

SmartMan Quality Control Improvement 2.0 Pre-Processed Data

V2.0 and later

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2.0 PRE-PROCESSED DATA

SmartMan produces raw data points every time an activity is performed. Are actual points and are not extrapolated. These data points are stored on the local hard drive.

These raw data points are NOT the information that is examined by the QCI Module.

You can access the raw data by opening each activity file on the hard drive of the computer where the activity was performed. It will be under a folder with the login name.

2.1 WHAT IS PRE-PROCESSED DATA

Pre-processed data is based on the original point data collected during the activity. Point data is accessible and stored in the original file that was created when the activity was completed.

Often that point data is too much information to process. SmartMan generates a lot of information. It is important to be able to focus down on the part that data which is of interest to you. The pre-processed data helps to do this for you.

There are 20 categories of pre-processed information. There are about 24 types of results from the activities and there can be multiple attempts in each activity. In a study with several hundred individuals that can be a lot of information.

To illustrate when you want to use the raw data or when you want to use pre-processed data, here is an example.

Example, if you want to examine how well a group of 50 people performed chest compressions:

2.1.1 Example A (you need data points)

If you are asking white if we made acceptable compressions a bit shallower (that is you are looking at every compression and the depth of that compression to determine if you allowed 10% less deep, how would that effect the overall performance, then you want raw data. You would examine all of the data points and run “what if” analysis by changing the parameter of depth. You need the data points.

2.1.2 Example B (you need pre-processed data)

If you are asking how well each person performed those compressions (that is you are looking at the total evaluation of the performance and perhaps comparing each student against the others, then you want pre-processed data. The pre-processed data, will examine each compression, determine when it is compliant with the current protocols, and then add them up. This gives you a total number of compliant compressions for each person which makes it easy to compare results.

2.2 WHY USE PRE=PROCESSED DATA

The original raw data contains all of the information which is in the pre-processed data. Thus if you choose, you can process the original raw data without the SmartMan QCI Data Analysis Module. However, the QCI Analysis Module has a number of advantages:

2.2.1 Access from Anywhere

Once the data is sent to the server, you have access to it from anywhere there is an internet connection.

2.2.2 Verify Immediately that the Data is Suitable

In some studies it is convenient to verify that the results are providing you with the type of data you need. It also allows you to check how things are going and whether there are problems.

2.2.3 Data is Easier to Manipulate

The pre-processed data is in a form that is much easier to deal with. Also from experience, it provides the focus which many people are seeking.

1. Pre-processed data is designed to help you compare scores across sub-skills within a cohort.
2. It is also designed to compare scores and scores on sub-skills between different cohorts

2.3.4 You Have a Secure Back Up

Data has a way of getting lost or mixed up. By sending it to the server you know that you have a record of it. However, it is important to note that the original raw data is NOT stored on the server. If you wish to save the raw data, you must make a copy of that data from the computer hard drive where the results were generated.

2.3 HOW TO GENERATE PRE-PROCESSED DATA

Whenever you send results to the server, the data which is stored there is pre-processed. There are several ways to send the results data to the server.

2.3.1 Send When Activity is Performed

If the computer is connected to the internet when SmartMan is being used, the default can be set up so that each result is submitted to the server as it is completed.

2.3.2 Send A Few At A Later Stage

To submit results, go to View Previous Results from the main menu, select the Category of interest e.g. Compression Results, select the results file of interest from the list, press the Submit Results button. This needs to be repeated for each results file.

2.3.3 Send a Large Number At A Later Stage

There are situations where it may not be possible to have the computer connected to the internet when the results are being generated. It is possible to zip all of the files and send them to SmartMan. We will upload all of the files for you.

2.4 FILES NAMES & DATA CONVENTIONS

It is important to understand that the data for an activity is created under the login name. Within a login name all of the results for that same activity will be stored. Thus there will be no distinction between a set of compressions that a student does as a self practice and a set of compressions that a student does as a test if the same activity is performed.

SmartMan has activities which are practice activities and activities which are tests. They can be distinguished in the database.

Also, the names of the files will distinguish between activities where students and/or instructors could have access to the real time feedback or where the activity is performed blind.

2.5 DATA THAT YOU WANT TO PROCESS

It is easy to confuse data; loose data, or to simply include data that should not be included. You can avoid these difficulties by planning what is done and how and by making backups of the results.

2.5.1 Avoid Confusion

Although in many cases you may not want or may not be able to use identifying information, it is important to have a way to identify the data while it is being processed. Here are a couple of ways that people contaminate their data results.

Example 1: They do not use proper login names and use the practice user. Every person comes through and thus the results are all saved in the practice user. On first

thought this seems to be fine as you do not need their names. Each results is stored in order by time and the file name is incremented by one each time. However, when you go to look at the results for 20 people you now see that you have 26 results. That is because in a couple of cases people made a mistake and they re-did it, or a couple of people had a practice before they did their final test, or the tested performed a set to see how the system was working. All of these things happen and it now becomes impossible to clean out the records which are not part of the study.

Example 2: You have a cohort of 30 students. You go to test them and only 28 show up. The other two agree to come next week and do the test. In the meantime another couple people come in and use the manikin. Now after you test the two people, you have a mix of results.

2.5.2 Use Unique Identifying Names

The need for anonymity needs to be respected, but you need to be able to make sure that the data is attributed to the right person at the right time.

You do not have to use their names but you should keep a record of their logins and who is using them.

2.4 DETAIL ON EACH CATEGORY OF PRE-PROCESSED DATA

To make sure that the preprocessed data will give you the data you require, see section 5.0 of this manual on Exported Data.

There are 20 categories of pre-processed information. There are about 24 types of results from the activities and there can be multiple attempts in each activity. In a study with several hundred individuals that can be a lot of information.