



www.NeuroScriptSoftware.com

MovAlyzeR[®] Tutorial

Online at www.neuroscript.net/tutorial

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1. Setup

1.1. Visit www.neuroscript.net/download.php

- Register to receive login information
- Download MovAlyzeR.msi
- Run installation file



1.2. Use mouse

OR

if tablet available, install driver and then connect tablet

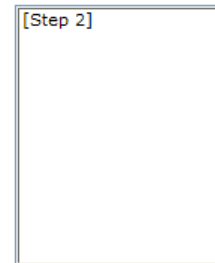
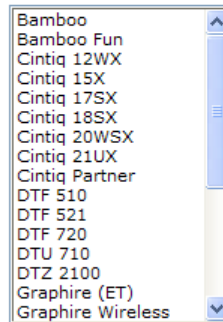
- Download driver from tablet manufacturer's website
- Install tablet driver
- Connect Tablet
- **TEST tablet driver:**
Start >Control Panel >Tablet

Disclaimer: This information is provided as a courtesy. The Driver Downloads image taken from wacom.com

Driver Downloads

To view a list of the available driver downloads please select your system.

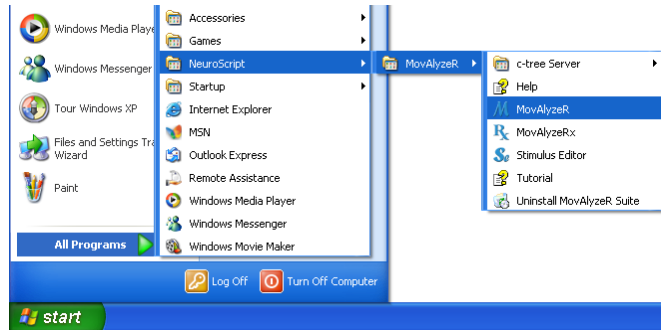
Start here:



Not sure what **model tablet** you have?

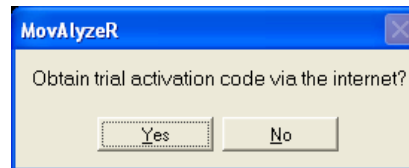
1.3. Run MovAlzyeR

Click Start > All Programs > **NeuroScript** > MovAlzyeR > MovAlzyeR

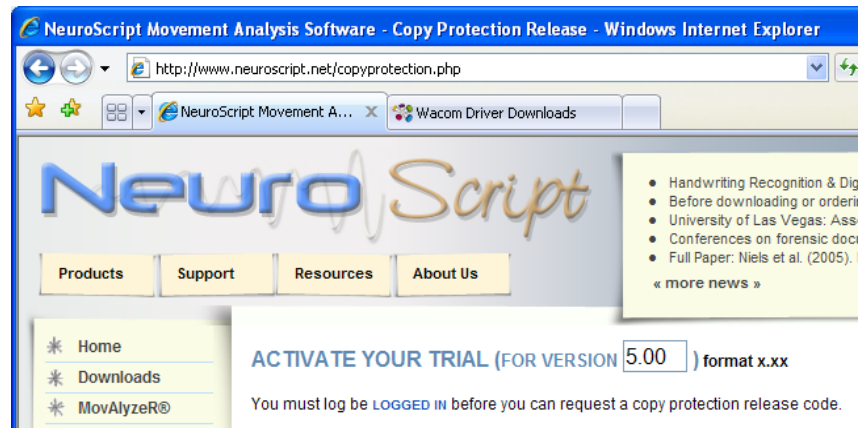


1.4. Activate MovAlzyeR


Automatically at first launch of MovAlzyeR



Manual request online
OR
Email request code to
sales@neuroscript.net



1.5. Extras

 **Context sensitive help**

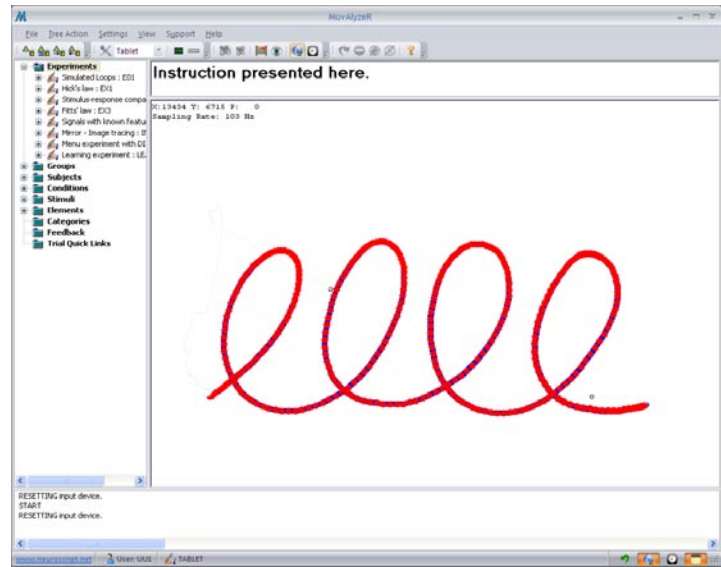
Hit the F1 key to read help on the current window within MovAlzyeR

2. Start

2.1. Click Start > All Programs > **NeuroScript** > MovAlyzeR > MovAlyzeR

TEST MovAlyzeR:

Write with mouse or tablet pen in recording window



2.2 Extras



Run Example Experiment in user UU1

Click File > Run Experiment >
Select an Example Experiment >
Select Group >
Select Subject >
Finish

Example experiments

E01 Simulated loops
EX1 Hick's law
EX2 Stimulus-response compatibility
EX3 Fitts' law
EX9 Signals with known features
IMG Mirror – image tracing
LAY Menu experiment
LEA Learning experiment



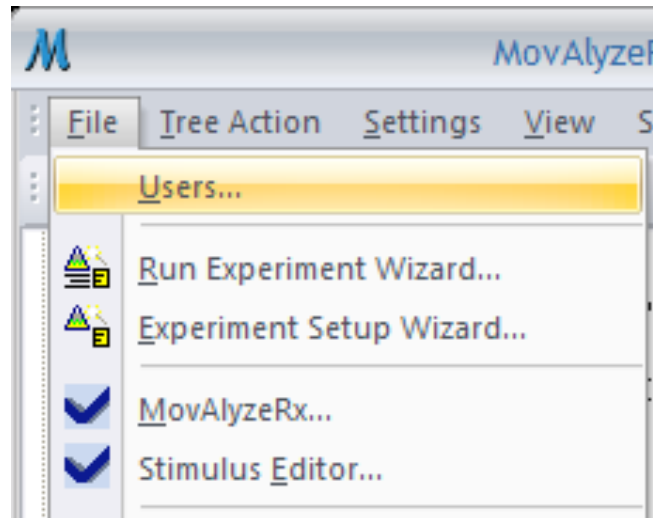
Test Tablet Accuracy

Click Settings > Test input device

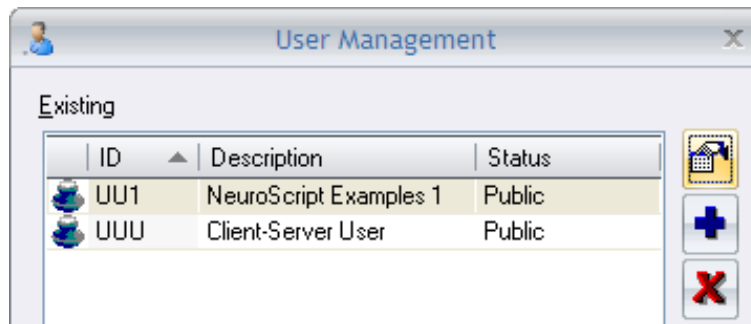
3. Create New User

3.1. File > Users

Each USER has a MovAlyzeR workspace with individual settings and experiments

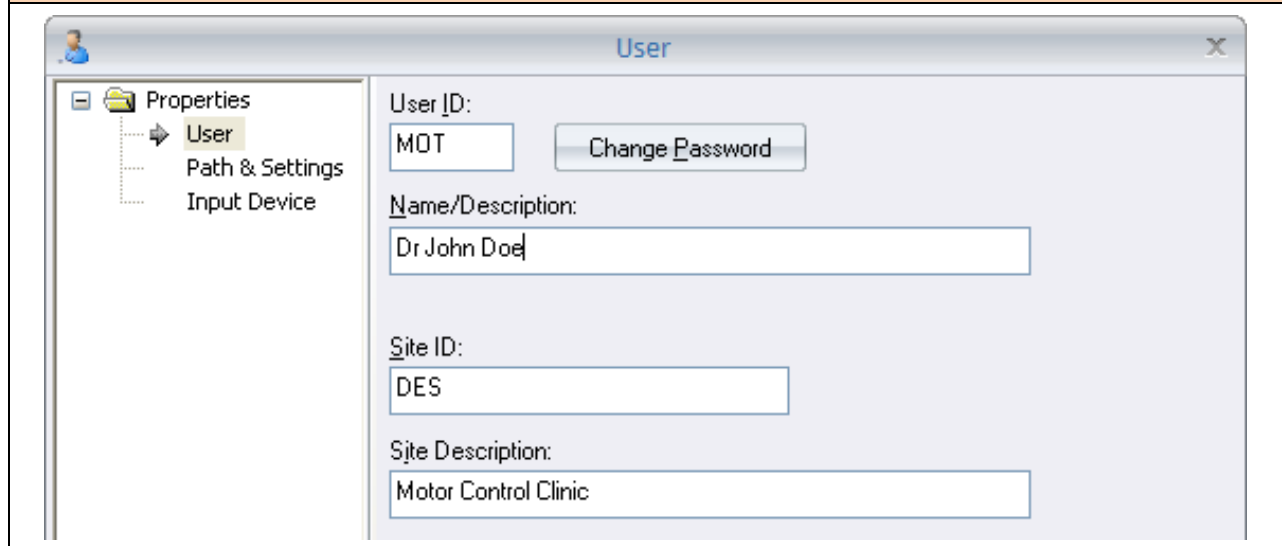


3.2. Click to create a new user



View > Symbol legend for more on MovAlyzeR symbols

3.3. Click Path and Settings to assign folder locations



3.4. Extras



Multi-site Team

Multiple users can share the same data path
Right click experiment name > Client server > Upload or Download on LAN server
File > Import > Remote Data Import Wizard to remote URL



Disaster Recovery plan

Automate backup of raw data when produced
File > Backup > History > Restore to restore any previous backup
User database backup offered after each change
Backup directory on a separate device for greater safety against data loss.

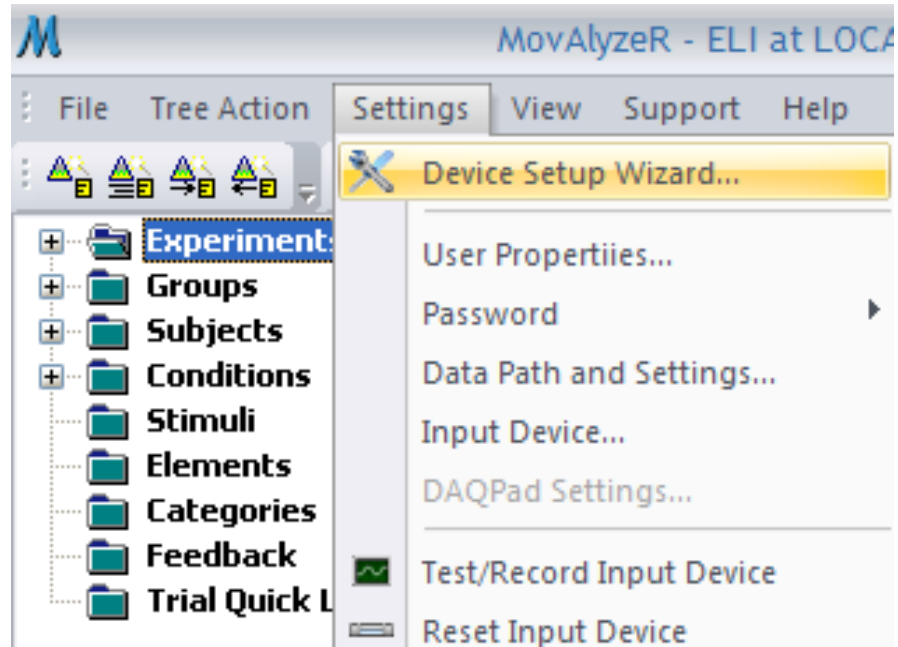
4. Device Setup

4.1. Automatic first time

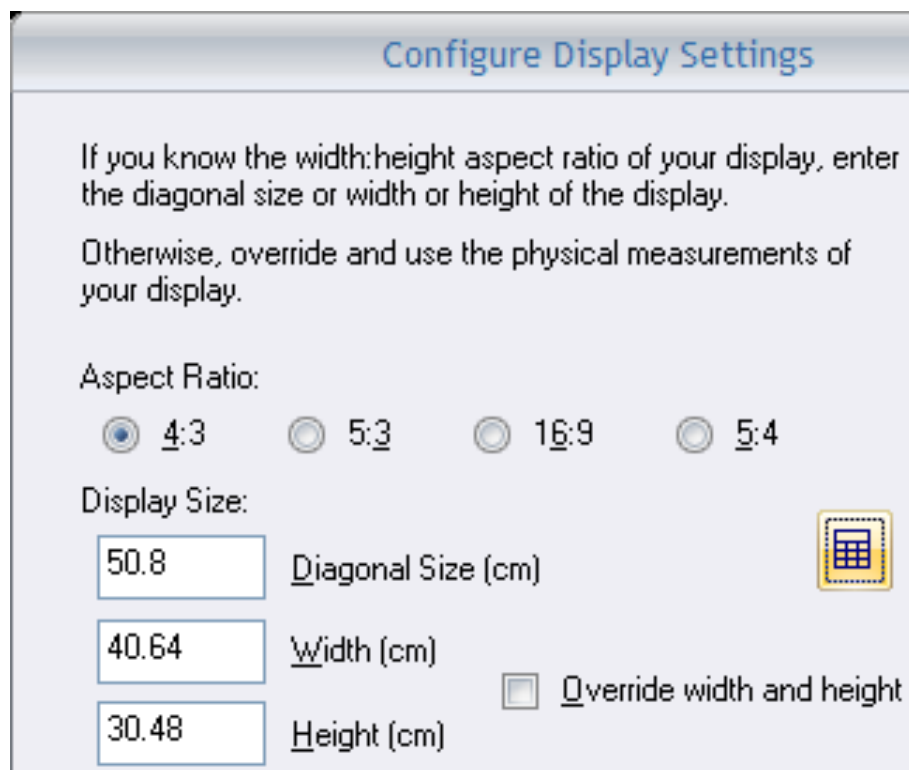
Settings > Device Setup Wizard.

New experiments will inherit these settings.

Existing or imported experiments: Right click experiment name > Properties > Input Device



4.2. Configure Display Settings



4.3. Configure Input Device

Click Acquire to automatically obtain tablet or estimated mouse properties.

Configure Input Device

From here you can either acquire the settings of the selected input device from the driver (or standard), or you can manually set the values. It is recommended that you ACQUIRE.

The sampling rate, device resolution, and min. pen pressure are global settings used as defaults for new experiments and for testing the input device.

(NOTE: Initialized by Acquire from the selected device)

Tablet:

<input type="text" value="200"/>	Sampling Rate (Hz)	<input type="button" value="Acquire"/>	
<input type="text" value="0"/>	Minimum Pen Pressure	<input type="button" value="Grid"/>	
<input type="text" value="0.0005"/>	Device Resolution (cm or N)		
<input type="text" value="20.3195"/>	Tablet Width (cm)	<input type="text" value="15.2395"/>	Tablet Height (cm)

WACOM Tablet
Dimensions: X = 20.32 cm - Y = 15.24 cm
Max Pen Pressure: 1023

4.4. Extras



Tooltips

Hold mouse over any object to see more details pop up.

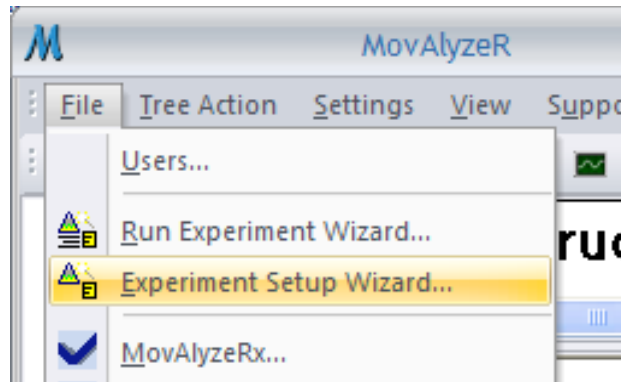
Properties
View/modify the selected user.
Press F1 for more help.

5. Experiment Setup

5.1. File > Experiment Setup Wizard

Setup 1 group and 1 condition.

Adding more groups or conditions, see Extras.

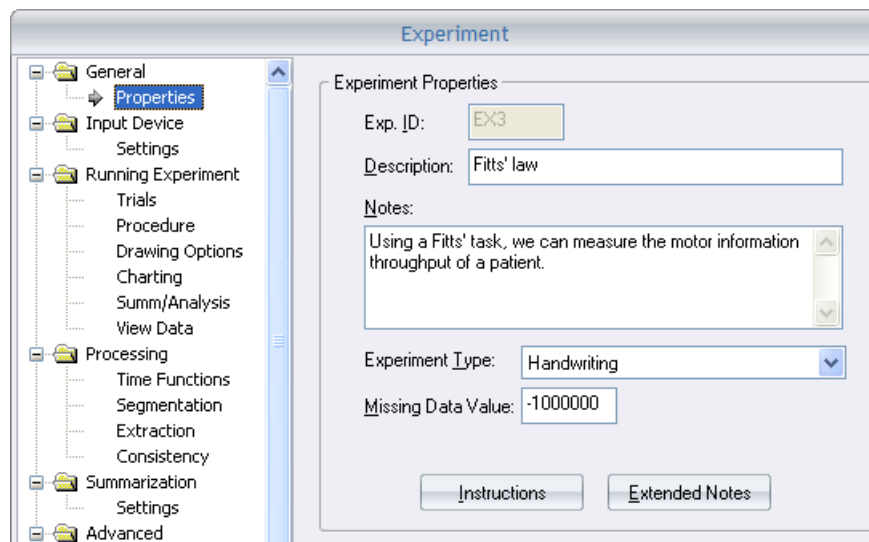


5.2. New Experiment

Enter ID and description of experiment

Add condition

Add group



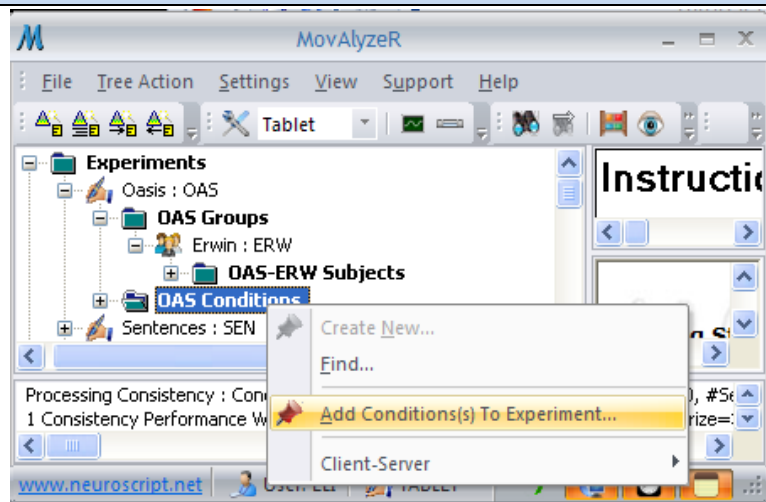
5.3. Extras



Additional conditions or groups

Right click your condition >
Add Condition to Experiment

Identical method for adding a
group



Visual, Interactive, Animated Stimuli

Right click Condition name > Properties > Stimuli

OR

File > Stimulus Editor



Questionnaire – Combining MovAlyzeR Data and Patient Data

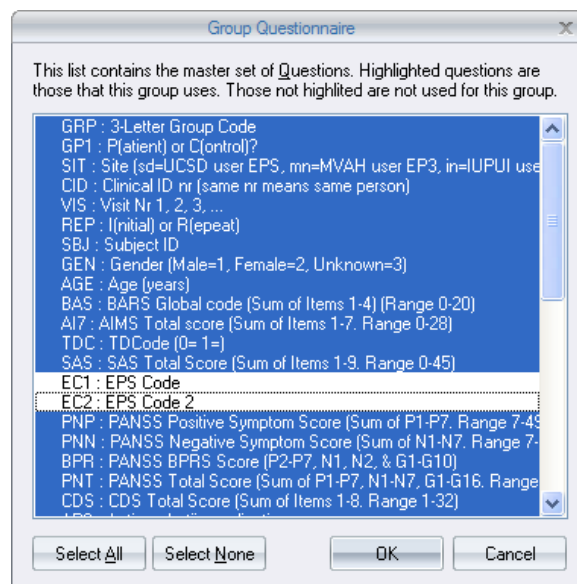
1. Build your master list: Settings
> Questionnaire

2. Right click Group name >
Setup/Modify Questionnaire

3. Right click Subject name >
Run/View Questionnaire

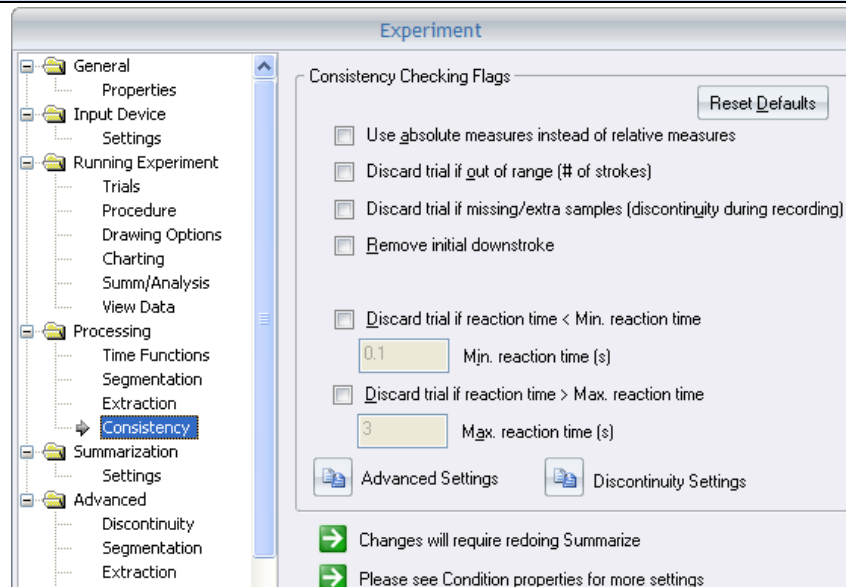
OR

Right click Experiment name >
Running Experiment > Procedure
> View/ Answer Questionnaire



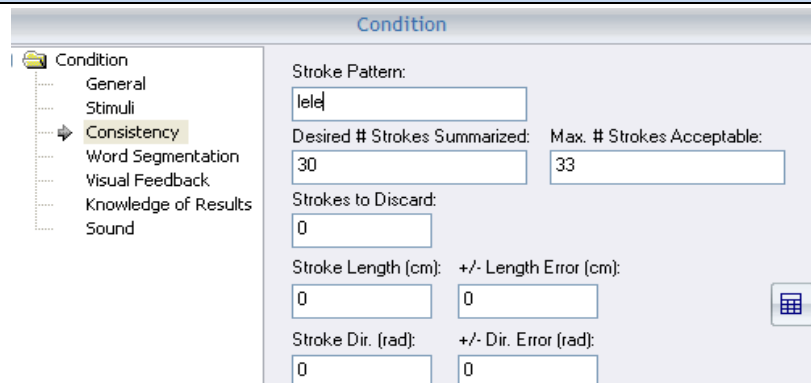
Experiment properties – Settings you never want to compare between conditions

Right click Experiment name > Properties > Processing > Consistency



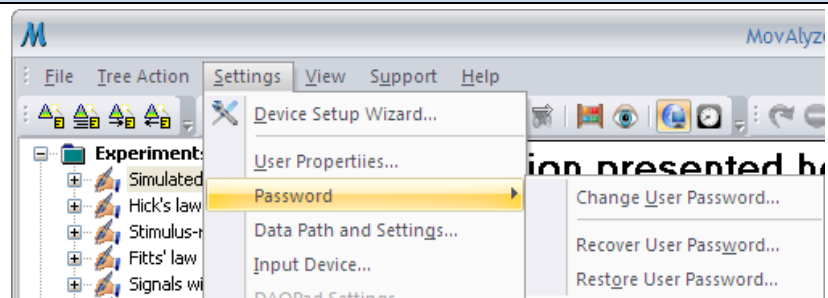
Condition properties – Settings you may want to compare between conditions

Right click Condition name > Properties > Consistency



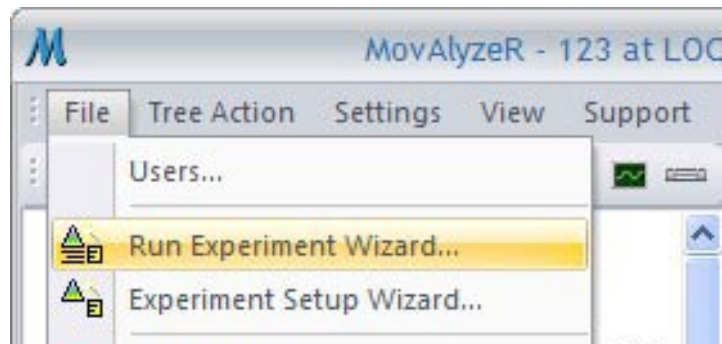
Password protection

Settings > Password > Change User Password

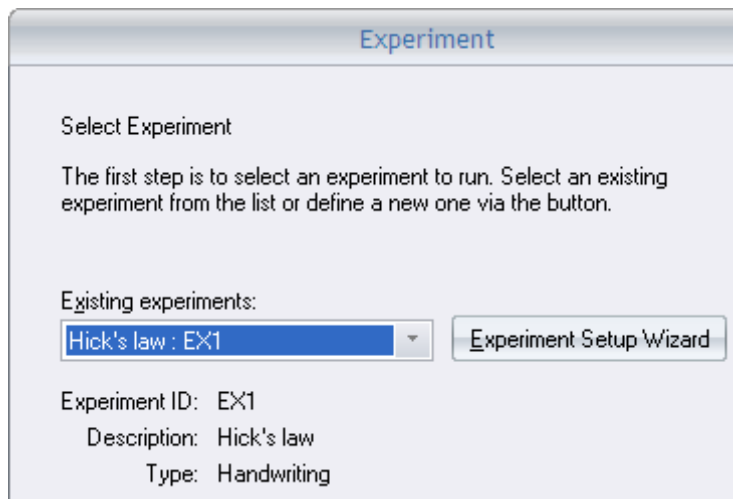


6. Run Experiment

6.1. File > Run Experiment Wizard



6.2. Select or create experiment, group and subject



6.3. Extras



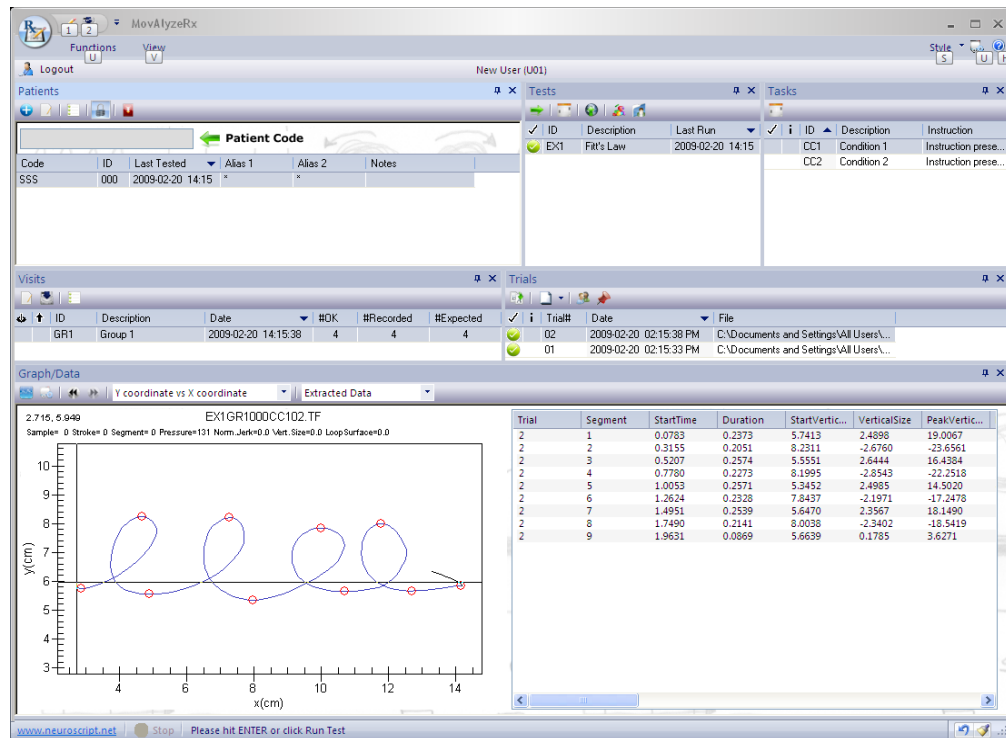
Discontinuity Correction – When pen loses data

Right click on Experiment name > Properties > Advanced > Discontinuity



Patient-centered data recording and analysis interface

File >
MovAlzyeRx

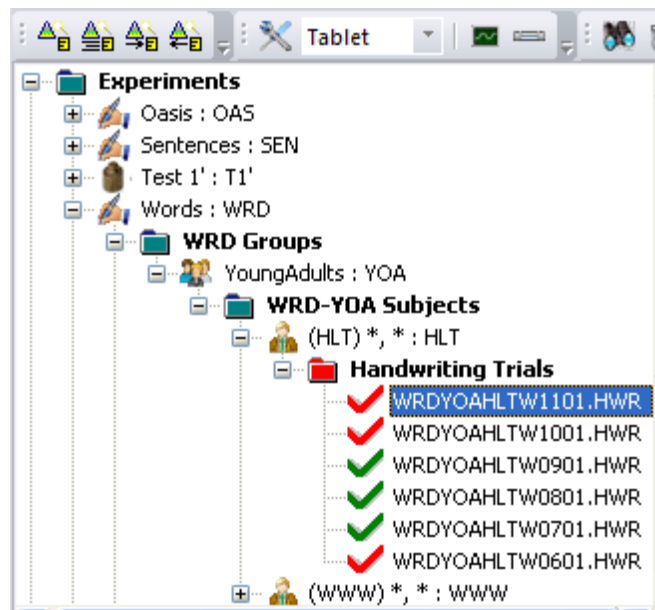


7. Chart and View Trials

7.1. Double click on a trial to chart Processed Data

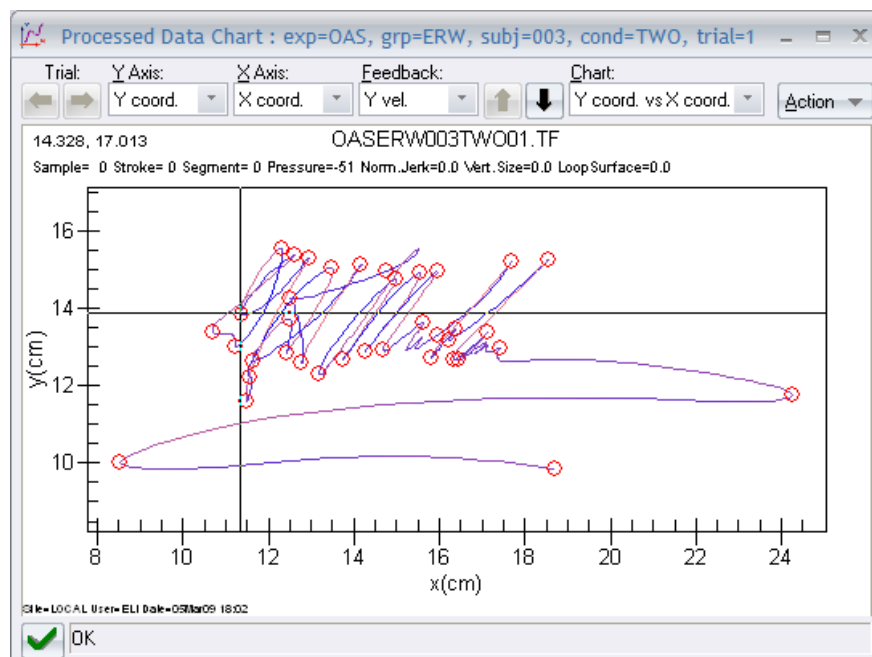
Data is ordered in a tree menu

Each item has a right click menu



7.2. Click on graph and use Arrow Keys on the keyboard

Click Action or Right click on graph for more options



7.3. Extras

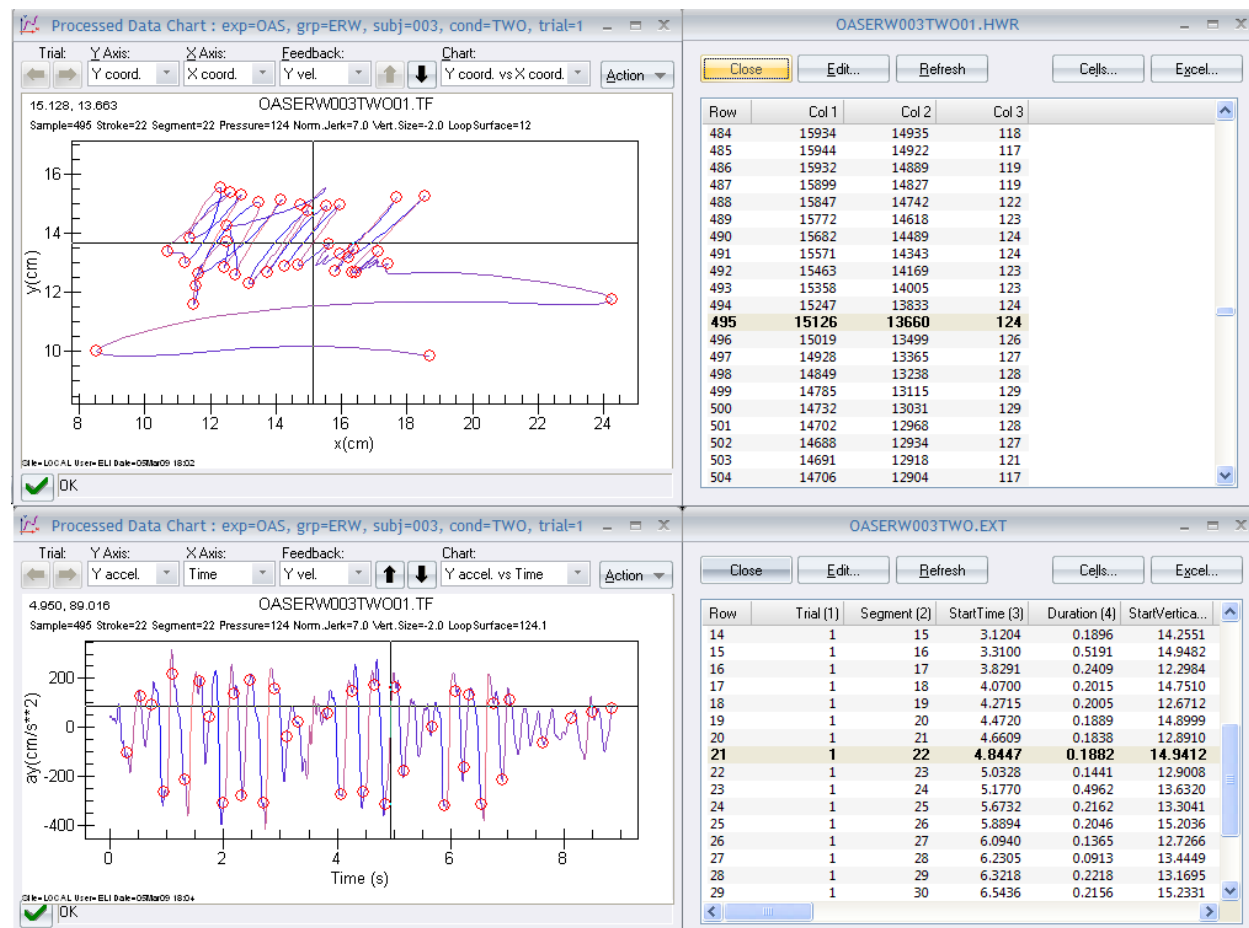
Visualizing additional curves and data simultaneously

Click Actions > View **Extracted Data**

Click Actions > View **Raw Data**

Click Actions > Chart **Processed Data** > Select other Chart (e.g. Vy)

Click in a chart and use the keyboard $\leftarrow \rightarrow$ Arrow keys to walk through data in time simultaneously in all windows



Real-time replay

Right click trial> Chart Data> Chart Processed Data (Real-Time)

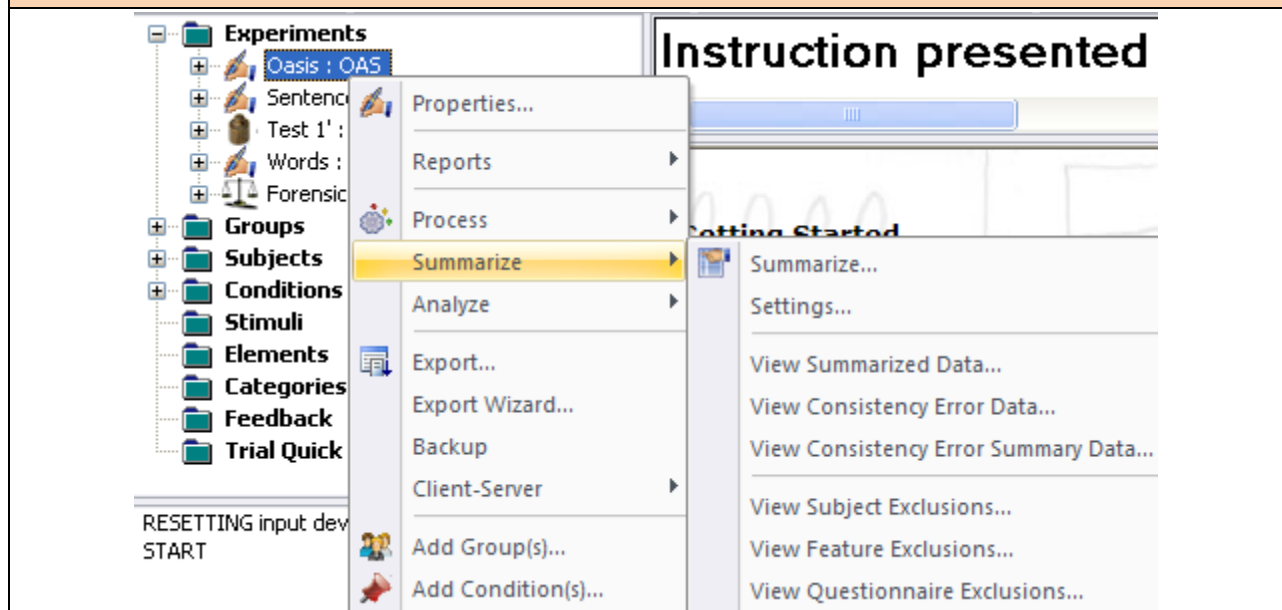


3-Dimensional chart

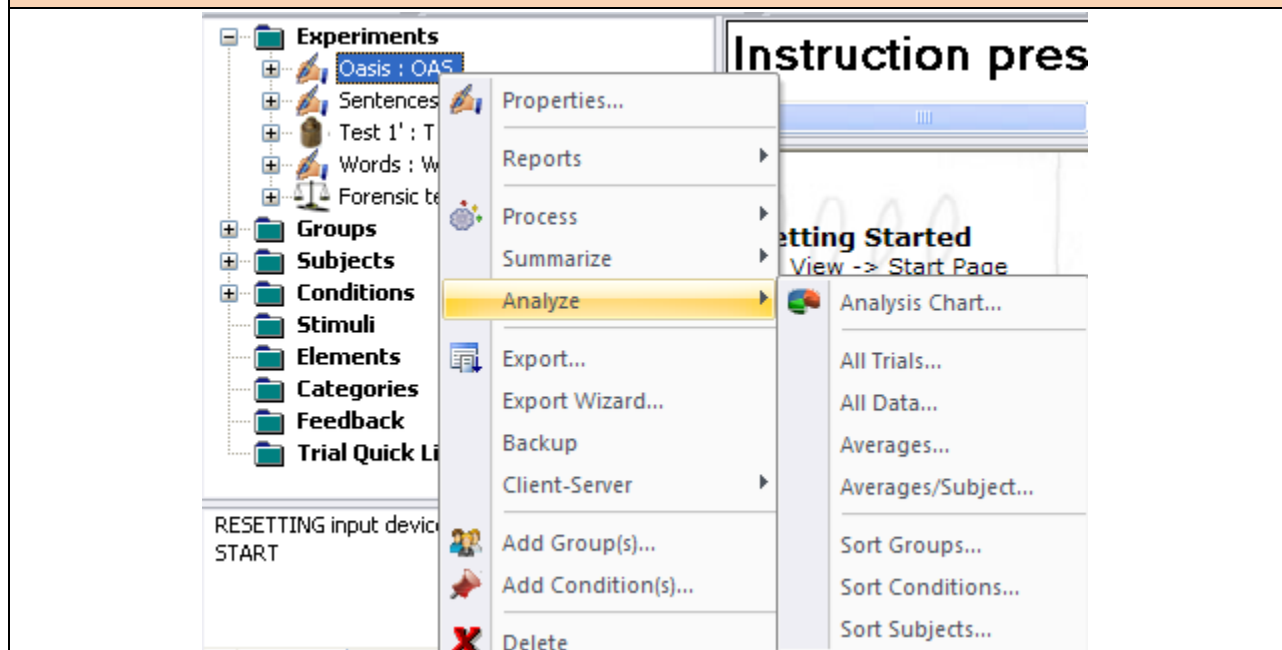
Right click trial> Chart Data> Chart Processed Data (3D)

8. Summarize and Analyze



8.1. Right click your experiment >Summarize all trials



8.2. Right click your experiment >Analyze



8.3. Extras

 Statistics export file
Right click Experiment name > Summarize > View Summarized Data OR: Right click Experiment name > Analyze > Actions/ Settings > View Raw Data
 Statistics export file with questionnaire answers
Right click Experiment name > Analyze > Actions/ Settings > Export Raw Data

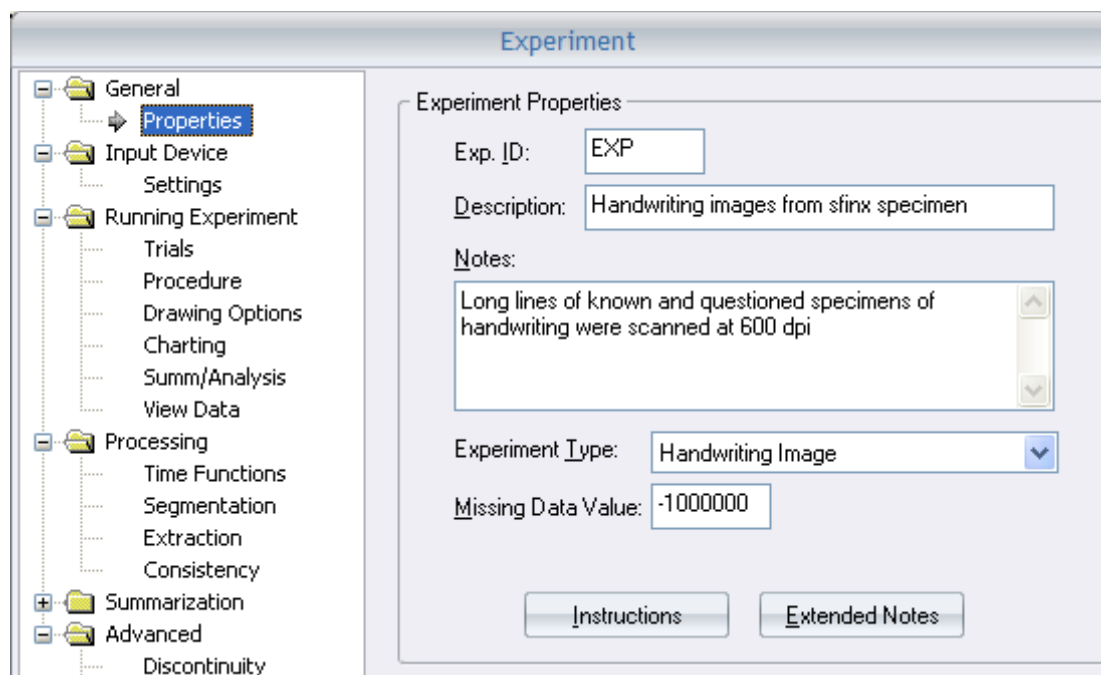
9. Scanned Handwriting Images

MovAlyzeR can be used to process scanned handwriting images. Instead of recording pen movements, scan handwriting images and store on your computer.



Scan 1 line of handwriting and store in PNG, BMP, GIF, JPG or PCX format with 300-600 dpi and 8-bit (256) gray-scale levels.

9.1. Right click your experiment >Properties > Experiment type > Handwriting Image

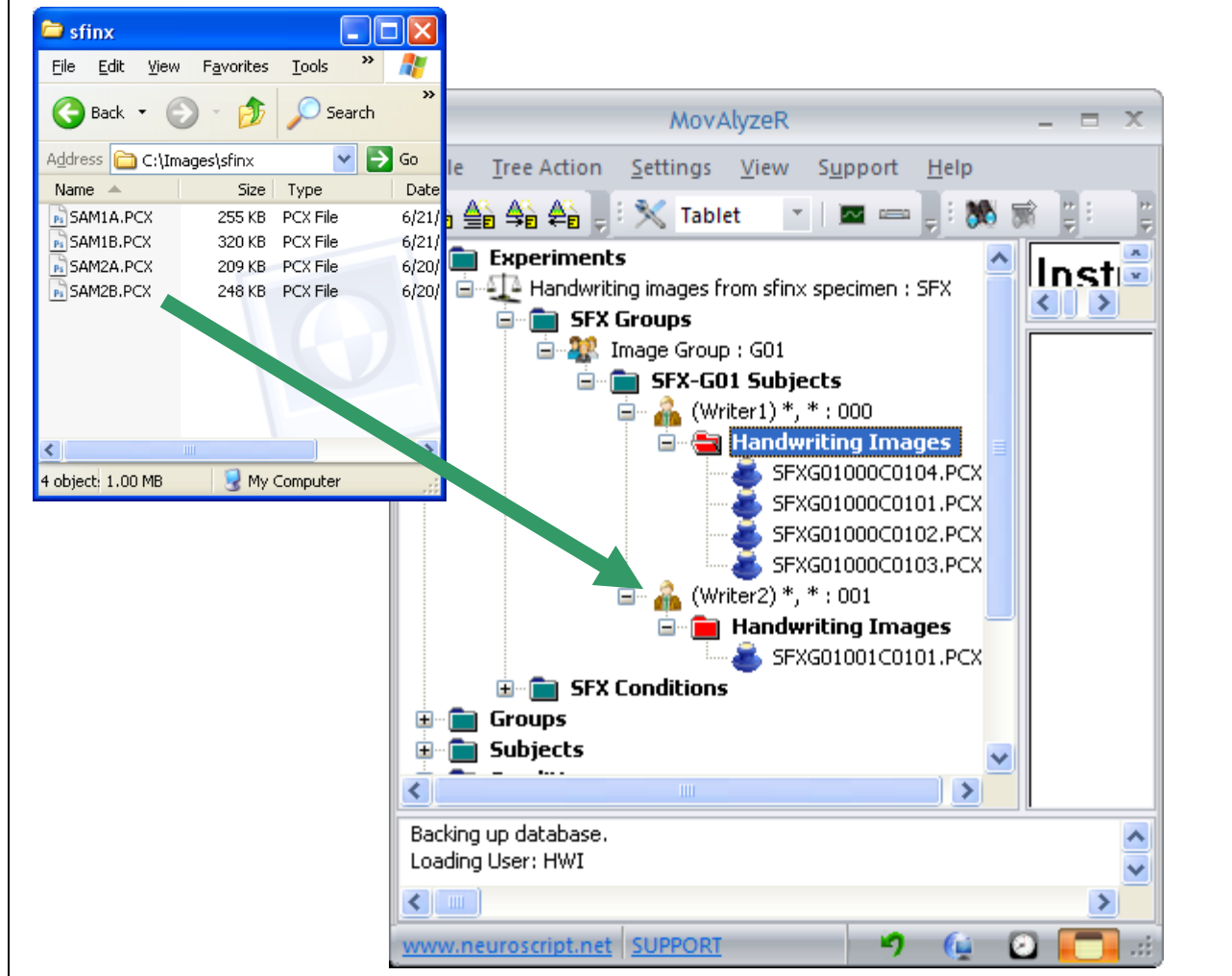


Raw image files produce also raw handwriting files. To store both handwriting images and recorded handwriting, create 2 identical experiments, one for Handwriting Movements and one for Handwriting Images.

9.2. Drag and drop files into a subject in MovAlyzeR

OR

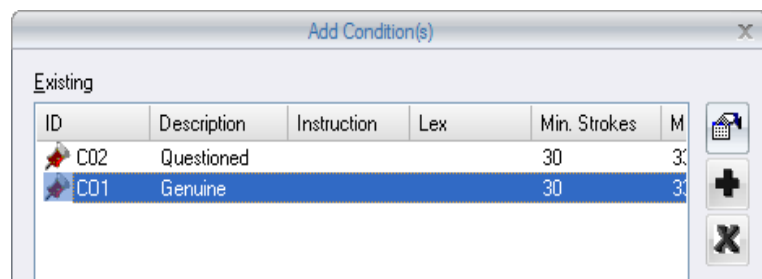
File > Import > Data Import Wizard



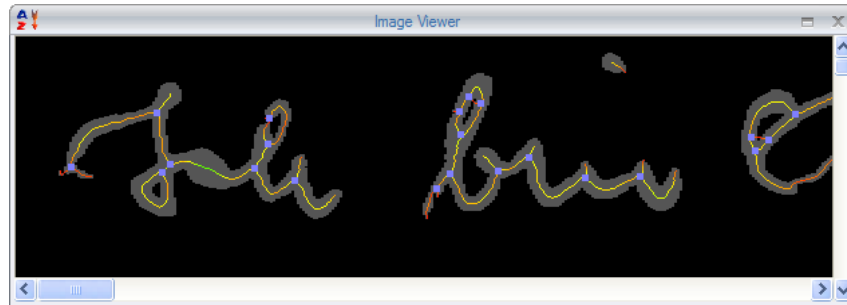
9.3. Select condition to add the image trial to that subject

- The Add Condition window pops up automatically. Select existing or add new condition.

- Trial numbers will be assigned automatically.



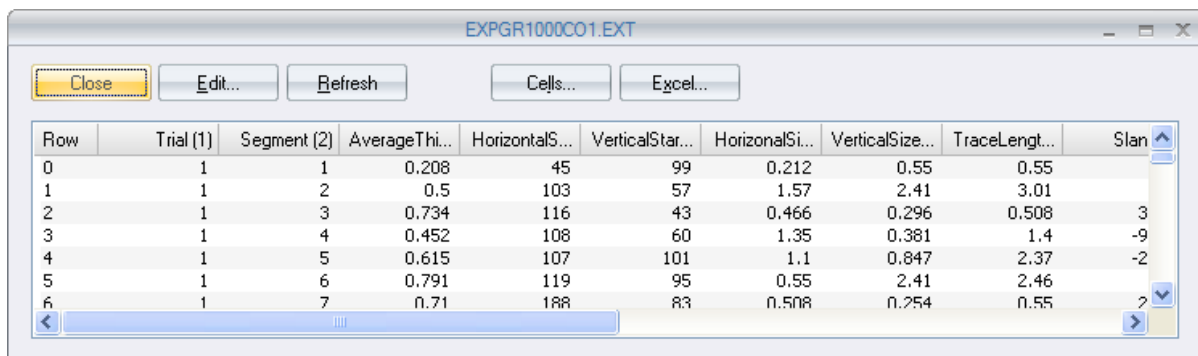
9.4. Double click on the very trial will show the Processed Image trial



The blue squares are the fork and crossing points.
The color of the skeleton line indicates line thickness. Yellow=Thin, Green=Thick
Red means the segment is smaller than Minimum Stroke Size (Right click Experiment > Properties > Advanced > Segmentation) and will be neglected.

9.5. Extras

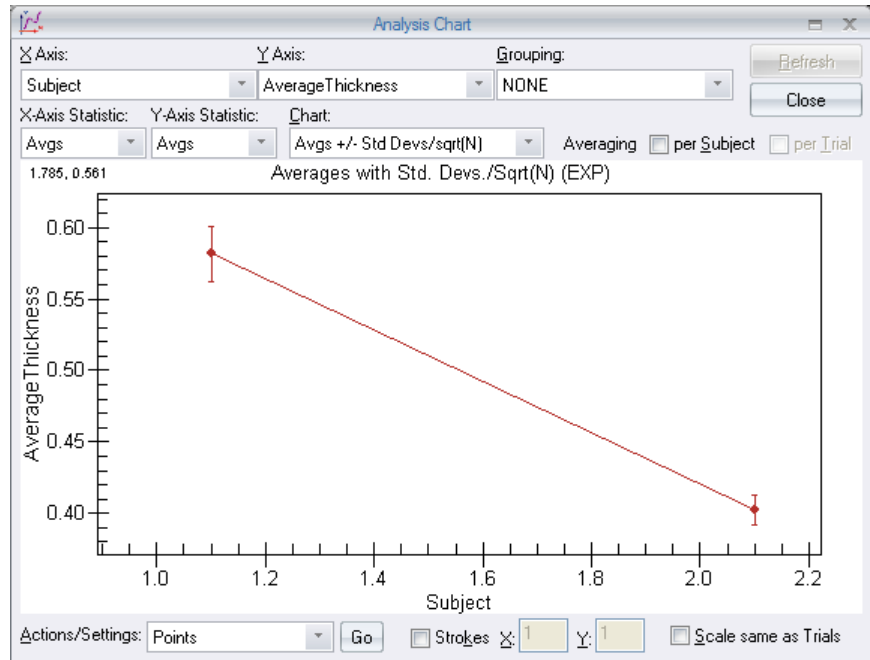
View numerical output: Right click a trial >View >Extracted data



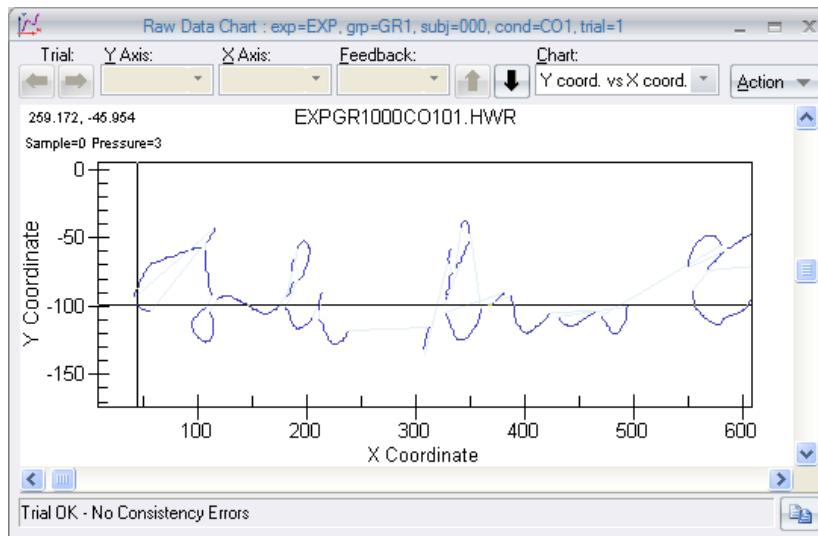
Row	Trial (1)	Segment (2)	AverageThi...	HorizontalS...	VerticalStar...	HorizontalSi...	VerticalSize...	TraceLengt...	Slan
0	1	1	0.208	45	99	0.212	0.55	0.55	
1	1	2	0.5	103	57	1.57	2.41	3.01	
2	1	3	0.734	116	43	0.466	0.296	0.508	3
3	1	4	0.452	108	60	1.35	0.381	1.4	-9
4	1	5	0.615	107	101	1.1	0.847	2.37	-2
5	1	6	0.791	119	95	0.55	2.41	2.46	
6	1	7	0.71	188	83	0.508	0.254	0.55	

Summarize all images and Analyze

Two writers have different line thicknesses, for example.



Right click the trial >Chart >Raw data to chart the raw data of the skeleton almost as if it was recorded.



By setting the experiment type to Handwriting you can process and chart these data as if they were recorded handwriting movements in a tablet.

10. Bimanual Force Coordination

10.1. Measure grip forces

Right click your experiment >
Experiment Type > Grip Force

Requires analog interface and Gripper
hardware

