	1	1	D	C	D	B	C	A	B	B	B	A	D	D	C	B	C	A	B	C	A	D	D	D	A	B	C
Jeff	Brown	429723244	03/10/2018 09:13	Base_exam	1	1	D	C	D	B	C	A	B	C	B	A	D	D	A	B	C	A	B	C	C	D	A	C	C	B	C
Mary	Sauser	45312324	03/10/2018 12:44	Base_exam	1	1	D	D	A	B	C	A	B	B	B	A	A	D	A	B	C	A	B	C	A	D	A	A	C	B	C

Initially you will need to specify the source file. To do this click on the box to the left of the file name field. You will be taken to a browse box where you can specify either an Excel file, “.XLS”, or a comma-delimited file, “.CSV”. When you click on Open in the browse box the table will be populated. If there are any errors, you will be shown an appropriate message. When you return to this page in the future the system will remember your last file and will attempt to read it. Remember to change the file name if you use a new file.

Before you can convert the file to a format the scoring system understands you need to tell the system what each column in the spreadsheet means. To do this, click on a column:

Jane	Smith	453103334	03/10/2018 15:08	Base_exam
Tom	Ellison	42676423	03/10/2018 10:05	Base_exam
Jeff	Brown	429723244	03/10/2018 09:13	Base_exam
Mary	Sauser	45312324	03/10/2018 12:44	Base_exam

The column you have clicked on will be highlighted.



Column: 3

Not Selected - Clear

First Name

Last Name

ID

Bank Name

Answer Key

Unique Key

Date

First Item

Jane	Smith	453103334	03/10/2018 15:08	Base_exam	1	1	D	C	D	B	C
Tom	Ellison	42676423	03/10/2018 10:05	Base_exam	1	1	D	C	D	B	C
Jeff	Brown	429723244	03/10/2018 09:13	Base_exam	1	1	D	C	D	B	C
Mary	Sauser	45312324	03/10/2018 12:44	Base_exam	1	1	D	D	A	B	C

Next, click on the drop-down and select the appropriate value.

Column: 3

ID

Jane	Smith	453103334	03/10/2018 15:08	Base_exam	1	1	D	C	D	B	C
Tom	Ellison	42676423	03/10/2018 10:05	Base_exam	1	1	D	C	D	B	C
Jeff	Brown	429723244	03/10/2018 09:13	Base_exam	1	1	D	C	D	B	C
Mary	Sauser	45312324	03/10/2018 12:44	Base_exam	1	1	D	D	A	B	C

The column will be titled.

Minimally you need to title the ID and the First Item columns. The ID is obvious. The “First Item” indicates which item contains the first item. The items must be the right-most columns in the spreadsheet! The column headings must be unique. If you’ve marked the wrong column as the ID, before you can mark the correct column you must click on the incorrect column and select “Clear” from the drop-down to remove the title.

Column: 1

First Name

☐ Ignore First Row in Table (contains labels)

First Name	Last Name	ID	Date	Bank Name	Answer Key	First Item						
Jane	Smith	453103334	03/10/2018 15:08	Base_exam	1	1	D	C	D	B	C	A
Tom	Ellison	42676423	03/10/2018 10:05	Base_exam	1	1	D	C	D	B	C	A
Jeff	Brown	429723244	03/10/2018 09:13	Base_exam	1	1	D	C	D	B	C	A
Mary	Sauser	45312324	03/10/2018 12:44	Base_exam	1	1	D	D	A	B	C	A

Some spreadsheets might contain their own titling information in the first line. In that case, make a check mark in the “Ignore First Row...” box. This will tell the system to ignore the first line in the spreadsheet and to begin the conversion with the second line.

When you are done, click on “Convert Excel”. The system will then create a temporary file and write the conversion into that file. You will be returned to the previous display where the temporary file will be shown in the “Scan Image File” line.

Scan Image File

C:\Users\gbrow\AppData\Local\Temp\tmp5FB1.tmp

Do not change this filename! Set your options as previously discussed and click on the “Read File” button. The file will then be scored.

I was gratified to be able to answer promptly, and I did. I said I didn't know.

*Mark Twain, Life on the Mississippi*

## The Answer Key

The answer key turns an examinee's scratches on a bubble sheet into a record of what they know and what they don't know<sup>50</sup>. If you lose the answer key, your life in the assessment biz becomes a lot more difficult. This section of the manual will tell you how to create and maintain your answer keys. The keys are accessed and created from the main utility page:



Click on “Existing Key” to edit an existing key.

Click on “New Key” to create a new answer key.

The answer key, oddly enough, resides in the answer key file that you specified right after you ran the program for the first time. If you need to change that file, refer to page 7 for directions. You should have only one answer key *file*. Internal information in each answer *key* tells where it came from.

Answer keys are unique. They give instructions, the rubric, for how to handle an examinee's answers and turn it into something that can end up in the history file.

## Answer Key Elements

### Examiner Legacy Elements

In the table you'll see references to “Item Bank” and “Profile”. These are elements that have their root in the main Examiner program, the foundation on which this software is based. You can quite happily use this software without The Examiner, but you'll still have to put up with these terms. You can use them for what you will...but you must use them.

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<sup>50</sup> Assuming, of course, that you were clever enough to write an assessment that actually assesses that which you want to assess (take THAT sentence and chew on it for a while!).

## Main Elements

Here's the main elements of an answer key.

Item Bank	Think of this as “the subject”. You might have a bank called “cats” and another called “dogs”. Or maybe a more encompassing bank called “pets”. In The Examiner, an Item Bank is a database that contains all the information needed for creating assessments: items and assessment designs.
Profile	The profile is the design for a specific assessment. It contains the number of items and mastery information. In The Examiner, a profile can produce an assessment that that is fixed or it can contain a wealth of randomization.
Key Number	This, in combination with the item bank, uniquely identifies an answer key. While you can have <u>many</u> key 432's in an key file, you can have only <u>one</u> key identified as “key 432 in bank cats”.
Unique Key	This is a guaranteed unique number for identifying an answer key. In any key file there will be one and only one unique key of a given number.
Mastery Point	<p>The mastery point is what the examinee needs in order to master an assessment. It can be defined in two ways:</p> <ul style="list-style-type: none"><li>- Absolute points: This is an arbitrary number of mastered points needed for mastery.</li><li>- Percentage: This is a percentage of the total number of points that is needed for mastery.</li></ul>
Items	These are the individual items in the assessment. There can be up to 500 items in an assessment. The following are the elements of an item:
Items: ID	This is a unique identifier for the item in the item bank. It's of the form X.Y.Z (1.4.2, for example). If using The Examiner to create assessments, this number ties back into the source item bank. The levels usually represent some sort of hierarchy such as “Chapter, Topic, Section...” If manually creating a key, you can create your own numbering scheme with the caveat that all ID's in a single key must have the same number of levels.

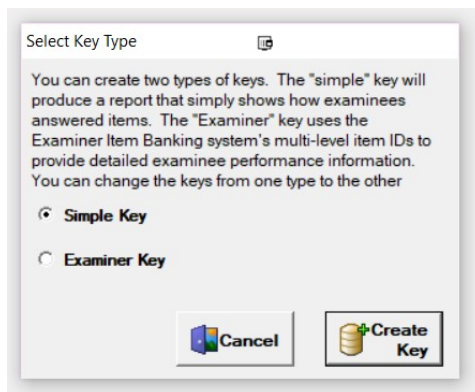
Items: Weight	An item can have a weight from 0 to 99. If an examinee masters an item, this is the number of points that are awarded for the item. When using mastery by percentage the sum of these weights is what is used in calculating the number of points needed for mastery <sup>51</sup> .
Items: Alternative Weights	This is the weight assigned to each of the alternatives in a multiple choice item. If the examinee selects an alternative they are awarded that number of points <u>within the item</u> . This sum is then checked against the item mastery point.
Items: Mastery Point	This is the number of points <u>within the item</u> that are necessary to award mastery for the item. The mastery point is totally different from the weight of the item.

Note that there are a lot of other elements in both the key and the items owned by that key. The elements outlined here are the ones that are needed for scoring.

## New Answer Key

Click on “New Key” in the “Key Options” to create a new answer key.

### Key Type



The “Simple Key” creates a file where the items are just identified by a single number: 1, 2, 3, and so on.

The “Examiner Key” creates a file using The Examiner’s tiered item identifier system. Items will be numbered like this: “1.1.1, 1.1.2, 1.2.1, 1.2.2, and so on.

You can’t change types once you’ve selected it.

<sup>51</sup> Why a weight of “0” I hear you ask. This lets you create an “experimental” item where you can try it out without disadvantaging an examinee if you’ve not done a great job in designing the item. You can see how this item performs before releasing it as a “real” item. In assessments such as the SAT and ACT (remember them?) there are sometimes 20% of the items with a weight of zero. This process of checking out items to see if they are OK is called “validating”. See? You too can use the tools the Big Kids use!

## Simple Key

If you have selected a “Simple Key” the screen will look like this:

Assessment Date: Tuesday, January 23, 2018

Unique Key: - System Generated -

Total Points: [ ]

☐ Absolute Points Mastery: 7 = [ ] %

☐ Percentage Mastery: 70 = [ ] Points

Buttons: Save, Exit, Scan Key, Manually Create

No.	ID	Member	Subtest	Weight	Type	Alts	A	B	C	D	E	F	G	H	I	J	Mastery	Ans	Alt.O
-----	----	--------	---------	--------	------	------	---	---	---	---	---	---	---	---	---	---	---------	-----	-------

Both this, and the Examiner Key type, will show the “Scan Key” and “Manually Create” buttons. They operate in similar fashion.

## Manual Key Creation

Clicking on the “Manually Create” button will ask you for two pieces of information. The first screen will ask for the number of items in your assessment and the second screen will ask for the number of alternatives each item is to have. These numbers are fixed once you have selected them. If you change your mind you will need to exit out of the editor without saving and re-create the key.

In the following example an assessment containing ten items with three alternatives in each item was created:

Item Bank: [Edit Bank Name]

Profile: [Edit Profile Name]

Assessment Date: Monday, January 22, 2018

Unique Key: 946

Total Points: 10

☒ Absolute Points Mastery: 7 = 70 %

☐ Percentage Mastery: 70 = 7 Points

Buttons: Save, Exit, Delete Key

No.	ID	Weight	Type	Alts	A	B	C	Mastery	Ans	Alt Order	Ap	Bp	Cp	Ansp
1	1	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	1	-1	A
2	2	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A
3	3	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A
4	4	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A
5	5	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A
6	6	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A
7	7	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A
8	8	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A
9	9	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A
10	10	1	Multiple Choice	5	1	-1	-1	1	A	ABCDE	1	-1	-1	A

The easiest way to create an answer key is by scanning it in. Here's a sample of a typical<sup>52</sup> OMR bubble sheet:

[illegible]

As you can see, I've filled in 10 items (1-10) on the sheet. After you have selected "New" key and then the type of number system an itemless screen will be shown. Clicking on the "Scan Key" will ask for two pieces of information. The first screen will ask for the number of items in your assessment and the second screen will ask for the number of alternatives each item is to have. These should be "worst case" numbers. When your bubble sheet is scanned the system will look at what was entered and if there are more items and/or more alternatives than what you put in the system will adjust the numbers it uses to create the answer table to match what was on the sheet.

<sup>52</sup> “Typical” as in “I see a lot of my customers using this particular sheet. It’s not my favorite because it has some “human factor” problems. For example, there aren’t blank columns between the Last, First, and MI name fields. Simple things like that can prevent an examinee from accidentally putting a bubble in the wrong place. As much as possible you should design your bubble sheet with the knowledge that the examinee may be under a bit of pressure whilst using it. Anything you can do with the layout of the sheet to minimize inadvertent user error should be done. You want to assess the examinee’s knowledge, and not their ability to fill out the bubble sheet.



## Scanning the Answer Sheet

First click on the “Scan Key” button on the initial editing display. The screen will change to the scanning interface:

Place the scan sheet in the scanner with the correct alternatives marked and click on the "Scan Key" button.

Scanner Control File (Scanner: Sekonic - Serial Port Scanner)  
 C:\Users\gbrow\Documents\ProctorSystemFiles\SekForms\F-262-L-SKF [Change File](#) [Change Scanner](#)

☒ Show extended progress messages.  
☐ Use reject bin for errors (if available).

Progress Sheet

Scan Progress: [Clear](#) [Export](#)

Time	Status
------	--------

For information on how to set up your scanner refer to the scanning portion of this document on page 73 in Appendix A.

Put the sheet in the feed tray. Refer again to the sample on page 32. Obviously, you mark your sheet for what you need! Click on the “Scan Key” button. If everything works, the sheet will be scanned, and you will be returned to the key editing display with the mark bubbles appropriately displayed:

Assessment Date: Thursday, February 1, 2018 Memo: Key scanned from scanner at: 2/1/2018 4:02:10 PM

Unique Key: New Key "One" Key: 1919

Total Points: 10

☐ Absolute Points Mastery 7 = 70 %  
☒ Percentage Mastery 70 = 7 Points

[Save](#) [Exit](#)

No.	ID	Weight	Type	Alts	A	B	C	D	E	Mastery	Ans	Alt Order	Ap	Bp	Cp	Dp	Ep	Ansp
1	1	1	Multiple Choice	5	1	-1	-1	-1	-1	1	A	ABCDE	1	-1	-1	-1	-1	A
2	2	1	Multiple Choice	5	-1	1	-1	-1	-1	1	B	ABCDE	-1	1	-1	-1	-1	B
3	3	1	Multiple Choice	5	-1	-1	1	-1	-1	1	C	ABCDE	-1	-1	1	-1	-1	C
4	4	1	Multiple Choice	5	-1	-1	-1	1	-1	1	D	ABCDE	-1	-1	-1	1	-1	D
5	5	1	Multiple Choice	5	1	-1	-1	-1	-1	1	A	ABCDE	1	-1	-1	-1	-1	A
6	6	1	Multiple Choice	5	1	-1	-1	-1	-1	1	A	ABCDE	1	-1	-1	-1	-1	A
7	7	1	Multiple Choice	5	-1	1	-1	-1	-1	1	B	ABCDE	-1	1	-1	-1	-1	B
8	8	1	Multiple Choice	5	-1	1	-1	-1	-1	1	B	ABCDE	-1	1	-1	-1	-1	B
9	9	1	Multiple Choice	5	-1	-1	1	-1	-1	1	C	ABCDE	-1	-1	1	-1	-1	C
10	10	1	Multiple Choice	5	-1	-1	-1	1	-1	1	D	ABCDE	-1	-1	-1	1	-1	D
11	11	0	Multiple Choice	5	-1	-1	-1	-1	-1	0		ABCDE	-1	-1	-1	-1	-1	
12	12	0	Multiple Choice	5	-1	-1	-1	-1	-1	0		ABCDE	-1	-1	-1	-1	-1	
13	13	0	Multiple Choice	5	-1	-1	-1	-1	-1	0		ABCDE	-1	-1	-1	-1	-1	
14	14	0	Multiple Choice	5	-1	-1	-1	-1	-1	0		ABCDE	-1	-1	-1	-1	-1	
15	15	0	Multiple Choice	5	-1	-1	-1	-1	-1	0		ABCDE	-1	-1	-1	-1	-1	

Note that the correct alternatives on the display match what was “bubbled in” on your sheet. Refer to page 34 for instructions on completing the answer sheet and storing it.

## Editing the Key

Whether you create a key manually, use a scanner, or are editing an existing key, the process of key editing is pretty much the same. If you have created a key with Examiner style IDs extra information will be shown at the top of the page as contrasted to the “simple” index mode. When you are done working on the key click on the “Save” button. If you click on “Exit” without saving you will lose your changes. If you want to delete the key click on the “Delete” button. Once you delete an answer key you cannot recover it<sup>53</sup>!

Item Bank
Key Number

Profile

Assessment Date
Memo

Unique Key
"One" Key

Total Points

☐ Absolute Points Mastery
 =  %

☒ Percentage Mastery
 =  Points

No.	ID	Weight	Type	Alts	A	B	C	D	Mastery	Ans	Alt.Order	Ap	Bp	Cp	Dp	Ansp
1	1.1.1	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
2	1.1.2	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
3	1.1.3	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
4	1.1.4	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
5	1.1.5	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
6	1.1.6	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
7	1.1.7	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
8	1.1.8	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
9	1.1.9	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A
10	1.1.10	1	Multiple Choice	4	1	-1	-1	-1	1	A	ABCD	1	-1	-1	-1	A

## Answer Table:

The answer table is the core information for your assessment. It shows the items and it shows the correct answers for each item. We'll deal with this first.

Here's what each of the columns represent:

No. This is the ordinal position in the test. This cannot be edited.

ID This is an ID for the item. In the “simple” mode this cannot be edited. In the “Examiner” mode you can edit each of the numbers in the field. All the IDs must have

<sup>53</sup> And I mean it! You can call me and grovel and even rain down Shiny Gold Coins... you are not going to get that deleted key back.



the same number of levels. Each ID must be unique. Each number in a field must be between 1 and 254.

Weight	Points awarded if the item is mastered. This is a number from 0 to 99. After you edit this field the information in the Total Points and Mastery fields at the top of the display will change to make the new sum of the weights.
Type	Fixed as “multiple choice”. This cannot be edited.
Alts	The number of alternatives in the item. You can change this to a number from 1 to 10. The table will replot to the appropriate width.
A-J	The weight of each alternative. This is the number of points awarded if the examinee selects this alternative. This can be a number from -99 to 99. The top letter shown is based on the highest alternative in the answer key. You can assign different numbers to each alternative in order to achieve a sophisticated answer strategy <sup>54</sup> .
Mastery	The sum of the weights of the answered alternatives must be greater than or equal to this number for mastery to be awarded for the item.
Ans	If an alternative has a weight of greater than 0 the letter of the alternative is added to this. For example, if alternative A has a weight of 1 and C has a weight of 3 the Ans column will show “AC”.
Alt. Order	This usually pertains to Examiner-generated answer keys where the order of the alternatives in the source item has been shuffled. Thus, the answer that’s in the source item bank is different from what’s printed in the assessment <sup>55</sup> . This cannot be edited.
Ap-Jp	The “printed” weight. This takes the information in the A-J columns and shuffles it per the information in the Alt. Order field. It cannot be edited.
Ansp	The “printed” answer. This is the same as a “Ans” but takes into account the shuffling. It cannot be edited. This is the field that needs to be looked at when you are comparing what an examinee answered and what was graded. If shuffling is <u>not</u> present this will exactly match the “Ans” field.

## Mastery

“Mastery” is the pro way of saying “The Examinee Passed”. You have to have something in the mastery fields even though you might not even be using mastery<sup>56</sup>.

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<sup>54</sup> As in “The examinee can answer A or C but never D, ‘cause D is such a STUPID answer that it shows they really are guessing.”

<sup>55</sup> And this is why we use computers. “Alternative Order” can be very, very confusing. Wetware (that’s US!) often has a very, very difficult time figuring out how to unravel things is an examinee has answered “A” to an item but the item was shuffled. The Magic of Software™ handles all the messy bits.

Total Points	<input type="text" value="10"/>		
<input type="radio"/> Absolute Points Mastery	<input type="text" value="7"/>	=	<input type="text" value="70"/> %
<input checked="" type="radio"/> Percentage Mastery	<input type="text" value="70"/>	=	<input type="text" value="7"/> Points

Total Points This is the sum of the weights of the items. You can't edit this field...it's automatically calculated.

Absolute Points Mastery This sets mastery to an arbitrary number points. The number must be between 0 and the total number of points. To the right of this number is the equivalent expressed as a percentage. Percentage mastery is always the next highest integer. Thus, a calculated mastery of "69.4%" would be expressed as "70%". As you change this, the entry in the "Percentage Mastery" field changes to match.

Percentage Mastery This sets mastery to a percentage of the total number of points.

Entries show up for both of the mastery types. The selected option will tell the scoring system what mastery method to use when scoring the assessment.

## Item Bank and Profile

Item Bank	<input type="text" value="animals"/>	Key Number	<input type="text" value="976"/>
Profile	<input type="text" value="pot_belly_pigs"/>		

When you are using an "Examiner Mode" key a zone is shown at the top of the display where you can enter some information. This information will be virtually "stamped" into the history records to indicate the source of the assessment. If you are using The Examiner System this will be a real item bank and profile, for that is what was used to generate the answer key in the first place. If you are manually creating the key, you should put in some information that logically identifies where that assessment came from. You must edit the default "EditBankName" and "EditProfileName" entries that are placed there during the manual creation of the key.

For example, the "Item Bank" could be "Animals" and the "Profile" could be things such as "Cats", "Dogs", and "Pot Belly Pigs"<sup>57</sup>. If you have multiple assessments on cats you might have "Cats1", "Cats2", and so on. In brief, the "Bank" owns "Profiles". That's really the important thing.

<sup>56</sup> "Huh?" I hear you say. "I thought the point of a test, oops, 'assessment', was to see if an examinee passed or failed." Not necessarily. Hence the word "Assessment" instead of "Test". Maybe you just want to know if your own instruction was up to par. If you get fancy and use the Examiner-style ID's you can even figure out what the examinees individual and as a group know. Setting the mastery point to "0" is usually construed to mean that you are just looking for information and not grades.

<sup>57</sup> I have a friend that actually has one of these beasts. He swears it's a wonderful pet. He also has (had?) a duck. He also plays the trombone. Draw your own conclusions.

## Answer Key

When you are using the Examiner Mode you will need to specify a key number. The combination of the bank name and the key number *uniquely* identifies the answer key. Thus, there can only be one Key Number “2314” in bank “Animals”. When you automatically create a key that number is generated by the software by looking at the highest number that currently exists for that bank and adding one to it. You can set this to any number from 1 to 99999. If you try and save a key with a number that already exists, you will be told to pick a different number.

## “One” Key

A screenshot of a software interface showing a label "One" Key followed by a text input field containing the number 1915.

Sometimes it's advantageous to refer to an answer key by a single number. This is what the “One Key” is for. When you automatically create a key, the system will create a number that is one higher than the highest existing One Key in your file. You can change this, but it cannot duplicate an existing One Key number. This number is shown in both the Examiner and Simple modes.

## Unique Key

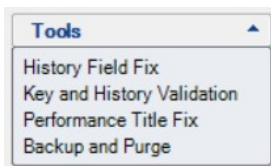
A screenshot of a software interface showing a label Unique Key followed by a text input field containing the number 963.

Each time you store a key in the key file the system assigns a unique, ever growing, number to that key. This number cannot be edited. Before you store the key for the first time this field will show “-System Generated-“ or “-New Key-“. If you are editing an existing key the number that is in the key file will be shown. This number is shown in both the Examiner and Simple modes.

To err is human, but to really foul things up you need a computer.

*Paul R. Ebrlich*

## Tools



The tools options are a set of features that let you correct user-introduced problems, make sure you history and keys are what they should be, and maintain your files.

### Tools - History Field Fix

Scanning is wonderful, but sometimes errors occur. Usually it's the person filling out the form that causes the error<sup>58</sup>. The scanner options try to set things up so that this error is caught before the information is committed to the history file. However, in spite of all good intentions, errors do creep in. More often than not, that error takes the form of a bad ID or name. Because of the way the system assigns assessments to a specific user's ID, if an assessment was marked with an incorrect ID the History Field Fix allows you to re-assign the assessment to the correct examinee.



To fix these errors, click on the "History Field Fix" option on the main page. To update a name click on the "Names" tab on the next page. To change the assignment of an assessment to a different examinee, click on the "Assessments" tab.


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<sup>58</sup> At least that's the story that I stick to.


## Fix Name


Use these options to correct errors that were on the scan sheet. The "Names" tab can be used to fix incorrectly entered names or missing name. The "Assessments" tab can be used to re-assign an assessment to a different or new examinee when the wrong examinee ID was entered.

Names Assessments

Search for in Last Name Fields   Search

Search for in First Name Fields   Search

Search for in ID Field:   Search

 Save Changes

Changed	ID	Orig Last Name	Orig First Name	New Last Name	New First Name
<input checked="" type="checkbox"/>	2312780	H	MICHELLE	High	MICHELLE

This option is used to correct the name associated with an ID. To use this option, you first need to find the examinee's record. Use the search options by typing in the search target in the appropriate field and then clicking "Search". If one or more records are found they will be shown in the table.

Changed	ID	Orig Last Name	Orig First Name	New Last Name	New First Name
<input type="checkbox"/>	2312780	H	MICHELLE	H	MICHELLE

In the example, the first name of "michelle" is being searched for. Her record was found and is shown in the table. The last name is shown as "H". We know it should be "Higgenbottem". To fix that, we type that into the "New Last Name" field:


Changed	ID	Orig Last Name	Orig First Name	New Last Name	New First Name
<input checked="" type="checkbox"/>	2312780	H	MICHELLE	Higgenbottem	MICHELLE



Click anywhere else of the page, and the "Changed" option is marked. To save the change, click on the appropriately named "Save Changes" button. Say "OK" to the confirmation and your change will be saved.


## Re-assign Assessment

Sometimes an examinee puts the wrong ID on their bubble sheet and their assessments ends up getting assigned to the wrong person. The system tries to catch this before it happens (See page 21), but errors do creep in. This option lets you fix the errors.

Names Assessments


Search with Scan Session Fields   Search

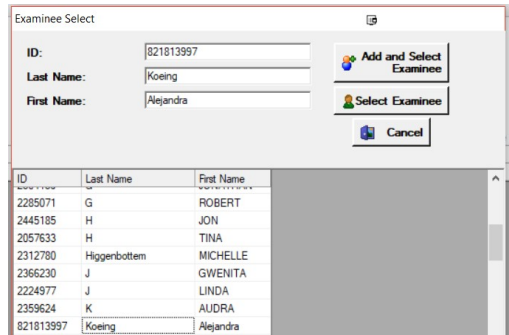
Search with Key Code   Select  Search

 Save Changes

Changed	Scan Session	Assesmnt. Date	Bank/Profile	ID	Orig Last Name	Orig First Name	Assign To
<input type="checkbox"/>	Session: 20180209 13:33:38	2/28/2017 12:00 AM	Edit Bank Name/Edit Profile Name	2345336	S	RAPEEPOR	<input type="text"/>
<input type="checkbox"/>	Session: 20180209 13:33:38	2/28/2017 12:00 AM	Edit Bank Name/Edit Profile Name	2555668	B	LAWRENCE	<input type="text"/>

Follow these steps to fix a record:

- 1) Use either of the search options at the top of the display to search for a set of records.
- 2) When you find a record you want to change, click on the  box in the “Assign To” column.
- 3) To assign to an existing examinee, use the scroll on the “Examinee Select” page to select and examinee:

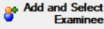


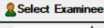
Examinee Select


ID: 821813997

Last Name: Koeing

First Name: Alejandra

 Add and Select Examinee

 Select Examinee

 Cancel

ID	Last Name	First Name
2285071	G	ROBERT
2445185	H	JON
2057633	H	TINA
2312780	Higgenbottom	MICHELLE
2366230	J	GWENITA
224977	J	LINDA
2359624	K	AUDRA
821813997	Koeing	Alejandra

- a.
- 4) To create a new examinee and assign to that person enter an ID and first and last names:



Examinee Select

ID: 1000

Last Name: Brown

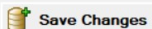
First Name: Jeff

 Add and Select Examinee

 Select Examinee

 Cancel

- a.
- b. Click on “Add and Select Examinee”.
- c. The examinee will be added and assigned to that assessment.
- 5) The change will show up on the next page.

 Save Changes

Changed	Scan Session	Assesmnt. Date	Bank/Profile	ID	Orig Last Name	Orig First Name	Assign To
<input checked="" type="checkbox"/>	Session: 20180209 13:33:38	2/28/2017 12:00 AM	Edit Bank Name/Edit Profile Name	2345336	S	RAPEEPOR	1000) Brown, Jeff ...
<input type="checkbox"/>	Session: 20180209 13:33:38	2/28/2017 12:00 AM	Edit Bank Name/Edit Profile Name	2555668	B	LAWRENCE	

- a.
- b. Click on “Save Changes” to update the records.

## Tools – Key and History Validation

You can tell something to someone over and over and over again, but they don't get the message<sup>59</sup>. I talk about this later on in the document, but it bears repeating<sup>60</sup>:

***If you change the correct alternative in an item, change the item number! If you change an item so that it will be answered differently, change the item number! If you do ANYTHING that will change how the examinee will interact with an item, change the item number!***

These two tools let you find out where someone else has not followed the rule and has created a mismatch between what's in the item bank and what's in the answer key<sup>61</sup>.

How do these errors occur? Remember that the answer key represents the state of the item bank ***at the point in time where the assessment was created***. If the bank was edited after the assessment was created and information within items changed, the old key can become mismatched from the way the bank exists now. This mismatch is the cause of the majority of support calls that I receive.

**Item Bank to Check**

C:\examinerdata\train\_bank\_sm.XM3

Scan

This routine will sweep through the keys and history file answers that use the specified item bank. Discrepancies between the bank and the key and history will be noted. You can then print or save the results.

☒ Scan Keys    ☒ Scan History

Click on the browse box to select an item bank. Next, select the type of scans you want to perform:

Scan Keys      This will sweep through the key file and look for all the keys that were created from the item bank. The markings in the key will be compared to the current state of the item bank. Exceptions will be noted.

Scan History      This will sweep through the history file and look for assessments that were created based on the item bank. Mismatches between the marked answers in the items and the marked answers in the item bank will be noted.

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<sup>59</sup> As on page 49. Oh, wait... you haven't gotten that far yet!

<sup>60</sup> Is it "repeating" if its before the second reference? Well... I wrote that other bit earlier, so it's "repeating" for me. We'll let that stand.

<sup>61</sup> Yes indeed, "someone else", because we know YOU didn't make the error. Right?

Click on the Scan button to begin. You must select at least one of the two scan options. A progress bar will be shown as the scan proceeds. Each of the scans has its own progress bar. Be patient... this may take some time. You can print the tables by clicking on the print icon at the top of the screen.

## Key-Bank Scan Results

After the scan has been completed a table of exceptions will be displayed:

Keys		History			
Key Number	Ordinal	Item ID	Key	Bank	Information
10040	8	5.3	Weight: 0	Weight: 1	Weight mismatch Key: 4/10/2015 Bank: 8/28/2018
	16	2.292	Weight: 1	Weight: 0	Weight mismatch Key: 4/10/2015 Bank: 8/28/2018
	25	3.63	Weight: 0	Weight: 1	Weight mismatch Key: 4/10/2015 Bank: 8/28/2018
	29	2.20	Answer/Weights: (C) -1,-1,1,-1	Answer/Weights: (A) 1,-1,-1,-1	Answer mismatch Key: 4/10/2015 Bank: 8/28/2018
	32	5.17	Weight: 0	Weight: 1	Weight mismatch Key: 4/10/2015 Bank: 8/28/2018
	38	5.54	Answer/Weights: (B) -1,1,-1,-1	Answer/Weights: (A) 1,-1,-1,-1	Answer mismatch Key: 4/10/2015 Bank: 8/28/2018
	40	4.128	Weight: 1	Weight: 0	Weight mismatch Key: 4/10/2015 Bank: 8/28/2018
	45	4.13	Weight: 1	Weight: 0	Weight mismatch Key: 4/10/2015 Bank: 8/28/2018
	49	4.251	Weight: 1	Weight: 0	Weight mismatch Key: 4/10/2015 Bank: 8/28/2018

Key Number	This is the answer key number. Remember this is linked to the item bank that you specified.
Ordinal	This is the position of the item with the error within the assessment.
Item ID	This is the ID within the Examiner item bank that was used to create the assessment.
Key	This is the characteristics of the item as specified within the key. “Weight” specified the item weight. “Answer/Weights” specify information for each of the alternatives.
Bank	This is the characteristics of the item as specified within the item bank. “Weight” specified the item weight. “Answer/Weights” specify information for each of the alternatives.
Information	This tells what kind of mismatch there was between the item bank and the answer key.

What do you do with this information? Good question. First off, you should examine the assessments that were scored using the older key, the one with the mismatched information. If the changes to the item bank were a fix caused by “Oh my! I marked the wrong answer as correct!” you should probably rescore the assessment. This is especially important if the score change on ONE item could effect the passing or



failing of the assessment. If the changes to the item were because the old item was deleted and the ID reused for a *totally different item*<sup>62</sup>, all bets are off. Who knows what that old item was<sup>63</sup>.

The change of the item weight could be totally benign. Items can be assigned a weight of “0” if they are being evaluated for effectiveness and accuracy. If you give a poorly constructed item a weight of zero, how the examinee performs on that item won’t affect their end score one way or another. If that item is deemed “ok” at some point, it’s weight will have been set to some positive number and it will be used for scoring. Now if the score went from 1 to 0 we’re looking at a different issue. In this case, the item was probably deemed “bad” and given a “do-not-use” weight. Old assessments that did use this item are, as in the above paragraph, questionable. Examinees on the pass/fail cusp could have that changed.

In any case, items that show up in the list bear scrutiny.

## History-Bank Scan Results

After the scan the item answers as stored in the history file are compared to the answers stored in the item bank.

Keys	History	Bank	Information
Item ID	History	Bank	Information
1.10	Answer/Weights: (A) 1,-1,-1,-1	Answer/Weights: (B) -1,1,-1,-1	Answer mismatch
1.39	Answer/Weights: (A) 1,-1,-1,-1	Answer/Weights: (D) -1,-1,-1,1	Answer mismatch
1.63	Answer/Weights: (A) 1,-1,-1,-1	Answer/Weights: (C) -1,-1,-1,-1	Answer mismatch
1.119	Answer/Weights: (C) -1,-1,-1,-1	Answer/Weights: (B) -1,1,-1,-1	Answer mismatch

When an assessment is scored a record is kept in the history file of what the correct answer for each item is. This is used in the various displays to highlight the correct answers. It is not used for any scoring purposes! If you are looking at the item results table for an examinee or group of examinees and it seems that everyone is answering an alternative different from the one marked as “correct” it’s probably a good bet that sometime in the past an assessment was scored with a different alternative marked as “correct”.

## History-Bank Synchronization

But wait! There’s help! If you see mis-matches between the answers in the item bank and the answers in your history file you can fix them:

☐ Scan Keys
☒ Scan History

**History Answer Re-Synch**  
One or more of the item answers in the history file are out of synch with the item bank. Click on “Synch” to have the bank and history match. This does NOT change any of the keys or scoring!

Synch

Keys	History	Bank	Information
Item ID	History	Bank	Information
1.10	Answer/Weights: (A) 1,-1,-1,-1	Answer/Weights: (B) -1,1,-1,-1	Answer mismatch
1.39	Answer/Weights: (A) 1,-1,-1,-1	Answer/Weights: (D) -1,-1,-1,1	Answer mismatch
1.63	Answer/Weights: (A) 1,-1,-1,-1	Answer/Weights: (C) -1,-1,-1,-1	Answer mismatch

<sup>62</sup> Do not ever, Ever, EVER do this! Ever! Really... don’t even THINK about deleting an item and re-using the ID for a totally different item. You will regret doing it. Your children will regret you having done this. Your children’s children... and so on and so on and so on...

<sup>63</sup> I usually point this out to folks when they call up for support. They swear up and down that THEY didn’t change the item. I have them go into the item bank editor and look at the item. 99 out of 100 times the item was changed as evidenced by an entry in the item’s log. Don’t make me point at you and say “Told you so!”.

Clicking on the “Synch” button will sweep through the history file answer table and re-synch it with the answers and weights in the item bank. What this will do is have the answers shown in the history match the current state of the item bank. There is, however, a downside to this. If an item has been edited and the answer changed ***without changing the item ID***<sup>64</sup> there will be odd things where a bunch of people may have answered an alternative but it is not marked as correct. This is even more apparent if you look at a single assessment. You can see an item marked as “correct” but the selected alternative is not marked as correct. This is what happens... that assessment represents scoring against the item bank *as it existed when the assessment was created*. If you had looked at the record right after scoring it would have looked fine. Now? Not so much. Remember... avoid all these hassles by ***never*** changing an item in an substantial way without changing the item ID.

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<sup>64</sup> Do I need to repeat that doing this is a **bad thing** and I will be **very cross** with you if you do this? Especially if you call me for support and whine about the “answer not matching the correct yadda yadda yadda...”? No, I do **not** need to repeat this because you have **LEARNED YOUR LESSON** and not changed the item without changing the ID. Got it?

## Performance Title Fix

You may sometimes notice that the titles are missing from the examinee and assessment performance displays. This has a number of causes, but it's usually the result of the records database getting out of synchronization with the source item bank that created the assessment in the first place. This tool will allow you to load index titles from an item bank into the records database title tables. Follow these steps:

ID	History Title	History Extended	Bank Title	Bank Extended
1			Business Management	
2			Manufacturing Process Reliability	
3			Equipment Reliability	
4			Operations and Leadership	
5			Work Management	

- 1) Click on the box to the right of the “Item Bank to Use” field to specify the item bank that will be used as the source of the titles. If this is protected with a password you will need to know that before you can continue.
- 2) Using the drop-down under “Bank in History File” select the bank in the history file that you want to update. Note that this can have a totally different name from the source bank!
- 3) Click on “Load Titles”. This will look in the history file and match the ID found in there with the exact same ID in the item bank.

The resulting table shows the titles in the history file (in the sample they are missing) and the matching titles for the same ID in the item bank. When you click on “Transfer Titles” the titles in the bank will be copied over into the history file. This will overwrite any titles that are currently in the history file, so be sure this is something that you really want to do before you click on “Transfer”. You will be asked to confirm the operation before it takes place. Click on the exit door at the top of the screen when you are done.

## Backup and Purge

One thing is as sure as death and taxes<sup>65</sup>. Hardware will fail<sup>66</sup> or you will Do Something Stupid<sup>67</sup>. The backup features of the software may well save your data. If you grade a LOT of assessments or have used

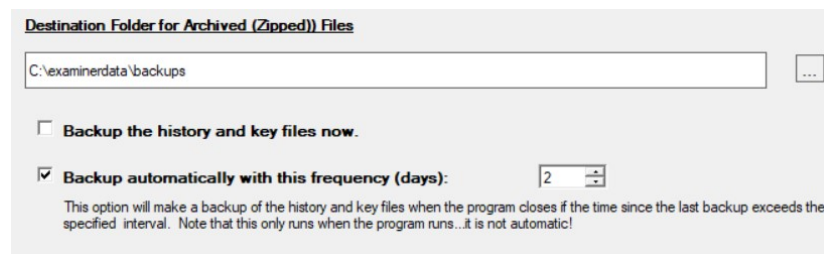
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<sup>65</sup> The former is being worked on. The latter...well...just don't get me started on Certain People that don't pay their fair share. Really. Just don't.

<sup>66</sup> Usually at the most inopportune time.

the software for a long time your database may have become so large as to cause the time required to score an assessment to grow inordinately long. The purge options will help you remove old records and bring your files to a like-new state.

## Backup



Everyone talks about doing backups but, sadly, many people don't do them. The best of all possible worlds is to have an automatic backup performed on a regular basis<sup>68</sup> by one of the many backup programs that are

available. If you have an IT department, contact them for help. However, it's been my experience that backups created with commercial programs or by an "IT Solution" are often hard to restore. Either the software is complicated or the IT department takes an inordinate amount of time. These options allow you to take control of your backup and create easy-to-use "zip" files that can be accessed using standard Windows features<sup>69</sup>. Before I continue, one thing...

***Make sure you backup on a regular basis, but also make sure you test your backups on a regular basis to see if you actually can restore your files from them! Trust, but verify!***

I've had folks that assure me that backups are being done, either by themselves or by an IT group. When the inevitable need for a backup arises, they find that either the backup can't be located or that it's unusable. I recommend that every so often you either try and recover a backup on your own or, if you use IT, ask them to pull a backup for you. Make sure you can use that backup. Not having a file at all is bad, but having an unusable file is probably worse since you *think* you have a good backup when you actually don't<sup>70</sup>.

## File Location

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<sup>67</sup> Yes, kids, even I have Done Something Stupid. You will Do Something Stupid. Some other person will touch your software and Do Something Stupid. (Note the previous two footnotes.)

<sup>68</sup> That could be "every day there is a change" if you are especially paranoid.

<sup>69</sup> You really should read up on the history of "zipping". It was developed by one of the shareware pioneers, Phil Katz, back in the early 80's. I've used the "zip" packages in The Examiner since the very beginning. When I licensed the software in '86 I actually got to talk with Phil on the phone. Sadly, Phil passed away in 2000.

<sup>70</sup> Don't be like a Certain Army Base that called me up and said "we had a lightning storm destroy our computers... do you have a copy of our files?". I did. From a point two years in the past when I had gone to visit them. They had SWORN that backups were being done. Nope. Or... there's the IT department that had assured a Certain Certifying Organisation that backups were being made. When the inevitable happened, it turned out that there was a flaw in the backup process. No backups. Weeping and Wailing and Gnashing of teeth followed.

#### Destination Folder for Archived (Zipped) Files

C:\examinerdata\backups

”Where should I send my backups?” is a common question. If you’re not on a network, the obvious answer is “somewhere on your local machine.” If you have a

removable hard drive or a USB stick, that’s a good place. “Not On Your Box” is usually a very good answer<sup>71</sup>. What you are trying to do is put your backup data in a place that won’t be destroyed if your local machine is destroyed. That said, a shared network location somewhere away from your computer is the best idea. If an asteroid should fall on your office<sup>72</sup>, that backup sitting somewhere else will get you back on your feet in no time at all.

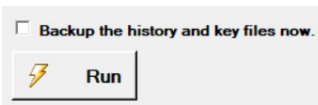
#### What you will see in the folder...

This PC > DRIVE_C (C:) > examinerdata > backups >				
<input type="checkbox"/> Name	Date modified	Type	Size	
HistKeyBackup_20181015_161348.zip	10/15/2018 4:13 PM	Compressed (zipp...	4,292 KB	
HistKeyBackup_20181016_115300.zip	10/16/2018 11:53	Compressed (zipp...	4,292 KB	

Backups will appear in your destination folder with a file name that indicates when it was created. The files will have a “zip” extension.

The format of the file name is: HistKeyBackup\_YYYYMMDD\_HHMMSS. So, for the first example, “HistKeyBackup\_20181015\_161348.zip”, the file was created on the 15<sup>th</sup> of October 2018 at 4:13:48 PM (the system uses a 24-hour clock, so that shows up as “161348”). To extract a file from the backup, double-click the Zip file. A folder view will be shown. You can then select and copy the required file from the folder. Do not open the file from the folder!

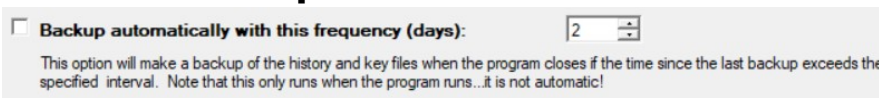
## Immediate Backup



Any time you want you can make a check in the “Backup the history and key files now” option and click on the “Run” button. The system will create a zip file and store it in the “Destination Folder” you have

specified.

## Scheduled Backup



Backing up on a regular basis is best accomplished by running a commercial backup program or having an IT department run a daily backup. You can also automatically run a backup from within your program on a regular basis. When you exit the program, and if this option is checked, the interval since the last backup was run will be examined and compared to the days in the drop-down box. If it’s that many days or more, a display will be shown giving the option of doing a backup

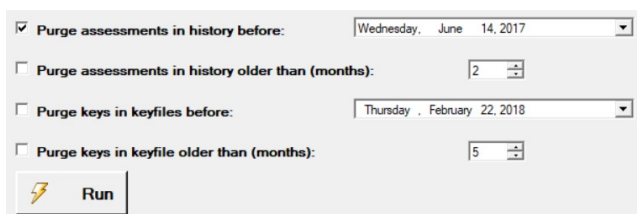
<sup>71</sup> And, yes, the illustration here has it on my local machine. So sue me.

<sup>72</sup> Have you ever noticed that in Low Budget SciFi movies asteroids hurtling towards earth inevitable strike features such as the Eiffel Tower or the Empire State Building? Even though most of the earth is water, those hurtling blocks of rock and ice always seem able to seek out those buildings. Add your office to the list, if you want to.

then and there. Unless you have some pressing reason to not do the backup, agree and let the system whirl away.

Note that the backup occurs *only when you are exiting the program!* If you don't run the program, the backup won't happen.

## Purging

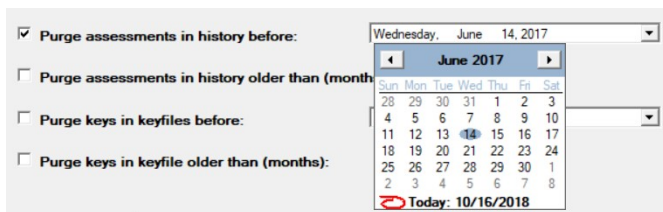


In both the history and key files database performance can be adversely affected by exceedingly large numbers of records. This is especially critical in the history file where a single history file has one record for the examinee, one record for the assessment, and

one record for each item in the assessment. If you have many-item assessments, have given many assessments, and have given assessments for many years, you may be experiencing very long delays, up to several seconds, when storing assessments. Deleting unused assessments from the history file may speed up the history storage to a great extent<sup>73</sup>. The same goes for the key file. A large number of keys in the file can slow down access to those keys during the scoring process.

First a word of warning... Once a record is purged from the history or key file it is GONE. It can't be recovered. That's why the "zip" backup options are on this page! If you backup the file before you do the purge and find out you deleted something you shouldn't have, you'll have a backup that can restore your file to the state it was in right before the purge. I recommend that you always have the "Backup history and key files now" option selected before you do any purges. It doesn't take up make space, and it's "better safe than sorry".

Both the history and key purge options have two options: Purge before a certain date and purge records older than a certain number of months.



To purge before a certain date make a check in the "Purge assessments in history before" and/or "Purge keys in keyfiles before" boxes. Next click on the drop-down for the date and select the date you want. The date you select will be the first date

saved...everything BEFORE this date will be removed. You can use different dates for the history and the keyfile. When you have selected your options, click on the "Run" button to perform the purge. Remember, it is highly suggested that you also have the "Backup the history and key files now" option selected before performing the purge! After a confirmation screen the purge will begin and you will be shown a progress bar. Be patient! If you are deleting a lot of records this could take up to a minute or two. You will be shown a completion message when the operation has been completed.

---

<sup>73</sup> Note the use of the word "may" in there. No guarantees... a slow network or computer may be causing your problems. However, this will *probably* help.

☐ Purge assessments in history older than (months):

To purge records that are older than a certain number of months make a check in

the “Purge assessments in history older than...” and/or “Purge keys in keyfiles older than...” boxes. Next use the month selection tool to select the number of months. In this example records that have been recorded in the last two months will be saved. All the older records will be deleted.

*Figures often beguile me, particularly when I have the arranging of them myself; in which case the remark attributed to Disraeli would often apply with justice and force: "There are three kinds of lies: lies, damned lies and statistics."*

*Mark Twain's Own Autobiography: The Chapters from the North American Review*

## Analyzing Results


Once you have scanned assessments into the system you can start to work with the results. As the epigram implies, you can always get a number out of your analysis. Some of those numbers aren't worth the paper they are printed on<sup>74</sup>. Know what you are doing and know where the numbers are coming from before you start using them to make decisions.



You can look at the data in a number of ways:

- Assessments – You select a particular assessment or set of assessments and see how a group of examinees performed on that assessment. This lets you analyze the group of examinees, the efficacy of your instruction, and the quality of your assessments.
- Examinees – You select a particular examinee and see how that examinee performed on a set of assessments.
- You can also export the data to an external file such as Excel.

## Printing

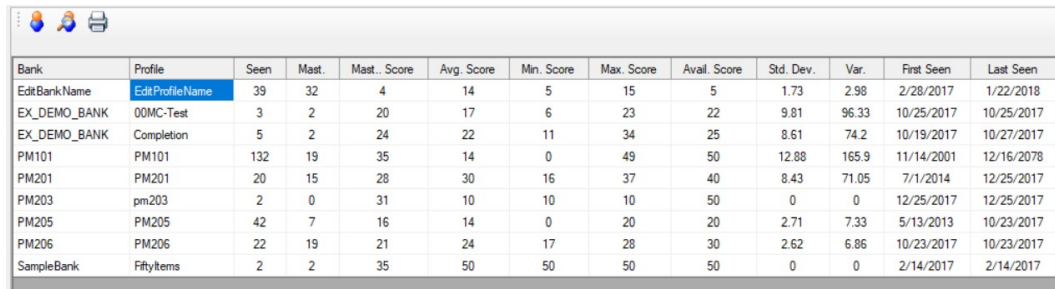
In the following sections you will see a little print icon, , at the top of each page. Refer to Appendix C on page 84 for information on printing.

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<sup>74</sup> GIGO: Garbage In, Garbage Out. Just because your computer is spitting out numbers doesn't mean those numbers mean anything real. If the population that is contributing data to your analysis set is too small; if it isn't homogeneous; if the assessment conditions weren't consistent... Any number of things can contribute to looking at bogus results. At the end of the day you are going to have to personally justify the numbers that you will want to wave about. Simply saying "The Computer Says..." doesn't cut it.



# Analyzing Assessments



Bank	Profile	Seen	Mast.	Mast. Score	Avg. Score	Min. Score	Max. Score	Avail. Score	Std. Dev.	Var.	First Seen	Last Seen
EditBankName	EditProfileName	39	32	4	14	5	15	5	1.73	2.98	2/28/2017	1/22/2018
EX_DEMO_BANK	00MC-Test	3	2	20	17	6	23	22	9.81	96.33	10/25/2017	10/25/2017
EX_DEMO_BANK	Completion	5	2	24	22	11	34	25	8.61	74.2	10/19/2017	10/27/2017
PM101	PM101	132	19	35	14	0	49	50	12.88	165.9	11/14/2001	12/16/2078
PM201	PM201	20	15	28	30	16	37	40	8.43	71.05	7/1/2014	12/25/2017
PM203	pm203	2	0	31	10	10	10	50	0	0	12/25/2017	12/25/2017
PM205	PM205	42	7	16	14	0	20	20	2.71	7.33	5/13/2013	10/23/2017
PM206	PM206	22	19	21	24	17	28	30	2.62	6.86	10/23/2017	10/23/2017
SampleBank	FiftyItems	2	2	35	50	50	50	50	0	0	2/14/2017	2/14/2017

Clicking on the “Assessments” option will open up a screen showing you summative information for all the assessments in your history file. If you’ve given lots of assessments, this might take some time to plot.

Here is what’s in each column:

Bank	This is generally the subject for the assessment. The word “Bank” harks back to the genesis of the software: The Examiner.
Profile <sup>75</sup>	This is the assessment design <i>within</i> the assessment immediately to the left. Remember that assessments are categorized under a bank. This means that you can see same-named assessment under multiple banks.
<i>EditBankName</i>	You may see the “Edit...” name for the bank and profile. This will appear when you have used the “simple” numbering system for a key.
Seen	This is the number of times this Bank/Profile has been seen.
Mast.	This is the number of times this Bank/Profile has been mastered <sup>76</sup> .
Mast. Score	This is the mastery point for the profile stated both in terms of a raw score and, in parenthesis, a percent score <sup>77</sup> .
Avg. Score	These are the score ranges for all students seeing this assessment.
Min. Score	

<sup>75</sup> Remember... a “profile” is not an assessment! It’s the design for an assessment. Multiple assessments with different items and different item orders are possible within the recordset for a single profile. And when that happens you can just be that your item analysis is probably a little iffy.


<sup>76</sup> Notice I don’t say “passed”. The problem with “passed” is it’s opposite: “failed”. Saying to a student “You have not mastered this assessment” is a lot more palatable than saying “You Have **FAILED**”. You know, and I know, that the student has indeed failed. We, however, being Gentle People of the 21<sup>st</sup> Century use the Kinder and More Gentle “Mastered / Non-Mastered” words. I know I talked about this in the Answer Key section, but it doesn’t hurt to remind you.

<sup>77</sup> If you have been a Good Assessment Developer, then the number of points and the mastery point for all assessments with the same profile name should all be the same. If you have not, then this number and all the rest of the numbers on this line, will be subject to confusion. If you use multiple mastery scores for different versions of a profile, give the profile a different name!

Max. Score

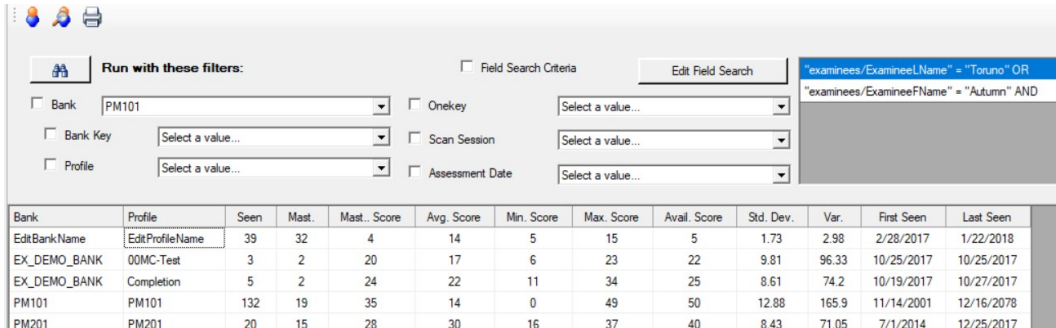
Std. Dev.  
Var. This is the standard deviation and variance for all students seeing this assessment.

First Seen  
Last Seen The date range for when this assessment was seen. Note that this is date that was arbitrarily entered during the scanning process.

As I mentioned, the table is showing everyone. You can view a subset of examinees by clicking on the search icon: . To view all the assessments that have created a single line in the table, double-click on the line you want to examine.

## Searching for Assessments


After you have clicked on the search icon a new panel will be displayed:



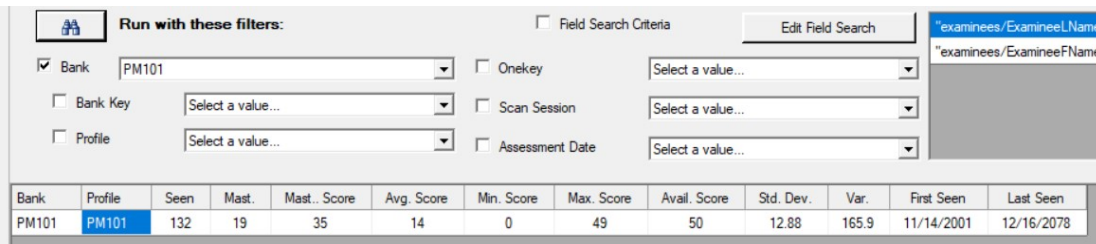
The screenshot shows a search interface with a 'Run with these filters:' section. It includes checkboxes for 'Bank', 'Bank Key', 'Profile', 'Onekey', 'Scan Session', and 'Assessment Date', each followed by a dropdown menu. The 'Bank' dropdown is set to 'PM101'. To the right, there is an 'Edit Field Search' button and a text area containing search criteria: "examinees/ExamineeLName" = "Toruno" OR "examinees/ExamineeFName" = "Autumn" AND. Below the filters is a table with 13 columns: Bank, Profile, Seen, Mast., Mast.. Score, Avg. Score, Min. Score, Max. Score, Avail. Score, Std. Dev., Var., First Seen, and Last Seen. The table contains five rows of data.

Bank	Profile	Seen	Mast.	Mast.. Score	Avg. Score	Min. Score	Max. Score	Avail. Score	Std. Dev.	Var.	First Seen	Last Seen
EditBankName	EditProfileName	39	32	4	14	5	15	5	1.73	2.98	2/28/2017	1/22/2018
EX_DEMO_BANK	00MC-Test	3	2	20	17	6	23	22	9.81	96.33	10/25/2017	10/25/2017
EX_DEMO_BANK	Completion	5	2	24	22	11	34	25	8.61	74.2	10/19/2017	10/27/2017
PM101	PM101	132	19	35	14	0	49	50	12.88	165.9	11/14/2001	12/16/2078
PM201	PM201	20	15	28	30	16	37	40	8.43	71.05	7/1/2014	12/25/2017

The area above the table shows search options that you can use to winnow down the full list to something more manageable. The basic scheme is:

- 1) Use one or more drop-downs to select search criteria.
- 2) Make a check in the box to the left of the drop-down to activate that criteria.
- 3) Click on the search button, , to perform the search.

For example, if we select the bank "PM101" in the drop-down and check the box. Clicking the search icon will display:



The screenshot shows the same search interface as before, but now the 'Bank' checkbox is checked and the 'Bank' dropdown is set to 'PM101'. The table below now only contains one row of data for Bank PM101.

Bank	Profile	Seen	Mast.	Mast.. Score	Avg. Score	Min. Score	Max. Score	Avail. Score	Std. Dev.	Var.	First Seen	Last Seen
PM101	PM101	132	19	35	14	0	49	50	12.88	165.9	11/14/2001	12/16/2078

As you can see, only the assessments from bank “PM101” are shown. Here are the various search options:

## Search Options

Remember that you need to make a check in the box to the left of the drop-down for that drop-down’s selection to be active when the Search button is clicked.

Bank	This is a list of all the banks in the file. “Bank Key” and “Profile” will only be active if a Bank has been selected since the keys and profiles are different for each bank. When you change banks the population of these two drop-downs will change.
Profile	These are all the profiles available for the selected bank.
Bank Key	These are all the answer key keys available for the selected bank.
OneKey	This is a bank-independent key.
Scan Session	Each time a batch of assessments is processed a unique key is stamped on each record. See page 15 for a description of the session.
Assessment Date	This is the date the assessment was created on. This date can be manually set during the scanning process.

## Field Search

When an assessment is stored a number of fields are set within the database record. Some of these are automatically created by the software while others can be manually set. Refer to page 15 for information on how these fields are created.

☒ Field Search Criteria
 

Edit Field Search
 

"examinees/ExamineeLName" = "Toruno" OR  
 "examinees/ExamineeFName" = "Autumn" AND

To create the search fields click on the “Edit Field Search” button. A new window will be shown:

Field Search Setup
 

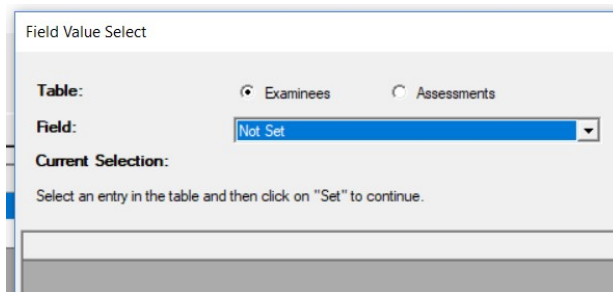
Add Del Up Down
 Double-click on a table, field, or value cell to edit it.

Table	Field	Compare	Value	Connector
examinees	ExamineeLName	=	Toruno	OR
examinees	ExamineeFName	=	Autumn	AND

What you will be doing on this page is creating a formal search string<sup>78</sup>.

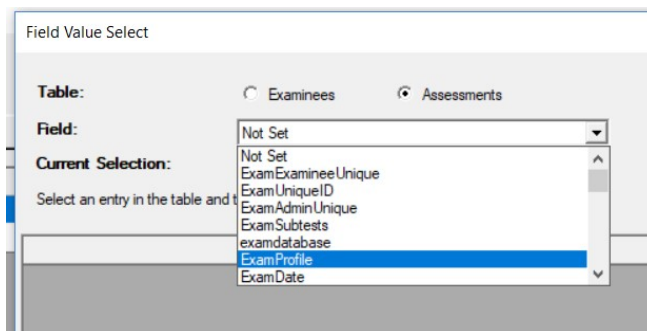
To add an element to the search criteria click on the “Add” button.

Yet another window will open:



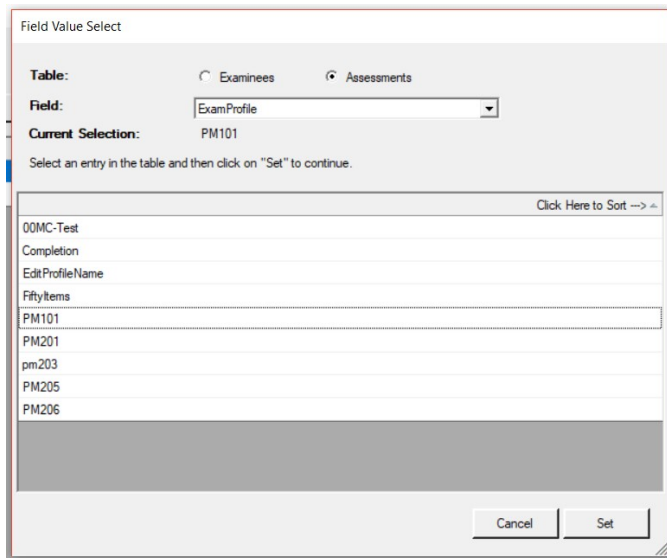
The dialog box is titled "Field Value Select". It has two radio buttons for "Table": "Examinees" (selected) and "Assessments". Below them is a "Field:" dropdown menu currently showing "Not Set". Underneath is a "Current Selection:" label and a text area containing the instruction "Select an entry in the table and then click on 'Set' to continue." At the bottom is a large empty rectangular area for a table.

First you need to select a table: Examinees or Assessments. Let's pick “Assessments”:



The dialog box is the same as before, but the "Field:" dropdown menu is now open, showing a list of fields: "Not Set", "ExamExamineeUnique", "ExamUniqueID", "ExamAdminUnique", "ExamSubtests", "examdatabase", "ExamProfile" (highlighted in blue), and "ExamDate". The "Table:" radio buttons remain the same.

Clicking on the drop-down for “Field” will show you all, and I mean all, the fields in that table. Click on one of the fields and all the unique values that are in that field will be shown. In this case I have clicked on “ExamProfile”. The table changes to:



The dialog box is the same, but the "Field:" dropdown now shows "ExamProfile". The "Current Selection:" text area now displays "PM101". The large table area at the bottom is populated with a list of values: "00MC-Test", "Completion", "EditProfileName", "FiftyItems", "PM101", "PM201", "pm203", "PM205", and "PM206". A "Click Here to Sort -->" link is at the top right of the table. At the bottom right are "Cancel" and "Set" buttons.

These are all the profiles in the “ExamProfile” field. See where it says “Click Here to Sort”? Click to the right of the little arrow and you can sort this list into ascending or descending order.

Your current selection is shown in the “Current Selection” area.

Click on the value you want to use and then click on the “Set” button.

<sup>78</sup> What you will be doing, you lucky user you, is magically creating an “SQL Search String”. “But I’m not a geek!” I hear you say. Ah, gentle user... that’s where the Magic of Software™ comes in! If you’re Real Nice, I’ll show you the Magic SQL String that YOUR WORK has produced! Am I a GREAT GUY, or what?

Your selection will be added to the table with the default “Compare” and “Connector” values.

Table	Field	Compare	Value	Connector
examinees	ExamineeLName	=	Toruno	OR
examinees	ExamineeFName	=	Autumn	AND
exams	ExamProfile	=	PM101	AND

Now things get interesting. If we click on “Done” and then click on the Search button (remembering, of course, to make a check mark in the “Field Search Criteria” box) we see:

Run with these filters: ☒ Field Search Criteria

☐ Bank:  ☐ Onekey:

☐ Bank Key:  ☐ Scan Session:

☐ Profile:  ☐ Assessment Date:

examinees/ExamineeLName = "Toruno" OR  
examinees/ExamineeFName = "Autumn" AND  
exams/ExamProfile = "PM101" AND

Bank	Profile	Seen	Mast	Mast. Score	Avg. Score	Min. Score	Max. Score	Avall. Score	Std. Dev.	Var.	First Seen	Last Seen
PM205	PM205	1	0	16	15	15	15	20	1.73	2.98	10/23/2017	10/23/2017

Our big list of assessments has been reduced to a single record (that’s the “1” in the “Seen” column). What the system did was to create a SQL query with this little bit in it<sup>79</sup>:

```
HAVING (((examinees.ExamineeLName)='Toruno') OR ((examinees.ExamineeFName)='Autumn') AND ((exams.ExamProfile)='PM101'))
```

There are a bunch of other things in the SQL statement inside the program, but this is the part that tells the system what to look for. Let’s change things up a bit. Click on the “Edit Field Search” to return to the Field Editing page. Click on the Compare cell in the bottom line. You’ll see:

Table	Field	Compare	Value	Connector
examinees	ExamineeLName	=	Toruno	OR
examinees	ExamineeFName	=	Autumn	AND
exams	ExamProfile	=	PM101	AND

The default, “=”, is highlighted. Here’s what the other entries are for:

< Less Than

<= Less Than OR Equal To

= Equal To

<sup>79</sup> OK... this is pretty geeky stuff and you probably don’t really NEED to know the SQL statements the program makes. Some of you, though, you know who you are, like this sort of thing and will go “Oh! That’s neat!”. This section is for you.

!= NOT Equal To

>= Greater Than OR Equal To

> Greater Than

If we select “!=” for “Not Equal To” and click on “Done” to save the changes and then the Search button the display changes to:

Field Search Criteria

Examinees/ExamineeLName = "Toruno" OR  
Examinees/ExamineeFName = "Autumn" AND  
Exams/ExamProfile != "PM101" AND

Error: No assessments meet your criteria.

Again, looking at the internal SQL we see:

```
HAVING (((examinees.ExamineeLName)='Toruno') OR ((examinees.ExamineeFName)='Autumn') AND ((exams.ExamProfile)!='PM101'))
```

Nothing was found in the history database that meets our search criteria. This brings up a very important point. It is exceedingly easy to create a set of search criteria that doesn’t return any results. The more restrictions you place on the search the more likely it is that you’ve eliminated all the matches.

Often, though, what you search for is the value you’ve stored in one of the “extra” fields (see page 15). For example, here we are looking for all the assessments that have the location set to “ST PAUL”.

Run with these filters: exams/LOCATION = "ST PAUL" AND

Bank	Profile	Seen	Mast	Mast. Score	Avg. Score	Min. Score	Max. Score	Avail. Score	Std. Dev.	Var.	First Seen	Last Seen
EX_DEMO_BANK	Completion	1	0	24	22	22	22	25	1.73	2.98	2/28/2017	1/22/2018
PM101	PM101	132	19	35	14	0	49	50	12.88	165.9	11/14/2001	12/16/2078
PM201	PM201	20	15	28	30	16	37	40	8.43	71.05	7/1/2014	12/25/2017
PM203	pm203	2	0	31	10	10	10	50	0	0	12/25/2017	12/25/2017
PM205	PM205	30	0	16	14	14	15	20	0.51	0.26	1/28/2017	1/28/2017
SampleBank	FiftyItems	2	2	35	50	50	50	50	0	0	2/14/2017	2/14/2017

By getting clever when you are doing the scanning, you can pull all sorts of interesting reports. If you have bubble sheets with imbedded information you can design your scanner form definition to pass that on to the history file where you will be able to search for it (Refer to page 83 in the appendix).

There are three other buttons on the Field Search Setup page.








Del This is the Delete button and will remove the highlighted search criteria from the list. You will be asked to confirm the operation.



Up These two buttons move the highlighted criteria up and down the list. Using these buttons will change the way the SQL statement is construction. Use of these buttons with a mix of the

Down “AND” and “OR” connector constructions can lead to some very complex search strings.

## Selected Assessment Summary

Double-clicking on a record on the main Assessment page will bring you to a list of all the examinees that contributed to that line:

Bank	PM101	      									
Profile	PM101										
Seen	132										
Mast.	19										
Mast... Score	35										
Avg. Score	14										
Min. Score	0										
Max. Score	49										
Avail. Score	50										
Std. Dev.	12.88										
Var.	165.9										
First Seen	11/14/2001										
Last Seen	12/16/2078										
Median Score:	9										
RIGHT-click to turn merging on and off. DOUBLE-click to view assessment details.											
ID	Last Name	First Name	Bank	Profile	Date	OneKey	Mastered	Score	Max. Score	Percent	
2047613	M	TINA	PM101	PM101	11/14/2017	39	Yes	40	50	80.0%	
2111511	E	JACK	PM101	PM101	7/1/2014	39	No	10	50	20.0%	
					11/16/2078	39	No	10	50	20.0%	
					11/7/2006	39	No	9	50	18.0%	
					7/1/2014	39	No	9	50	18.0%	
					11/16/2078	39	No	9	50	18.0%	
2185639	M	PATRICIA	PM101	PM101	11/16/2078	39	No	8	50	16.0%	
					11/16/2078	39	No	8	50	16.0%	
					11/16/2078	39	No	8	50	16.0%	
2224977	J	LINDA	PM101	PM101	7/1/2014	39	No	8	50	16.0%	
						39	No	8	50	16.0%	
2256613	A	NATHAN	PM101	PM101	11/14/2017	39	Yes	43	50	86.0%	
						39	Yes	43	50	86.0%	

You can return to the previous display by clicking on the back icon, . After clicking on one of the other icons at the top of the display you can return to this page by clicking on the user's icon, . The left-hand part of the screen repeats the information shown on the source line on the main display. Where an examinee has seen multiple assessments, their information is consolidated into a single, larger, cell. For example, “Patricia M” took three assessments<sup>80</sup>. To see an assessment's detail, you must turn off merging. That is accomplished by right clicking on the display. Patricia's three merged assessments are now shown as individual lines.

2185639	M	PATRICIA	PM101	PM101	11/7/2006	39	No	9	50	18.0%
2185639	M	PATRICIA	PM101	PM101	7/1/2014	39	No	9	50	18.0%
2185639	M	PATRICIA	PM101	PM101	11/16/2078	39	No	9	50	18.0%
2224977	J	LINDA	PM101	PM101	11/16/2078	39	No	8	50	16.0%

The icons at the top of the table can be clicked to show summative data. To see the details of a single assessment, double-click on the assessment you want to view. Information on viewing a single assessment is located in the Examinees section on page 66. If you click on the column heading you can sort the column into ascending and descending order.

<sup>80</sup> The 16<sup>th</sup> of November in 2078, eh? Sometimes folks bubble in weird stuff. I guess I should put a trap in there, but isn't it more fun to think that the software is so clever that it can see into the future?



## Searching

You can find an entry in a column by clicking *inside* the column and typing. As you type, the table will shift bringing the first entry that matches your typing into view. This is a bit sensitive... you need to type carefully.

## On Analysis...

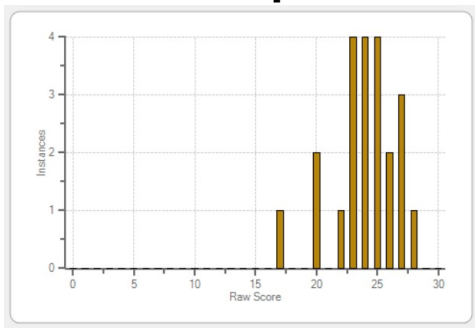
There are plenty of numbers on these pages. There are plenty of graphs. As I mentioned in an earlier footnote<sup>81</sup>, and alluded to in the aphorism that heads this chapter, just because you see a bunch of pretty numbers doesn't mean that the data are any good. If you mix information from two different assessment sessions; if you mix information from divergent assessment populations; if you don't have enough sample points... all of these can lead to the information you see on the page being unreliable. The code that underlies this program will take whatever numbers you put into it and merrily crank out a result<sup>82</sup>. Be prepared to justify your results!

## Assessment Scores

Score	Percent	Frequency	Cumulative	Percentile	Z Score	T Score
17	56.7 %	1	1	5	-2.3	27.1
20	66.7 %	2	3	14	-1.1	38.5
22	73.3 %	1	4	19	-0.4	46.2
23	76.7 %	4	8	37	0	50
24	80.0 %	4	12	55	0.4	53.8
25	83.3 %	4	16	73	0.8	57.6
26	86.7 %	2	18	82	1.1	61.5
27	90.0 %	3	21	96	1.5	65.3
28	93.3 %	1	22	100	1.9	69.1

Clicking on this icon, , shows a table of scores.

## Assessment Graphs




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<sup>81</sup> You ARE reading those, aren't you? Oh! I guess you ARE! Thank you!


<sup>82</sup> "But the computer says..." Back in the day (like 1974) I would sometimes take hand-generated tables, punch them up on IBM cards, and print it out on the big main frame printer. I would then wave that green-bar printout at my boss and say "Look at this information!". Of course, it was all smoke and mirrors. Don't be that person!



Clicking one of the two icons, , shows a graph of the frequency of scores. The left icon shows raw scores and the right icon shows percentage scores<sup>83</sup>.

## Assessment Summary

Level	Seen	Pass	Percent	Performance
1	132	119	90 %	
1.1	22	18	82 %	
1.1.1	22	18	82 %	
1.3	44	40	91 %	
1.3.3	44	40	91 %	
1.4	22	22	100 %	
1.4.4	22	22	100 %	
1.5	44	39	89 %	
1.5.5	44	39	89 %	
2	110	99	90 %	


Click on this icon, , to see the objective level performance charts. This is one of the most informative reports in the system as it shows summative examinee performance in each of the indexes encountered in the set of assessments. The left-hand column shows the index level under examination. This chart is well suited to analyzing the efficacy of instruction over a group of examinees.

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<sup>83</sup> This is also a fine tool for seeing if a particular classroom is, how shall I say this, “Is being given the answers.” If, for example, you see a nice normal curve with a funny little “spike” on the right edge, that spike may be a class that’s been given the answers to the assessment you are analyzing. If you have used “Class” as one of your assessment stamps you should be able to find what class is not playing by the rules. Of course, the teacher in that class may just be a very, very, very, good teacher and that blip represents a very, very, very, good classroom. All I’m saying is, “Take A Look...”

## Item Analysis

ID	Type	Seen	Passed	Difficulty	Point Biserial	Weight	A	B	C	D
1.1.1.1	Multiple Choice	22	18	0.82	-0.09	1	0	18	2	2
1.3.3.9	Multiple Choice	22	20	0.91	0.42	1	0	20	2	0
1.3.3.11	Multiple Choice	22	20	0.91	0.66	1	20	2	0	0
1.4.4.3	Multiple Choice	22	22	1.00	0.00	1	22	0	0	0
1.5.5.1	Multiple Choice	22	20	0.91	0.30	1	0	2	20	0
1.5.5.6	Multiple Choice	22	19	0.86	0.61	1	1	0	2	19
2.1.1.2	Multiple Choice	22	18	0.82	0.18	1	18	3	0	1

Click on this icon, , to see summative item analysis information. The “A, B, C...” columns on the right show the response frequency for each of the alternatives. The green background indicates the correct alternatives, more specifically, those alternatives that have a weight greater than zero. It is important to note that if the correct alternative for an item has been changed in the item bank or answer key after the item was stored in the history file for the first time ***the correct alternative may not be displayed correctly!*** To make this clear<sup>84</sup>:

You should **NEVER** edit an item and keep the same item number when you have done something to that item that would change the correct answer, either by changing the marking of the answer or changing the wording of the item so that it would answered differently. Doing so will “muddy” the information in the records and will show data from what are essentially TWO items. Of the support calls received at The Examiner, this is the leading cause.

This table shows information on each item in the assessments being analyzed. ***If you have a value of less than 50 in the “seen” column the information in the “difficulty” and “point biserial” columns should be taken with a grain of salt.*** Did I make myself clear on this? You will see numbers in those two columns no matter how many assessments you are looking at in this set. However, if you don’t have 50 or more results for an item the calculated values shouldn’t be trusted. Only at 50 or more results will there be enough data to calculate a number that isn’t going to swing wildly with addition of one more assessment<sup>85</sup>.

Let’s look in more detail at the “Difficulty” and “Point Biserial” columns.

**Difficulty** The difficulty of an item is defined as the number of times an item has been answered correctly divided by the number of times the item has been seen. Thus, an item that everyone has mastered will have a difficulty of 1.0 while one which everyone has not mastered will have a difficulty of 0.0. If an item’s difficulty is at the either end of the range, you should take a careful look at

<sup>84</sup> Really... Don’t Do This. You need to build your answer keys (and the Examiner item bank, if you are using that) with long-term data retention in mind. Every so often I will get a call from someone asking about records from an assessment that was given over a DECADE ago! They say something to the effect of the “the wrong answer is marked correct”. They swear up and down that the item’s answer has NOT CHANGED. I have them send me the history file and I do some digging with the Magic Tools™ I have at my disposal. Inevitably I can find where the correct answer WAS changed. I point this out. They become suitably abashed. Avoid the possibility of YOU or your descendants becoming abashed in my presence! Keep your data clean and we’ll all be happier. OK... you can go back up there on the page and keep reading.

<sup>85</sup> That said, you can see if you’ve screwed up and marked the wrong multiple-choice alternative as “OK”. If, after looking at five or six tests, everyone has marked something different from what you marked, something is probably amiss.

the item. An item that everyone misses is probably showing that the incorrect alternative was marked as correct. Look at the letter responses for evidence of that case.

Remember... you can click on the column heading to sort the column into difficulty order.

**Point Biserial** Another important property of any assessment question is item discrimination<sup>86</sup>. Did you read that stuff down in the footnotes? Want a short summary instead?

The PBS<sup>87</sup> is based on splitting the students taking the assessment into those scoring in the upper 30% and those scoring in the lower 30%. If everyone in the upper 30% mastered the item, and if everyone in the lower 30% did not master the item, the PBS for the item is 1.00. If it was the other way around, the top 30% all bombed the item and the lower 30% did OK, the PBS would be -1.00. Obviously, the higher the positive PBS value of the item is, the “better” the item is at predicting whatever it is that this item is supposed to measure. Basically, what you are saying with a high PBS is that “this item can tell apart those that know the material from those that don’t”<sup>88</sup>.

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<sup>86</sup> Get ready for some hard-core psychometrician technobabble here! Item discrimination involves the strength of the relationship between an item and the underlying (and unobservable) attribute being measured, e.g., knowledge or learning. Since the latent variable, Y, cannot be measured directly, we turn to a set of observable variables whose elements are related to Y. In most applications, this set turns out to be the set of item variables {S<sub>i</sub>}. While it seems somewhat circular, the total score, X, is often taken as a measure of the underlying attribute, Y.

The stronger the relationship between the item score, S<sub>i</sub>, and the total score, X, the greater the differentiation among examinees on Y due to the i-th item. The item score/total score point-biserial correlation, Δ<sub>s<sub>i</sub>x</sub>, is a measure of item discrimination. In a sample of size N, the point-biserial correlation coefficient is given by this equation:

$$r_{s_i, x} = \frac{\bar{X}_i - \bar{X}}{s_{..}} \sqrt{1}$$

Honestly, I didn’t make this up! At the end of this document will be a whole series of references that you can look at if you want to play psychometrician on TV or in your faculty lounge. Amuse your friends! Startle you enemies! Have your fellows befuddled by your mastery of technobabble!


<sup>87</sup> That’s “Point Biserial” if you can’t figure that out.

<sup>88</sup> I am sure that the real psychometricians in the audience are cringing right now. If you have a nice simple explanation, feel free to email it to me for inclusion in the next version of this tome.

## Examinees

Click HERE to use SHORT FORM								
ID	Last Name	First Name	Bank	Profile	Date	Mastered	Score	Percent
201310077	KLINE	GLEN	FORMOCT2013	2013 Form B	5/17/2013	Yes	72	72.0%
201310078	ROWE	ANDREW	FORMOCT2013	2013 Form C	5/17/2013	Yes	65	65.0%
201310079	BACKES	JAKE	FORMOCT2013	2013 Form B	5/17/2013	No	58	58.0%
201310080	MESSER	ADRIAN	FORMOCT2013	2013 Form B	5/8/2013	No	56	56.0%
201310081	NARD	MICHAEL	FORMOCT2013	2013 Form C	5/8/2013	No	56	56.0%
201310082	TONG WA	SHUM	FORMOCT2013	2013 Form B	5/8/2013	No	28	28.0%

This display shows all the examinees in the database. If an examinee has mastered the assessment the “Mastered” entry is in light green. If not mastered, it is in light red. It is arranged such that sets of assessments are “clumped” in groupings so you can see all the assessments that an examinee has seen in one group. If, however, you don’t like the sorting (the default is by ID) you can click on a column heading to resort based on the contents of that column. One special item bank entry needs some explanation: “No Assessments”. This will be seen if the “Show Zero Assessment Examinees” option is checked on the search page. This option is always active, whether or not the special “Search” button has been clicked.

You can view a subset of examinees by clicking on the search icon: . To view all the assessments that were seen by an examinee, double-click on the line you want to examine.

### Short Form View

Click HERE to TURN OFF SHORT FORM		
ID	Last Name	First Name
201220298	PORTUGAL HERNANDEZ	RENE
201220299	FAJARDO TREJO	MIGUEL
201220300	REYES RODRIGUEZ	JUAN
201220301	PLATA LOPEZ	SERGIO
201220302	ROJAS HERNANDEZ	RICARDO

If you have a lot of examinees in your history file it can sometime take quite a while to plot the complete table. If you don’t need to see all the information on the “full” display click on the “Click HERE to use SHORT FORM” text at the top of the screen. The screen will replot to one only showing the examinee’s ID and name. This setting will be remembered between sessions. You can change back to the full display by clicking on the “Click HERE to TURN OFF SHORT FORM” line. Double-clicking on an examinee works just as it does with the full display. You’ll see the assessments owned by that examinee.

### Searching

You can find an entry in a column by clicking *inside* the column and typing. As you type, the table will shift bringing the first entry that matches your typing into view. This is a bit sensitive... you need to type carefully.

### Searching for Assessments

After you have clicked on the search icon a new panel will be displayed:

**Run with these filters:**

☒ Field Search Criteria [Edit Field Search](#)

☐ Bank

☐ Bank Key

☐ Profile

☐ Onekey

☐ Scan Session

☐ Include Zero Assessment Examinees

**Search Criteria:** "exams/ExamProfile" = "October 2011 Form A" AND "exams/ExamDate" = "4/11/2012 12:00:00 AM" AND

ID	Last Name	First Name	Bank	Profile	Date	Mastered	Score	Percent
201210020	GAMBLE	RICK	FORMOCT2011	October 2011 Form A	4/11/2012	Yes	74	74.0%

The search operations work exactly the same as described in the previous section. Refer to page 52. In this sample I have constructed a field search that is looking for all the “October 2011 Form A” assessments with a date of “4/11/2012”.

Note the one additional option: “Include Zero Assessment Examinees”. If this option is selected then examinees that do not “own” any assessments will be shown. This option remains active even if the special search options are not used.

## Examinee's Assessments

Double-clicking on an examinee will show all the assessments that examinee has seen unless you have specified search criteria on the page where you are double-clicking. In that case, only the assessments that meet your search criteria will be displayed. Double clicking Awilda Tumrow on this display:

223989688	Tozzi	Adeline	PM101	PM101	7/1/2014	Yes	40	80.0%
			PM202-203	PM202-203	2/24/2012	Yes	29	96.7%
			PM101	pm101	9/30/2011	Yes	41	82.0%
			PM203	pm203	7/20/2011	Yes	44	88.0%
224554821	Tumrow	Awilda	PM201	pm201	6/17/2011	Yes	47	94.0%
			PM206	pm206	5/20/2011	Yes	42	84.0%
			PM204	pm204	2/24/2011	Yes	43	86.0%
			PM205	pm205	8/18/2011	Yes	45	90.0%
226895771	Touchet	Aleshia	PM204	PM204	9/13/2013	No	12	40.0%

Will show all the assessments the Awilda has seen:

**First Name:** Awilda


**Last Name:** Tumrow

**ID:** 224554821

Bank	Profile	Key	Date	Mastered	Percent	Score	Mastery	Max
PM101	pm101	101	9/30/2011	Yes	82.0%	41	26	50
PM201	pm201	201	6/17/2011	Yes	94.0%	47	25	50
PM202-203	PM202-203	1	2/24/2012	Yes	96.7%	29	21	30
PM203	pm203	203	7/20/2011	Yes	88.0%	44	31	50
PM204	pm204	204	2/24/2011	Yes	86.0%	43	30	50
PM205	pm205	205	8/18/2011	Yes	90.0%	45	28	50
PM206	pm206	206	5/20/2011	Yes	84.0%	42	30	50

Double-click on a single assessment to view the details of that assessment.

## Examinee Progress


When you click on the progress button, , the screen will change to show you a summary of the assessments that were seen by that examinee. The average score for each assessment and for all assessments will be displayed.

Bank	Profile	Key	Date	Mastered	Percent	Score	Mastery	Max
PM101	pm101	101	8/20/2010	Yes	66.0%	33	26	50
PM101	pm101	1011	9/20/2013	Yes	54.0%	27	26	50
Average Profile Score: 30								
Average Bank Score: 30								
Average Score: 30								

In this case the examinee saw assessments from profile pm101 in 2010 and 2013. This examinee has problems... You can see he digressed from one year to the next. At the bottom there is are summative lines showing averages. If this display shows a number of assessment groupings, there will be summative data for each of the groupings.

## Editing the Examinee's Name and ID

This page has one special feature... you can edit the examinee's name or ID. Let's say the examinee's name is actually "Annie". As soon as you start typing in the First Name field a "Save" button will be shown. To save your change, click on "Save":

First Name:	<input type="text" value="Annie"/>	 <b>Save</b>
Last Name:	<input type="text" value="Tumow"/>	
ID:	<input type="text" value="224554821"/>	

Be careful with this option! Once you click "Save" it is saved. This cannot be undone.

Confirm Operation

That ID is already in use. That examinee is:

Last Name: MQRAVEC  
First Name: JOSEPH  
ID: 00002


Click on "Yes" if you want to assign this examinee to this ID. Click on "No" to select a different ID.

If you try to change an ID to that of one already in use you will be shown a display showing who currently has that id. Clicking on "Yes" will move the assessments from the current ID to the selected ID's record. Note that the assessments will also have the NAME of that other person. The current examinee will now have NO assessments assigned to them. You can delete that examinee by selecting the examinee from the main list and using the delete option.

If a number of examinees were assigned to the wrong ID and the records need to be moved to an existing ID, use the "History Fix" options described on page 38.

If the examinee you are viewing does not “own” any assessments you can delete the examinee’s record from the history file. Click on the red “X” in the bar at the top of the screen to access this option. Once deleted a record cannot be restored.


## Single Assessment

To return to the previous display click on the  button.

First Name:	JEFF	Bank:	PLANT_SCIENCE	Score:	2	Bank Key:	23
Last Name:	BROWN	Profile:	PRARIE_GRASS	Percent:	3.3 %	OneKey:	37
ID:	11221979	Date:	Wednesday, December 12, 2018	Mastery:	44	Scanned on:	Tuesday, December 18, 2018
		Mastered:	No	Max:	60	Session:	

Position	ID	Type	Mastered	Max Weight	Awarded	Response	Correct Answer	Alternative Points	Points for Mastery	Alternative Shuffle
001	1.2.9.1	Multiple Choice	No	1	0	C	A	-1,-1,-1,1	Unknown	ADBC
002	1.1.3.1	Multiple Choice	No	1	0	C	A	-1,-1,-1,1	Unknown	CABD
003	1.2.1.2	Multiple Choice	No	1	0	D	A	-1,1,-1,-1	Unknown	DABC
004	1.7.2.1	Multiple Choice	No	1	0	D	A	1,-1,-1,-1	Unknown	CDBA

## Item Responses

Click on this button, , to see this information.

This is the information from a single assessment. Most of the lines are self-explanatory and correspond to information in the answer key.

**Position** This is the ordinal position of the item in the assessment.

**ID** This is the ID of the item. It is based on the numbering system of the main Examiner program.

**Type** Unless you are scoring an assessment that was created with the main Examiner software this will always show “Multiple Choice”. The main Examiner software supports numerous other item types<sup>89</sup>.

**Mastered** Yes, I could have said “Pass” or “Fail”. “Mastered” is so much friendlier. Mastered is shown in light green and not mastered is in light red.

**Max Weight** This is the maximum number of points that can be awarded for this item. Zero-weight items are shown with a light yellow background.

**Awarded** These are the points that were awarded. More often than not, mastering an item garners the examinee 1 point. This is controlled by the answer key.

**Response** This is the letter response (for multiple choice) of the examinee. A caveat! If the ABC’s were “shuffled” this is the examinee’s answer “De-Shuffled”. Look at the “Alternative Shuffle” column. If it’s a simple “ABCD” then what you see in this column is what the examinee entered on the paper. If it isn’t, during the scoring process the software

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<sup>89</sup> Really... you should check out the full Examiner system. It has all sorts of nifty features that can and will make your assessment creation process a breeze. I’ve put over 30 years (!) of my life into making that chunk of software, and it shows. Trust me, you’ll like it.




looked at what the examinee answered, looked at the shuffle, and converted what the examinee answered into the un-shuffled letter. That is what is used to score. If you are looking at the “Response” and it doesn’t match what’s on the bubble sheet, check the “Shuffled” column. If it’s shuffled, then you know what’s going on<sup>90</sup>.

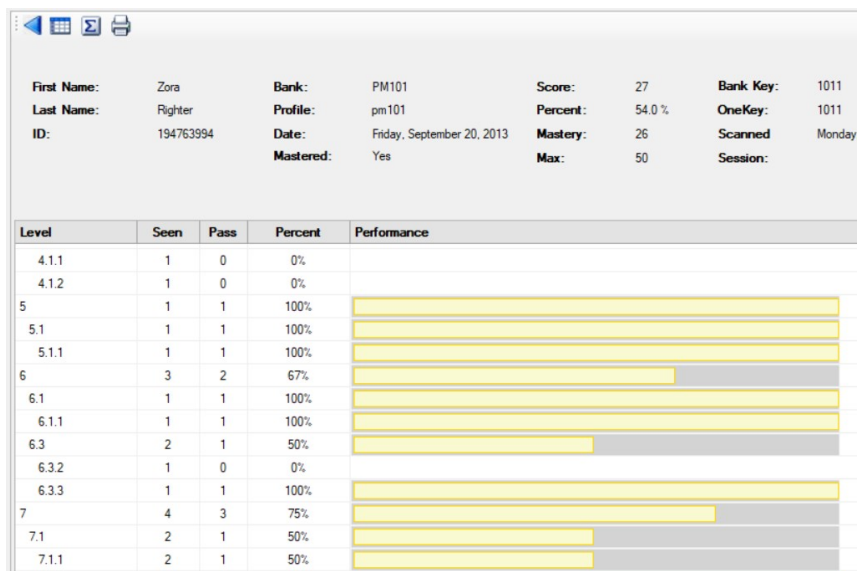
**Alternative Points** These are the point values for each letter in a multiple choice item. Usually correct alternatives have a value of “1” and incorrect alternatives have a value of “-1”. Items can, however, have a complex mix of numbers in there creating a sophisticated judging scheme for a single item.

**Points for Mastery** These are the number of points internal to the item that are needed for mastery. To score an item add together the point values for each letter the examinee answered. If it is greater or equal to the Points for Mastery, then the “Max Weight” is awarded for the item.

**Alternative Shuffle** If you use the full Examiner product the alternatives of an item can be shuffled when the item is printed. Thus, in a question one person might see “Dog, cat, mouse” for the alternatives while another might see “Cat, mouse, dog”. The alternative shuffle tells you how the system took the original item order and shuffled it.

## Performance Report

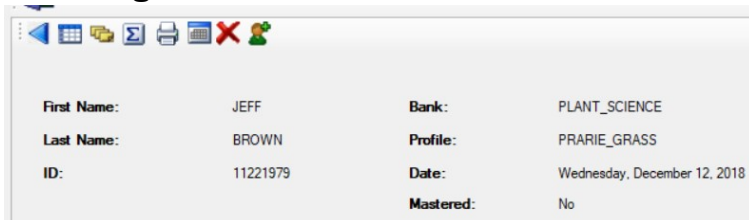
Click on this button, , to see the performance report.



The bars show the percentage mastery in each of the sections. This report is useful in determining areas that need remediation.

<sup>90</sup> And this is one of the most confusing things about this display! Shuffling and scoring is a pain. As I mentioned way back in the answer key section, “This is why we use a computer to score assessments.”

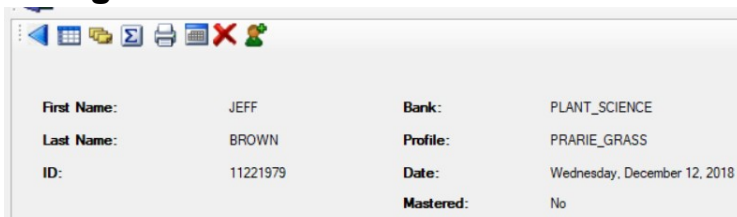
## Re-Assign Examinee ID



First Name:	JEFF	Bank:	PLANT_SCIENCE
Last Name:	BROWN	Profile:	PRARIE_GRASS
ID:	11221979	Date:	Wednesday, December 12, 2018
		Mastered:	No

Sometimes the examinee makes an error whilst bubbling in their ID<sup>91</sup>. The “Re-Assign” ID lets you move a single assessment over to a different examinee. Click on the icon of the person at the top of the display to access the options. A display will be shown where you can select, or create, an examinee as the new “owner” of this assessment.

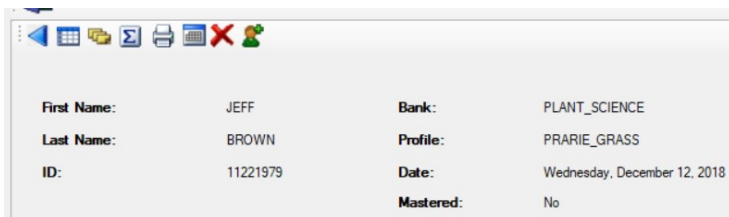
## Change Assessment Date



First Name:	JEFF	Bank:	PLANT_SCIENCE
Last Name:	BROWN	Profile:	PRARIE_GRASS
ID:	11221979	Date:	Wednesday, December 12, 2018
		Mastered:	No

Sometimes the examinee makes an error whilst bubbling in the date<sup>92</sup>. Click on the little calendar icon to the left of the red “X” to show the change-date display. Use the calendar in there to change the date, click on OK, and then click Yes on the confirm screen. This change will be immediate!

## Delete the Assessment



First Name:	JEFF	Bank:	PLANT_SCIENCE
Last Name:	BROWN	Profile:	PRARIE_GRASS
ID:	11221979	Date:	Wednesday, December 12, 2018
		Mastered:	No

Click on the red “X” to delete the assessment from the records database. Once a record is deleted it can NOT be recovered, so make sure that this is something that you really want to do. You will be asked two times to confirm this operation<sup>93</sup>.

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<sup>91</sup> Gee... I know I've talked about this before...

<sup>92</sup> Sometimes the person handing out the assessment doesn't make it clear that the date on the bubble sheet, even though it says “Date of Birth” is really the date the assessment was being administered. Sometimes the examinee doesn't listen. Sometime all are punished (thanks, Shakespeare!).

<sup>93</sup> I hate the “do this two times” as much as you do. Since deleting an assessment is a big deal, I really want to make sure that this is something that you really want to do.

## Exporting

Export To:

C:\temp\WorkExport.xls

RIGHT-click on a column to select the column for exporting. Specify a file, either Excel, Tab, or CSV, and then click on the Export button.


☒ Mark the assessments as "moved" after they have been exported.

Showing all assessments exported on: Never Exported (Assessments: 18)

Export Done Clear Moved

ID	Last Name	First Name	Bank	Profile	Date	Mastered	Score	Percent	Pass Score	Max. Score
587579664	Tsasi	Adell	PM204	pm204	9/30/2009	Yes	42		30	50
257554761	Tsunoda	Alejandra	PM204	pm204	9/30/2009	Yes	34		30	50
524125751	Tuthill	Brook	PM204	pm204	9/30/2009	Yes	39		30	50
757897274	Traffanstedt	Laticia	PM204	pm204	9/30/2009	Yes	37		30	50
483585856	Trudeau	Vincenza	PM204	pm204	9/30/2009	Yes	40		30	50
246331157	Trax	Charley	PM204	pm204	9/30/2009	Yes	33		30	50
392651272	Tuorto	Chasidy	PM204	pm204	9/30/2009	Yes	42		30	50
264566824	Trolio	Alona	PM204	pm204	9/30/2009	Yes	39		30	50

On selecting this option, the display will default to showing only those assessments that have never been exported. These are assessments that were added to the history file after the last export was performed. To re-export a previous set use the drop down. When a set is exported it is stamped with the current date and time.

The first thing you need to do is to select a destination for your exported file. Click on the browse button  to browse to a file location. You can specify three different output formats:

- XLS – this is the standard Excel format.
- TXT – this is a tab-delimited text file.
- CSV – this is a comma-delimited text file.

When you click on the Export button the output file will be in your selected format. You can do multiple outputs of the same data set to different output formats by changing the file extension.

The next thing you need to do is to select the columns that you want to export. To mark a column, RIGHT click on the column. It will turn green indicating that it has been selected. To un-mark a column, RIGHT click a selected column. The color will revert to white indicating that it is not selected for export. These selections will be saved between sessions so that you don't have to re-enter them.

When you are ready to export click on the "Export" button. If the file you have specified already exists, you will be asked if you want to overwrite it. To output a file to a different format, but using the same set of assessments, select a different file and type.

## Export Options

### Mark as Exported

Make a check mark in the “Mark the assessments as “Moved”...” to mark the assessments as moved<sup>94</sup>. What this will do is to add an entry to the ExamRecordMoved field in your history file indicating that the record has been exported.

### Show all Assessments Exported on a Given Date

Showing all assessments exported on:

Never Exported

(Assessments: 18)

Never Exported

7/31/2018 6:19:03 PM

	Last Name	First Name	Bank	Profile	Date	Mastered	Score	Percent	Pass Score
79664	Tsasi	Adell	PM204	pm204	9/30/2009	Yes	42		3
54761	Tsunoda	Alejandra	PM204	pm204	9/30/2009	Yes	34		3

Clicking on the drop-down will show you a list of previous export date along with “Never Exported”. When you click on the entry the table will reload with the list of assessments for the given date or those that have never been exported. When the table updates the number of assessments in the current set will be shown to the right of the drop-down.

### Clear Moved

To change the status of a set of assessments from “Moved” to “Never Moved” click on the “Clear Moved” button. You will be asked to confirm this operation. This operation can not be undone. After the operation is completed the table will be reloaded to the “Never Exported” state.

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<sup>94</sup> “Mark the assessments as moved...” Isn’t THAT a great sentence or what?

*Greetings, my friends. We are all interested in the future, for that is where you and I are going to spend the rest of our lives. And remember, my friends: future events, such as these, will affect you ... in the future!*  
*The Great Criswell, Plan 9 From Outer Space*

I had to work at it to come up with some sort of clever epigram for this last chapter, and I think The Great Criswell said it well<sup>95</sup>. The assessments you are going to grade with this software will affect your examinees. You owe it to them to Get It Right. Over the years I've worked with a number of companies. Toyota is one of the most successful car manufactures in the world for a reason: their program of "Continuous Improvement".

"Kaizen" is one of those Japanese words that defy direct translation. The way I read it, it boils down to paying very close attention to every detail of a process. What does it mean to you, the user of this software? And more importantly, how can I continually improve my assessment process so that the assessment reflects a real assessment of knowledge.

It means that you don't just "give" an assessment. You ask yourself "Why am I giving this assessment?"; "What will I do with the results?"; "How am I going to make this a better assessment in the future?"

What I've tried to do is give you a set of tools that will let you answer those questions. At the end of the day you want to be able to stand up in front of management and, most important of all, the examinees and say, "I know what you know, I know what you don't know, and I'll use this information to better your lot whilst giving you training."

I'm also going to charge you with making this software a better tool. Email me your suggestions. Don't get mad at the software, yell at me and tell me why you are frustrated with it<sup>96</sup>. I'm not just a geek sitting in a corner cranking out clever computer software: I'm a "virtual" member of your training team. Let me know what I can do to help you.

Yes, this is the final chapter. No, it's not the end of this user's guide. A couple of appendixes follow. One will deal with "how to set up your scanner". Another will look at some techniques I've picked up over the years that might help you in creating a good, valid assessment.

Thanks for using This software, and thanks for wading your way through this user's guide.

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<sup>95</sup> What?? You have never seen The Worst Movie Ever? You really owe it to yourself to see *Plan 9 From Outer Space*, if only to be able to understand cultural references to it.

<sup>96</sup> Of course, if you think it's the best thing EVER, let me know that, too.





*I am a brain, Watson. The rest of me is a mere appendix<sup>97</sup>.  
Arthur Conan Doyle*

## Scanner Set Up

This software supports a number of scanner brands. All of them are rather nice pieces of hardware. All of them are rather expensive paper weights unless they have been correctly set up. Before wending your way through setting up this software you need to make sure that you've set the *scanner* up first! Until you have done that this software won't be able to communicate with the scanner. So... before you carry on in here:

- 1) READ THE MANUAL THAT CAME WITH YOUR SCANNER<sup>98</sup>! There will be information in there that will save you a lot of grief<sup>99</sup>. Using said manual you should then...
- 2) Install any software and connect the hardware. The manual will tell you in what order to do this. Follow the directions!

All done now? Hardware and scanner software installed? Now we can initialize the software for this scanner.

## Scanner Control Files

Before you can use any scanner, you need to have some form of a control file. These files differ for each manufacturer. What these files do is allow the scanner hardware to send information to the software in a form that the software understands. Every bubble sheet (OMR) form needs its own unique control file. The Examiner has many pre-made files available. If you have a form that isn't in the library, The Examiner will create one control file for you without charge. Additional forms will be charged for<sup>100</sup>.

The rest of this appendix will deal with setting up the scanners supported by this software. Note that the scanner companies have and will change their scanners and the driver software that supports them. The

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<sup>97</sup> Well of course I know that this appendix is different from that odd little bit that you have (or had) inside you. I trust, though, that this one will prove of somewhat more utility than that one. At least you don't have to worry about this one landing you in hospital. Or at least you shouldn't have to worry about that. One should never underestimate the inventiveness of the Gentle Reader.

<sup>98</sup> I venture that it won't be as a delightful read as this tome! Then again, perhaps the scanner company has paid me a vast quantity of Shiny Gold Coins and I have re-written their manual in my own inimitable style. One can only hope.

<sup>99</sup> ... and will obviate the need for me to chastise you for not reading the manual. You want to stay on my good side, don't you?

<sup>100</sup> Forms that do weird and wonderful things may also incur an additional charge. The additional charge is at my discretion.

Examiner cannot guarantee that every scanner in every configuration on every version of Windows will work! While I will do my best to make the scanner work, there are some things that are out of my control<sup>101</sup>.

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<sup>101</sup> The things that scanner companies do are somewhat of a mystery to me. Sometimes they seem to be a mystery to the scanner companies themselves. I once had to take a techie from one of the major scanner companies out to lunch to ferret out what was really going on inside his company's scanner. After that, I more-or-less got things to work. Never underestimate the power of a well-placed meal to elicit information.



## Sekonic Scanner Configuration

The Sekonic Scanner uses special configuration files with the extension “.SKF”. These files are unique to The Examiner. Before you can configure your Sekonic scanner you must have an SKF file that matches your OMR form. You can create this form using The Examiner Corporation’s Sekonic Scanning Utility. This application is separate from this Scoring Utility and is available for purchase from The Examiner. You can also have The Examiner create a SKF file for you. In any case, you must have an SKF file for your OMR form before you can proceed with the configuration.

### Launching the Configuration

The configuration is launched in a similar fashion from both the scoring and key-creation elements of this software:

This screenshot shows the 'Scanner Control File' window. It contains several checkboxes: 'Stop if ID is blank.' (checked), 'Use Auto-ID Option.' (unchecked), 'Require Last Name.' (checked), 'Review while scanning.' (unchecked), 'Required ID Length:' (set to 10), 'Next ID to use:' (set to 202), 'Review blank/multi mark.' (checked), and 'Post-scan review active.' (checked). A 'Scan' button is in the top right. Below the checkboxes, the 'Scanner Control File' is listed as 'C:\Users\gbrow\Documents\ProctorSystemFiles\SekForms\F-262-L.SKF'. There are 'Change File' and 'Change Scanner' buttons. At the bottom right, there are checkboxes for 'Show extended progress messages.' (checked) and 'Use reject bin for errors (if available).' (unchecked). The 'Session Name' is 'Session: 2018011'.


This screenshot shows a 'Scan Key' dialog box. It contains a 'Scan Key' button with a lightning bolt icon and a 'Cancel' button. The text inside says: 'Place the scan sheet in the scanner with the correct alternatives marked and click on the "Scan Key" button.' Below the dialog box, the 'Scanner Control File' is listed as 'C:\Users\gbrow\Documents\ProctorSystemFiles\SekForms\F-262-L.SKF'. There are 'Change File' and 'Change Scanner' buttons. At the bottom right, there are checkboxes for 'Show extended progress messages.' (checked) and 'Use reject bin for errors (if available).' (unchecked).

The first time you run the software you will be taken to a screen where you select the scanner manufacturer. Clicking on the “Change Scanner” button will take you to the same screen:

This screenshot shows a dialog box titled 'Select your scanner manufacturer from the following list. You can change this at a future time.' It contains four radio buttons: 'Scantron / NCS', 'Scantron "Classic"', 'Sekonic' (selected), and 'Chattsworth'. A 'Confirm Selection' button with a green checkmark is on the right.

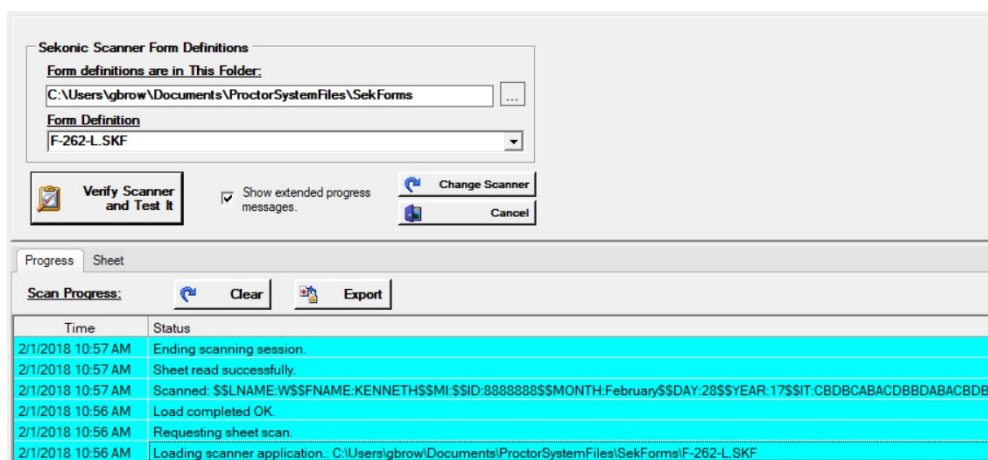
Click on “Sekonic” and then the “Confirm Selection” button. The screen will change to the form definition selection page:

This screenshot shows the 'Sekonic Scanner Form Definitions' window. It contains a text box for 'Form definitions are in This Folder:' with the path 'C:\Users\gbrow\Documents\ProctorSystemFiles\SekForms'. Below it is a 'Form Definition' dropdown menu with 'F-262-L.SKF' selected. At the bottom, there are buttons for 'Verify Scanner and Test it', 'Change Scanner', and 'Cancel'. There is also a checkbox for 'Show extended progress messages.' (checked).

Click on the browse box, , to browse for the folder containing your Sekonic SKF files. Remember that you must have these files before you can proceed! After you have specified the folder use the Form Definition drop down to select the appropriate form from the list.

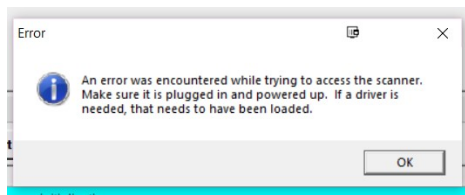
## Running the Configuration

After making sure the scanner is powered up and plugged into your computer<sup>102</sup>, click on the “Verify Scanner...” button. If all is well, the scanner will make appropriate whirring noises and read a sheet. The screen will look something like this:



What you should look for are the “Load Completed OK.”, “Scanned...”, and “Sheet read successfully” lines. If you see them, then things are probably working correctly. Click on Cancel button to leave the display. If you don’t see those messages, there are a number of error messages that should tell you what’s wrong:

### Error: Accessing the Scanner

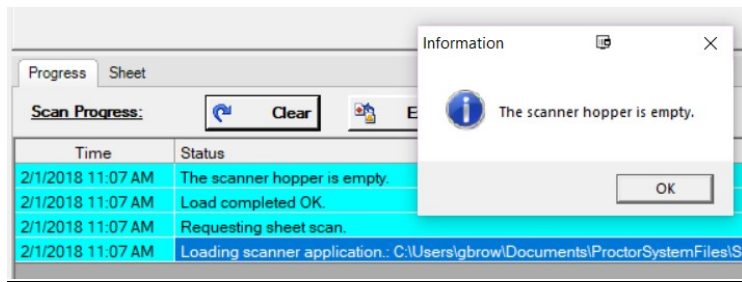


This usually means that you didn’t have the scanner plugged in or you haven’t plugged the scanner into your computer<sup>103</sup>. Click on OK, fix things, and try again. Other than the obvious, you may be seeing this message if you didn’t follow the installation instruction that came with your scanner.

<sup>102</sup> If I had a dollar for each time I’ve been told “My scanner isn’t working,” when it simply wasn’t plugged in, I’d be sitting on a beach drinking a piña colada and reading a good science fiction book.

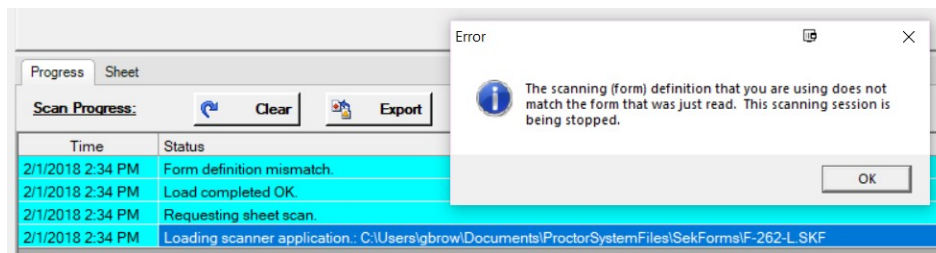
<sup>103</sup> See my previous note where I rail against those who complain to me about my Awful Software when the fault is with them.

### Error: Scanner Hopper Empty



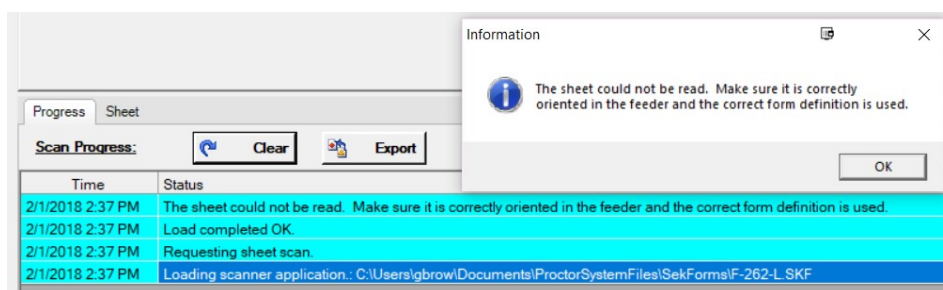
This error appears if the feed hopper of the scanner doesn't have a form in it. If you do have a form in the hopper make sure that it has been pushed forward in the feed tray. If your feed tray has been pushed down to accept a form make sure that it has been returned to the up, feed, position. Click on OK in the message box, correct the problem, and click on the Verify button.

### Error: Wrong Form Definition



This error appears if you try to read a form with the incorrect form definition. Use the drop-down at the top of the page to select the correct definition and try again. If none of your definitions work, you may need to have one created for you.

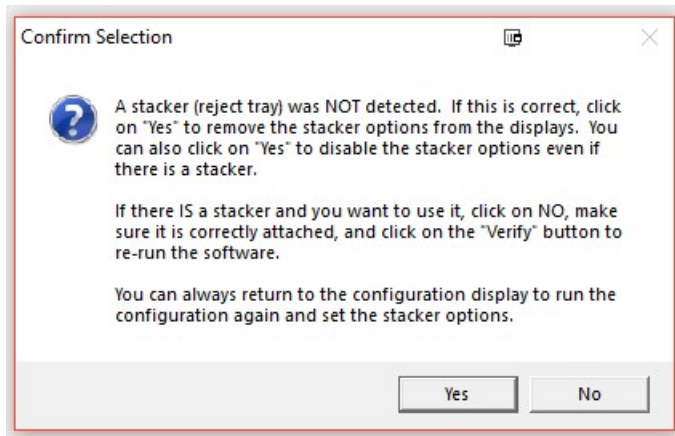
### Error: Sheet Could Not Be Read



The most common cause of this error is that you incorrectly loaded the sheet. Make sure that the timing marks are towards the front of the scanner and the front of the scanning sheet is facing up. This error can also occur if the sheet does not feed correctly into the scanner. This error message is, more or less, the “catch all” error message.

## Stacker Detection

Scanners can be equipped with an optional “stacker” bin. This is a secondary tray that will receive sheets that are “rejected” from the normal scanning sequence. This could be anything from a low score to a misaligned sheet. Most scanners are not equipped with the feature. During the scanner configuration the scanner is queried as to whether or not it is in fact equipped with a stacker unit. If a stacker is detected a flag will be set and stacker-specific controls will be shown on the main scanner display. On the other hand, if a stacker is not detected the following display will be shown:



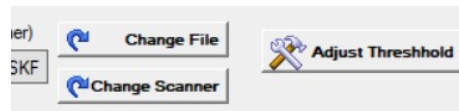
Usually the stacker-detection works without a hitch<sup>104</sup>. Sometimes, though, the stacker is present but it's not correctly connected. A loose cable or other hardware issue will generate the “not present” message. If there is a stacker, fix the problems and re-run the configuration. If there isn't a stacker, click on “Yes”. This will inhibit the display of a number of stacker-specific options on the scanner page. If you change scanners you can re-run the “change a file” option to return to the configuration display.

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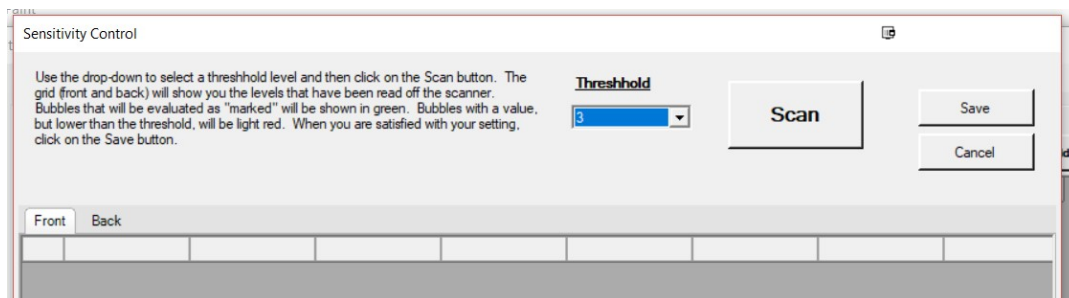
<sup>104</sup> “Usually”. We know how THAT goes, eh?

## Adjusting the Threshold

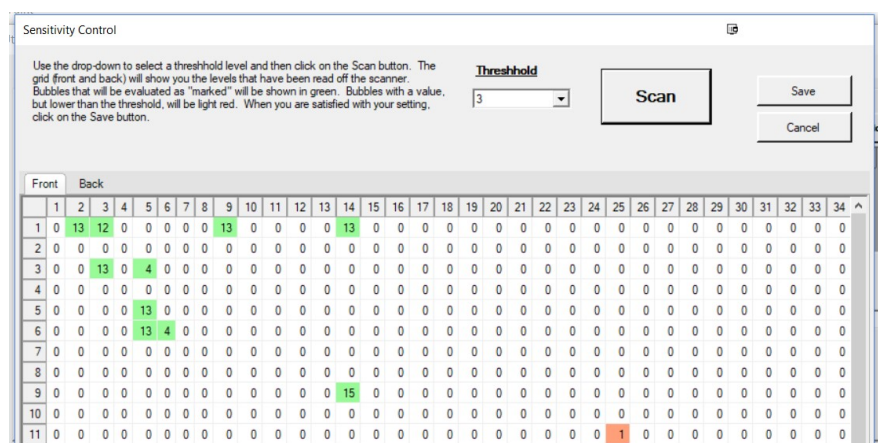
Sometimes when you are scanning it seems that every other item on the sheet is showing up as a “multi mark”. When you look at the sheet you see that for almost every item the examinee changed their mind, erased their previous answer, and marked a new one<sup>105</sup>. Yes, they more-or-less erased their previous answer...but still...it is being picked up as “marked”. What this means is that your scanner’s mark detection threshold, it’s “sensitivity”, is set too low. You can adjust this by clicking on the “Adjust Threshold” button to the right of the scanner control file line.



When you click on this button a new page will be displayed where you can adjust the threshold.



The current threshold is shown in the drop-down. In this case, it is set to “3”. To see what the system will consider “marked” place a sheet in the scanner and click on “Scan”. I’ve marked a sheet and then done some erasing. Here’s what I got:



If you look on lines 3 and 6 you’ll see a value “4” for the cells. Looking at the sheet I can see that I’ve erased the bubbles for those cells. The “13” on those same lines are what is marked. What I

<sup>105</sup> And if every item is like that it has to make you wonder. Just saying.

want to do is adjust the system so that the valid bubbles are saved and the erasures are ignored. To do that I use the drop-down and change the value to 10. That's higher than the erased bubbles but less than the marked ones. Scanning again...

Sensitivity Control

Use the drop-down to select a threshold level and then click on the Scan button. The grid (front and back) will show you the levels that have been read off the scanner. Bubbles that will be evaluated as "marked" will be shown in green. Bubbles with a value, but lower than the threshold, will be light red. When you are satisfied with your setting, click on the Save button.

Threshold
10

Scan

FrontBack

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1	0	13	12	0	0	0	0	0	14	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	0	0	13	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	0	0	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	0	0	0	0	13	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	0	0	0	0	0	0	0	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

With a threshold of “10” all bubbles below 10 are set to be ignored (they are in red)<sup>106</sup>. What you need to do is try various settings until you are pleased with the results. Click on “Save” to save your settings. When you do your actual scans the below-the-threshold marks will be ignored.

<sup>106</sup> And, “The values are different between the two scans”, I hear you say. Why, yes they are. Scanners are like that. Depending on ambient light, the temperature of the room, the way you are looking at the scanner... the value for any cell is usually plus or minus one between scans. So long as you set a decent threshold, you'll be ok.





# Appendix B

*It is a very sad thing that nowadays there is so little useless information<sup>107</sup>.  
Oscar Wilde*

## Scan File Format

One of the more powerful features of this software is the ability to extract examinee responses from a specially formatted file and score them. This appendix will show you what format that file needs to be in.

The file used by the Scan File Mode must be of a very specific format. First off, it must be an ASCII text file with each line terminated by a carriage return and a line feed. The Window's "Notepad" produces this type of file.

A single line representing a single assessment might look like this:

```
$$ID:123121234$$LNAME:BROWN$$FNAME:JEFF$$MI:C$$CD:10023$$DB:AGBANK$$FL  
EXAMS:LOCATION:MN$$FLEXAMINEES:GENDER:M$$MONTH:09$$DAY:26$$YEAR:2002$$  
IT:ABCCABABCCDCABAB$$##
```

\$\$ID:	ID. In the example this is "123121234". This is a <u>required</u> field and is used as the primary key in the history file.
\$\$LNAME:	Last Name. In the example file this is "BROWN".
\$\$FNAME:	First Name. In the example file this is "JEFF".
\$\$MI:	Middle Initial. In the example file this is "C".
\$\$CD:	The exam key number that will be used for scoring. Combined with the "\$\$DB:" value or a forced item bank this uniquely identifies the key. In the example file this is "10023".
\$\$DB:	The item bank the key was generated from. This must <u>exactly</u> match the bank stored in the key file. If the key references the bank with an ".XM3" extension then the \$\$DB tag must too.


<sup>107</sup> I tried. I really tried. I tried to find a decent aphorism about file formats. This one from Oscar Wilde will have to suffice. I guess not that many Famous People have pondered on the subject.



\$\$FLEXAMS:aaaaa:	Add exam field. This is a two-part tag. The second part, labeled to the left as “aaaaa” and In the example as “LOCATION” is the name of the field in the exam table that the data is to be loaded in. In the example, the value “MN” will be loaded into field “LOCATION” in the exams table.
\$\$FLEXAMINEES:aaaaa:	Add examinee field. This is a two-part tag. The second part, labeled to the left as “aaaaa” and In the example as “GENDER” is the name of the field in the examinee table that the data is to be loaded in. In the example, the value “M” will be loaded into field “GENDER” in the examinees table.
\$\$MONTH: \$\$DAY: \$\$YEAR:	The tags of these commands will be the exam date that is to be stored with the exam record. In the above example, the date stored will be 26 September 2002.
\$\$IT:	The examinee’s responses. These are what the examinee has answered on an answer sheet. A skipped answer on the sheet must be a single blank. If the examinee made a “multi-mark” a “?” should be entered. In our example, the examinee entered: “ABCCABABCCDCABAB”.
\$\$##	This is the end-of-record identifier. It must be followed by a carriage-return and line feed.

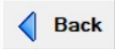
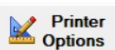
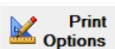

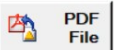
*If all printers were determined not to print anything till they were sure it would offend nobody, there would be very little printed.*  
Benjamin Franklin

## Printing Reports

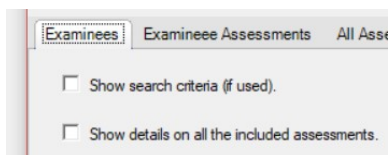
You can print most of the reports that appear in the Results part of the software by clicking on the printer icon, , at the top of the page. When you do that, the following screen will be displayed:



The appearance of this display will be slightly different depending on where the printer icon was clicked. The options, though, work the same in all places.

- |   |   |
|---|---|
|  | Back will return to the display where the printer icon was clicked.   |
|  | Printer Options will display a box where you can select paper orientation and margins. If a printed table does not fit on the page using these options and changing the margin size may fix the problem.                                  |
|  | Print options will display a set of pages where you can select what is to be printed within each report. Note that if you select an option that has "...included assessments" in the title, the print may take some time to be completed. |
|  | Printer will send the report directly to the printer. The standard print dialog box will be displayed.  |
|  | PDF File will send the report to a PDF file. You will be shown a display where you can select the destination of the print.   |

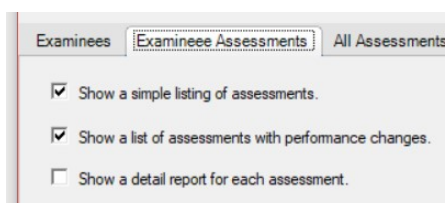
## Print Options – Examinees



The screenshot shows the 'Examinees' tab selected. It contains two unchecked checkboxes: 'Show search criteria (if used)' and 'Show details on all the included assessments'.

These options control what is printed on the page(s) that show the examinees that viewed specific assessments. The first box will show the search criteria that created the list while the second will tell the system to print detailed sheets for each of the examinees in the list.

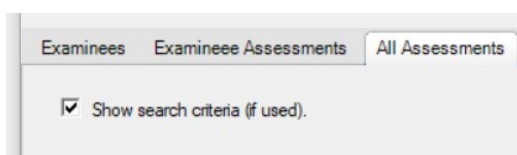
## Print Options – Examinee Exams



The screenshot shows the 'Examinee Assessments' tab selected. It contains three checkboxes: 'Show a simple listing of assessments' (checked), 'Show a list of assessments with performance changes' (checked), and 'Show a detail report for each assessment' (unchecked).

The first option will print an abbreviated list of the examinees. The second will show performance changes between same-profile assessments. The last option will print detailed sheets for each of the examinees in the list.

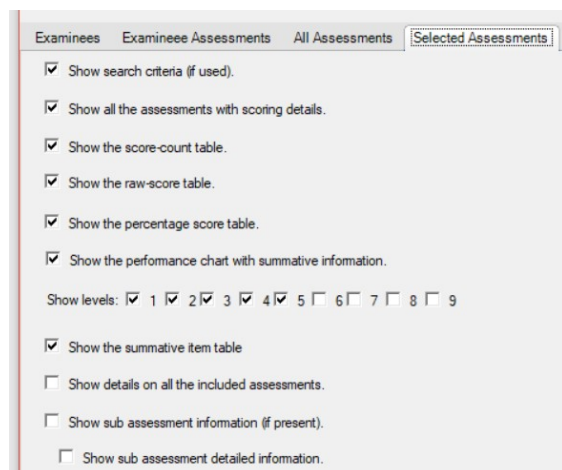
## Print Options – All Assessments



The screenshot shows the 'All Assessments' tab selected. It contains one checked checkbox: 'Show search criteria (if used)'.

If the box is checked, then the search options that created the list will be shown.

## Print Options – Selected Assessments



The screenshot shows the 'Selected Assessments' tab selected. It contains several checkboxes, all of which are checked: 'Show search criteria (if used)', 'Show all the assessments with scoring details', 'Show the score-count table', 'Show the raw-score table', 'Show the percentage score table', 'Show the performance chart with summative information', 'Show the summative item table', 'Show details on all the included assessments', 'Show sub assessment information (if present)', and 'Show sub assessment detailed information'. Below these checkboxes is a 'Show levels' section with checkboxes for levels 1 through 9, all of which are checked.

This page is used to set what is printed when a set of examinees has been chosen.

1. Search criteria – These are the options that were used to create the list of examinees.
2. If this is selected, then the full page of assessments is shown.
3. The next three options will print what they say they will print!

4. This will print the performance chart. The series of check boxes under this option tell the system what level of detail to print for the chart. For example, let's say that an index entry of "3.4.2.1" is shown. With all the boxes checked you would get a line for index "3", index "3.4", index "3.4.2", and index "3.4.2.1". However, if only the "1" and "3" boxes were checked you would only get lines for "3" and "3.4.2". This option has the most applicability when the data that are being display was created by an Examiner-generated answer key.

5. Summative Item Table – This will print information on item performance.
6. Sub Assessment Information – if sub assessments are present it will show that information. This only applies to assessments that were created using the full Examiner system.

## Print Options – Single Assessment

Examinees Examinee Assessments All Assessments Selected Assessments **Single Assessment**

**Performance Report**

☐ Show the performance report.

Show levels: ☒ 1 ☒ 2 ☒ 3 ☒ 4 ☒ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9

**Item Report**

☒ Show the item report.

☐ All items. ☐ Mastered items. ☒ Non-mastered items.

**On the sheet show:**

☒ Mastery ☒ Points ☒ Correct Answer ☒ Examinee response

☒ Type ☒ Shuffle Order

This controls what is seen when a single assessment is printed. If the first option is set the performance chart will be printed. The check boxes below this option control what levels will be printed. Refer to the previous section for information on how this option works. The last check box controls whether the item detail table will be printed.

When you are printing the item details you can determine exactly what is to be shown. The “All Items”, “Mastered Items”, and “Non-mastered Items” are useful when you want the examinee to see where they need to do some work.

*'When I use a word,' Humpty Dumpty said, in rather a scornful tone, 'it means just what I choose it to mean -- neither more nor less.'*

*'The question is,' said Alice, 'whether you can make words mean so many different things.'*

*'The question is,' said Humpty Dumpty, 'which is to be master -- that's all.'*  
*Through the Looking Glass – Lewis Carroll*

## Thoughts on Creating Assessments<sup>108</sup>

What you call a “test” someone else calls an “exam”. What someone else calls a “quiz” you call an “assessment”. What you call something, and how you use that something, will flavor the results you will get from using this software.

In This software, and in this user’s guide, I’ll be working with a set of terms that has come out of my experience in the training and education business<sup>109</sup>. There will be some definitions, and there will be thoughts on what goes into making a decent assessment.

### Assessments

An *assessment* is a tool used to find out what an examinee knows about something. These days<sup>110</sup>, assessments seem to be running the word rather than the educators. Assessments are given because the powers-that-be have said, “You Will Test!”<sup>111</sup> Testing simply for testing’s sake is a waste of both your time and your examinee’s<sup>112</sup> time. When you give an assessment, you are (or at least you should be) doing it to find out where the examinee is sitting with respect to a set of mastery criteria.

The assessment isn’t the important thing. The *result* of the assessment is the thing which you should be concerning yourself with. Everything that you put into an assessment needs to be directed at

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<sup>108</sup> See, I told you there would be Words of Wisdom™ at the end of the manual. And you doubted me! HAH!

<sup>109</sup> You do know the difference, don’t you? Sex education is what you want your children to have. Sex training is an entirely different matter. Feel free to use this humorous anecdote in your training sessions. Once heard, a person will never forget the difference!

<sup>110</sup> Winter, 2018. If you are reading this manual in 2040 I’ve either done a remarkable job in creating this software, or you are an historian reading about the odd and wondrous things that were going on at the end of the first decade of the 21<sup>st</sup> century.

<sup>111</sup> Oddly enough, they never say “You Will Assess”. Go figure.

<sup>112</sup> I use “examinee” throughout this guide. Yes, I know you may be a teacher reading this document and saying “Hey... it’s a STUDENT not an EXAMINEE.” I’ve got to pick one, and today the winner is “EXAMINEE.” Deal with it.

finding out something when you analyze the results. A few simple guidelines will, if followed, will all but guarantee you with valid results and have your examinees calling you a “fair and balanced”<sup>113</sup> instructor.

## Writing Assessment Items

In the assessment biz, we don’t call them “questions” we call them “items”. The word “question” limits things. An “item” is a nice, general, term that covers a multitude of methods for looking at a student and seeing if that person knows or doesn’t know something.

- Don’t use “trick” items. You are not going to be assessing anything if the student has to be “clever” to delve the meaning out of a confusing or misleading item. You will find yourself assessing cleverness and not the knowledge of what you are actually trying to assess.
- Don’t use “give-away” items that a semi-intelligent mollusk could answer correctly. An item that *everyone* can answer correctly isn’t assessing much of anything. The incorrect choices in an item should be designed to give you information about what the student doesn’t know so you can help them improve.
- Don’t add items to an assessment that don’t serve a purpose. I remember getting a quiz when I was in high school<sup>114</sup> that would always have a dumb question that was in their “just so you could get at least one point.” Your job is to find out what a person knows and doesn’t know...it’s not to be cute.

## Designing Your Assessment

Great. You now have perfect assessment items. What about designing the assessment itself? Many users of this software aren’t even going to be worrying about this. They’ll just be copying answer keys out of the back of a text and putting them into this system. For those of you that are actually going to be making an assessment:

- Figure out what it is you want to assess and stick to the subject! You don’t want a student sitting there wondering where THAT item came from.
- Validate your assessments to make sure that they are actually are doing what you think they are doing. If everyone fails an assessment, or if everyone passes an assessment, don’t assume that it’s because of knowledge level of your students. Make sure that the instrument is doing what it’s supposed to do.

Don’t assume that the assessment given to you by a textbook publisher is well-designed and validated instrument. Those publishers have been pressured to crank out assessment just as you have. They make mistakes. It’s up to you to catch those mistakes before they’re inflicted on your students.

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<sup>113</sup> Note to future historian: this is a catchphrase with political overtones. Look it up.

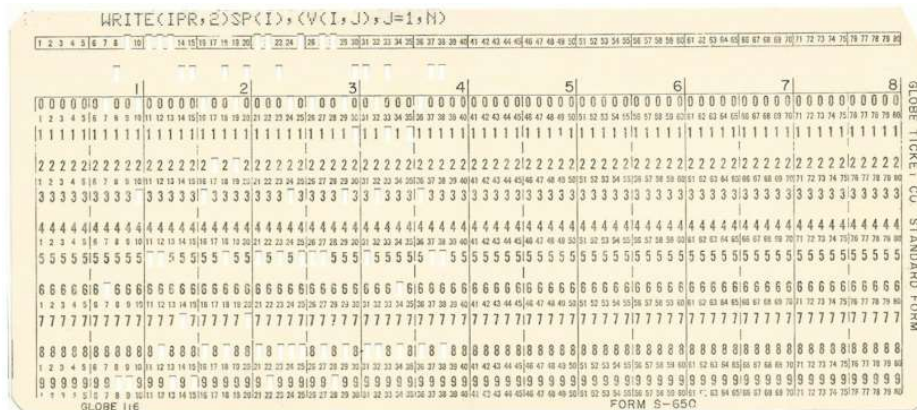
<sup>114</sup> That was in another geological epoch.



qaStaH nuq jay' <sup>115</sup>  
Klingon Reaction

## Notes for Geeks<sup>116</sup> and Support Staff

Here... pull up a chair. Let me pour you a cup of raktajino<sup>117</sup>. What? A mug of bloodwine<sup>118</sup>? This appendix is going to deal with the nitty-gritty of installing the software and will attempt to address the “my software stopped working” issues that you will (or have) no doubt encountered whilst working with this package. And in case you’re wondering... I’ve been working with computers as a programmer since around 1968. Yes, I’ve been programming longer than you, and possibly your parents, have been alive. This is what I used to use:



That’s a card for a Fortran IV program that I punched with my very own little fingers on an IBM 029 keypunch machine. My first “real” computer was an IBM1130. When I’m working with you on a support issue there’s pretty much I’ve not see in one form or other over the years. No, I’m not a network guru. And, no, I don’t keep up with the latest gee-whiz programming developments.

<sup>115</sup> Look it up.

<sup>116</sup> You know who you are.

<sup>117</sup> If you don’t know what this is, you probably don’t belong in this appendix.

<sup>118</sup> TlhIngan 'Iw HIq, for those in the know. And if you DO want that, you definitely DO belong in this appendix. And I’m happy to make your acquaintance.

However, I'm an engineer by training<sup>119</sup>. One of the things you learn as an engineer is the concept of "robust". With that in mind, I'm a belts-and-suspender kind of guy. My code isn't elegant. But my code is obvious. I try to think of "What will that silly user do next?" when I'm coding. When you ask for help you'll be talking with the guy that wrote the program. And when I say "You know, here's what I think..." you really should pay attention. I've been in the trenches for a goodly while, and I kind of have an idea of what's going on. With that in mind, here are some thoughts...

## Development Notes

This software has been developed using Microsoft's VB.NET<sup>120</sup> system. As of 2018, VB.NET 4 is the underlying platform. In the future this will probably be updated to latter versions of the .NET environment. And, following my father's advice, "If someone else has made a tool...buy it!", I've "bolted on" a number of packages that have made my life a lot easier<sup>121 122</sup>.

The underlying databases on the system are Microsoft Access<sup>TM</sup> files. I've used them since the early Windows days, and I can't see any reason to change. And, no, you don't need Access installed on your system to run the software. All the tools necessary to manipulate the files are installed along with the software. "What about SQL Server" I hear you shout. There are hooks-a-plenty in the system for implementing SQL Server. In fact, I've actually brought up SQL Server versions of some of my other systems. However, it's not available in this system<sup>123</sup>. Sorry about that.

In any case, the Access files aren't "tied down" and are open to your inspection. However, I strongly recommend against changing things that you don't understand in there. If you have questions, *please* give me a call and pop me an email. I'll be more than happy to explain what some confusing element actually does<sup>124</sup>.

Installation is accomplished via Setup Factory<sup>125</sup>.

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<sup>119</sup> A geological engineer if you must know. Noodle on that for a while.

<sup>120</sup> Yes, I am still using Visual Basic (VB). I moved over to VB back when Windows 3 came out. It was the first easy-to-use visual development language. There were a lot of add-on packages. In short, it made my life easy. Over the years I've moved the software onto new releases of VB as they came out. I developed a lot of libraries of routines. A couple of years ago I move to .NET. Rather than re-code everything into the ever-popular C++ and its kin, I decided to just stick with VB. Call me lazy, but it probably cut a year or so off my development time. And at the end of the day the result is the same since everything eventually boils down to the same executables.

<sup>121</sup> "Text Control" from Text Control, LLC, has been my text editing go-to since my early Windows days. I've hand-written word processing tools, and it's not fun. Text Control has made my life a LOT easier. You can reach them at <https://www.textcontrol.com>.

<sup>122</sup> "ComponentOne" from GrapeCity software has provided most of my screen management software since, again, my early Windows coding. Nifty little tools for making tables and organizing things on the screen are their forte. Reach them at <https://www.grapecity.com>.

<sup>123</sup> If you would like to shower down some Shiny Gold Coins on this developer, I'm sure that SQL Server could be made to appear with this software.

<sup>124</sup> "Oh", I'll say, "That's a legacy field from around 15 years ago that's still here because it shows up in the occasional odd spot in the software. Don't worry about it...but don't kill it either. You may well break something."

<sup>125</sup> That's from IndigoRose software up in Canada. It's a heck of a lot cheaper than you-know-who and is very easy to use. Contact them at <https://www.indigorose.com>.



## Installation Information

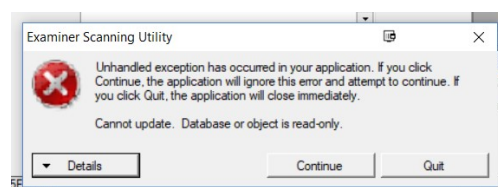
Installation is about as straightforward as it can be. As usual with the later, post Windows 7, versions of Windows you will need to have administrative rights to install the software. The software is designed to be installed on the user's machine. It's not "server" software, per se. Most of the control (DLL's and the like) used by the software are installed in the same folder as the software itself, so you probably don't need to worry about version issues.

If you do want to have the software accessible to a number of users via a server,<sup>126</sup> you can use a product such as Citrix. Again, the software has no special requirements so a standard Citrix application installation will suffice.

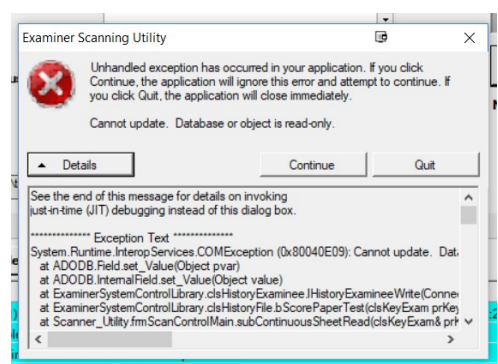
## Common Error Situations

You will occasionally encounter problems when running the software. Some of them are bugs<sup>127</sup> and some of them are problems caused by the delivery environment. This section will deal with some of the more common problems I have dealt with.

## What I'll need to know...



If you see an error like this one, the dreaded "Unhandled exception"...



...I'll ask you to click on the "Details" drop-down. You'll see something like this.

That geeky-looking gibberish at the bottom is important to me. It tells me exactly what was going on when the software crashed. I'll ask you to copy the information and email it to me. You, of course, can jump start the process by emailing it to me before I ask! To copy the information, Right-click in the text,

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<sup>126</sup> With the appropriate payment of license fees, of course!

<sup>127</sup> "Bugs! I'm SHOCKED!" Anyone who is selling you software and says their software is "Bug Free" is lying through their teeth. I figure I swat down around 99% of the bugs during beta testing. That other 1% is going to show up during the next year or so. You know that old adage of "No battle plan ever survived first contact with the enemy"? The same applies to software: "No software ever survived first contact with the end user.". The number of possible paths through this software is close to infinite. There is no way I can possibly go down all of them. You, gentle user, find those odd paths that lead to the dreaded Application Error.

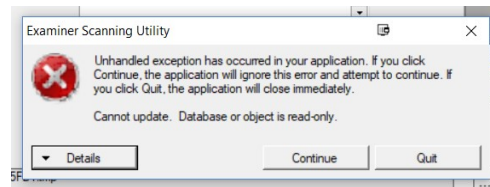
and then click on “Select All”. Right-click again and hit “Copy”. Paste that into a note and send it off to me.

The other thing I may ask if for you to send me the history and/or key file. You’ll need to “zip” that file up before attaching it to a note as Microsoft Outlook doesn’t like to process Microsoft Access files.

With all problems, my first step is to recreate the error. If I can do that, I’m most of the way to providing you with some sort of a solution to your problem. Usually it’s something at your end<sup>128</sup>. If not, I will be grilling you in detail for information on what you did to reach the error<sup>129</sup>.

## Database or Object is Read Only

If I had a nickel for every time I’ve been called up on this, I’d be rolling in the cash. It’s usually goes like this: “The software was working GREAT last week, but when I started it up this morning it crashed! I’ve not changed ANYTHING.” What they saw was like this:



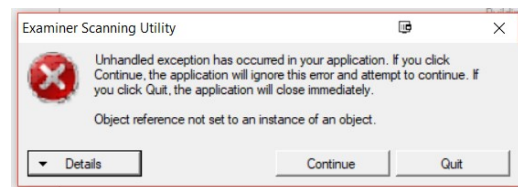
The dreaded “Cannot update. Database or object is read-only.”. Guess what that’s telling me?

You’re right! The database is READ ONLY.

“Oh, but Gary... I’m sure it’s not...” is usually the next thing I hear. I parry with “Yes, it IS read-only...that’s what the error is saying!” We go back and forth and back and forth. Then it comes out that some sort of network update happened over the weekend and it changed things. Usually, the “changed thing” is that the user privileges went from Read/Write to Read Only. The IT group will swear up and down that THEY didn’t change anything. Again we go back and forth and back and forth. Finally, sometimes after *days* it turns out that “Oh... we just found that there was something set wrong, blah, blah, blah...” and, yes, it was indeed now Read Only. The IT person pokes a button and it’s back to Read/Write and everything works.

Save everyone the hassle. When I tell you that you need to fix the Read/Write privileges on the folder holding your files, you really do need to change them<sup>130</sup>.

## Object Reference Not Set



This error is a bit dicier. It can show up in any number of places while you’re running the software. Most of the time it boils down to a damaged record in the Access

<sup>128</sup> Sorry, but it usually is.

<sup>129</sup> In my best, calm, even-toned, support voice. If you here a little “click” during the call, that’s me hitting “mute” and screaming. Pay no attention to that.

<sup>130</sup> And if the IT department starts yelling that “who do you think you are telling me...” you remind the IT department that THEY work for YOU, and not the other way around. Sometimes I have to have a Serious Meeting with IT groups to remind them this. They exist solely to keep the users happy. Users: you can improve your chances of the IT department doing your bidding by sending them plates of warm chocolate-chip cookies. It has been thus since the dawn of the IT age, and it still is. Give an IT person a nice warm chocolate-chip cookies and they will do anything for you.

database. Generally, software is quite robust. It chugs along doing what it is supposed to do. Hardware, on the other hand, is subject to the vicissitudes of having to deal with human beings. Human beings do things such as kicking the power cord out from the back of a computer and powering down the box in a rather catastrophic fashion. Human beings can pull out the network plug from the wall. Human beings can be taking a test and just turn off the computer in the middle of things<sup>131</sup>. The computer might be in the middle of writing things to disk and suddenly, “Poof”, no more computer to write to. What that means is that the records of the assessment aren’t complete. Maybe only 10 of 20 items have been written back to the disk drive holding the data. When it comes time for the software to read the files it thinks it should have something and, “boom”, nothing is there. I’ve tried to catch all the major instances of this, but I can’t find them all. This error, and ones similar to it, pop up when this happens. This is a case where sending me the details is essential. The information in that dropdown will zero me in to a specific line of code. Looking at that code I can usually figure out what has happened. Sometimes I can fix things, sometimes I can’t. Sometimes I may have to have you send me the file.

## General Network Errors

Most computers using this software are connecting to databases that are located on a server. The connection may be hardwired or, most commonly today, via a wireless connection. Glitches in the connection can cause strange and wondrous errors that are often very, very difficult to track down. Many times, the error might not even show up in a message screen...the software just stops dead in its tracks and ceases to work.

When you have an error that just can’t be tracked down, check your network connections. Ask yourselves these questions:

- Have you experienced significant pauses whilst browsing the internet?
- When saving or reading a file to and from a network location, does it seem to take an inordinate amount of time?
- Does your computer suddenly log you off the network for no apparent reason?
- Do things just “feel wrong” while running your computer<sup>132</sup>.

The most obvious thing to do is to close out all your programs and restart your computer. Yes, I know that’s the trite thing that all of us support people tell you to do. The fact is, rebooting a computer does fix a multitude of problems.

If that doesn’t work, try disconnecting and reconnecting to the network. If you’re hard-wired, pull out the cable, wait a half minute or so, and plug it back in. If you are on wireless system, turn off

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<sup>131</sup> You think I’m kidding, right? More than once I’ve heard about an examinee realizing they are doing Really Poorly on an assessment and figure they can game the system by turning off the computer and then turning it on and saying “I don’t know... it just DIED!” They wander off and look up something and come back and PASS THE TEST! This is why we have vigilant proctors!

<sup>132</sup> Yes, I said “feel wrong”. I often tell people that “my stomach says...” when I encounter a problem on a computer. When you’ve used a particular system for a while you get a feeling for how it runs. You push a button and a shiny light lights up. You hit the backspace key, and the cursor moves back. After a while you get a feel for the rhythm of your computer and its software. If suddenly you find yourself getting frustrated with your computer it’s probably because it’s not working the way it usually does. If the computer “feels wrong” it often means that something is wrong. Don’t discount your gut feelings!

your wireless card, wait a half minutes or so, and turn it back on. In both these cases this operation will fix a number of connection issues.

If you have access to your wireless router turn that off, wait a minute, and turn it back on again<sup>133</sup>. Again, this will fix many issues.

Talk with your support people. Keep copious notes about what is going on. Software isn't magic...there always is *something* causing the problem. The trick is finding out what it is. Bring me into the support loop. And lastly, when the problem is fixed, please let me know! I hate thinking there are problems and find out they had been fixed but no one let me know!<sup>134</sup>

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<sup>133</sup> Needless to say, warn the other users of the wireless network about what you are about to do!

<sup>134</sup> Oh! Look! You've reached the end! Enjoy the index!

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