NCM Capture Software 2.1.0
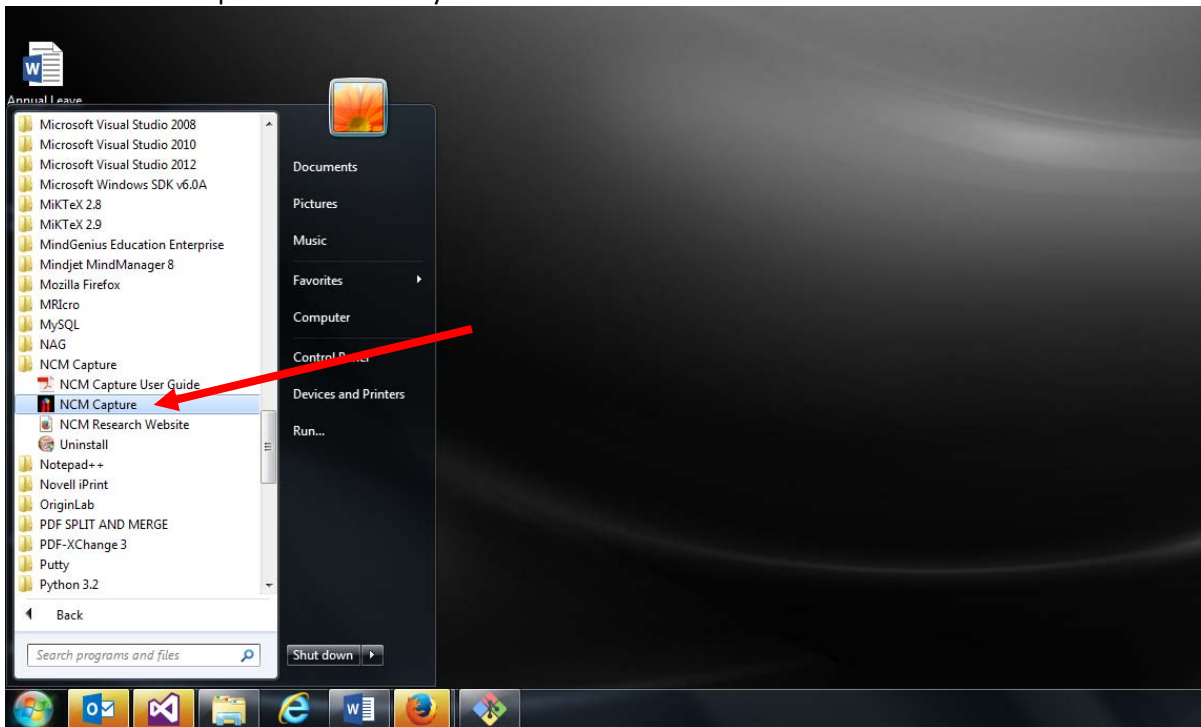
Quick start guide

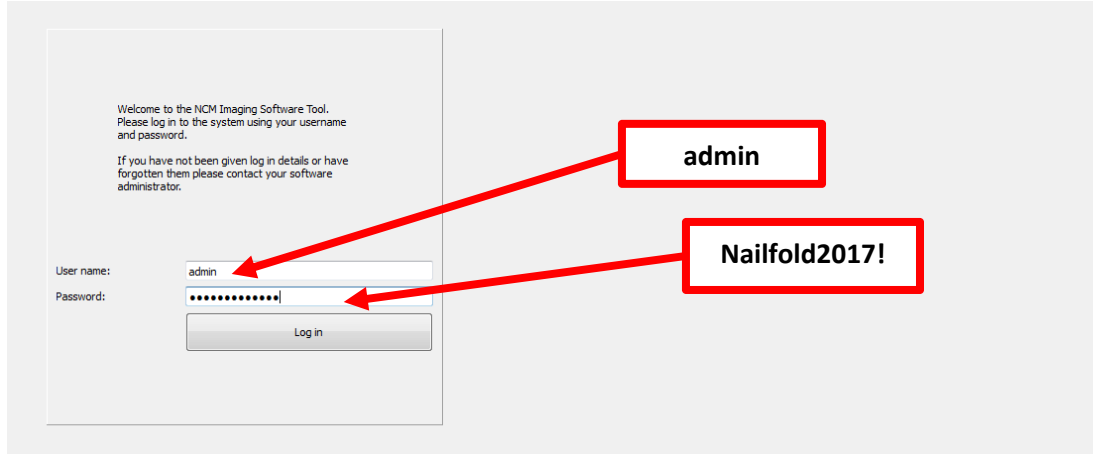|	
1	**Install the software** Run the self-installing executable ncm_capture_2.1-Windows.exe to install the software on your computer. You may need your IT support to do this for you as you will need administrator rights on your computer. The installer will create a shortcut to the software in your start menu (you can also choose to an install a shortcut on your desktop).
2	**Start the software** Find the "NCM Capture"shortcut in your start menu and click on the link to start the software
3	**Log in** At the log in screen, enter your user name as **admin** and password **Nailfold2017!** When you have logged in you can change the admin password, and we recommend you do so (see full user guide for details).
4	**Choose Database Loaction** The first time you run the software, you wil be asked where you would like the software's database to be located on your computer. This file is very important as it maintains a complete record of all imaging and user

actions performed in the software. The software requires access to the file whenever it is running and during live imaging needs to be able to write data to it fast, so a suitable location is a folder on your computer's local hard disk (and not on a network drive or external hard drive). We recommend you use this same location as the root folder for where images will be recorded. You must also be able to write to this location as a standard user so restricted areas like "C:\Program Files" are not recommended. You may wish to consult with your local IT support to choose a suitable location.
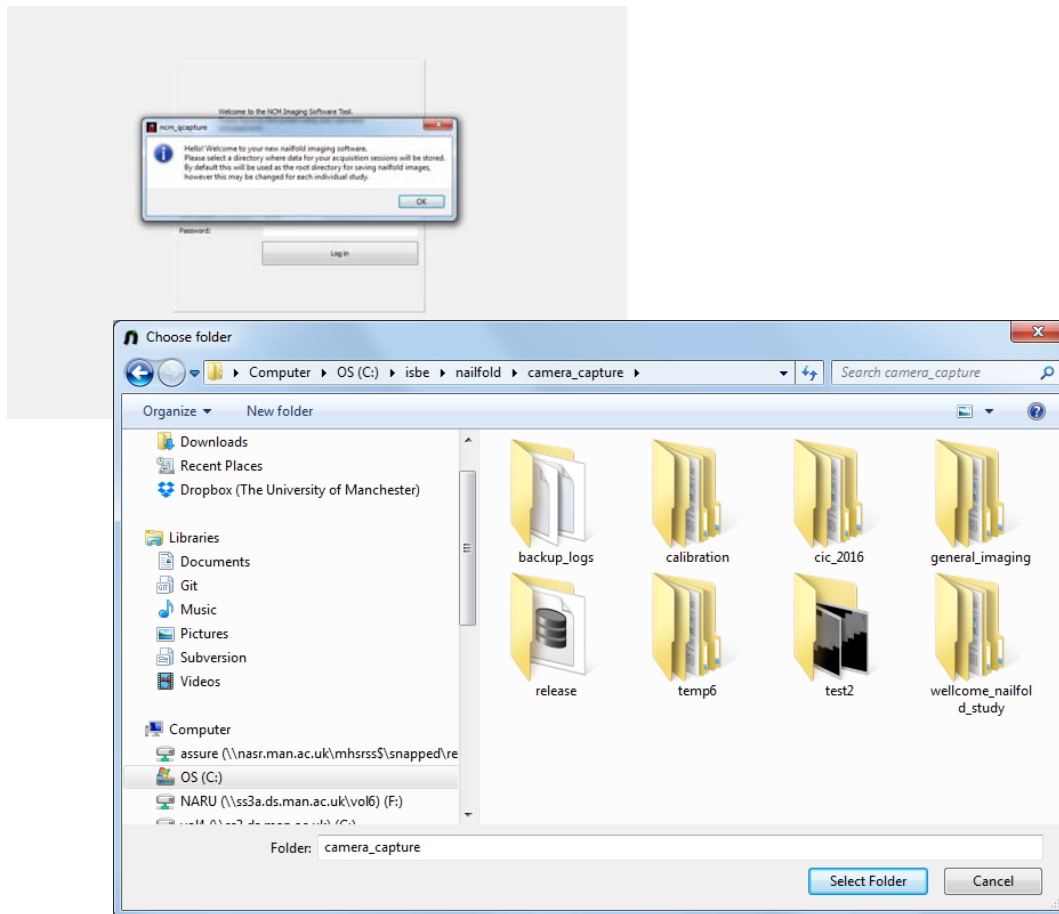
When you have selected a suitable folder, the software will copy a fresh copy of the database (ncm_lite.db) to your selected location, together with some example images packaged with the software. This may take a few moments (NB this only happens the first time you open the software)

| 5 | **Start a new imaging session** |

Data in the software is organised in a hierarchy:

Study ▸ Subject ▸ Session ▸ Image sequence

The software comes with two pre-existing studies, "general_imaging" and "calibration". You can add your own studies later (see full user guide). Each subject belongs to a study and has a unique ID in the database (NB this means if a subject is imaged in multiple studies they require a subject ID for each study – there is currently no way to link these IDs in the software although this may be changed in future versions). Each

When you click "Start new session" you will be asked to choose a subject to image.
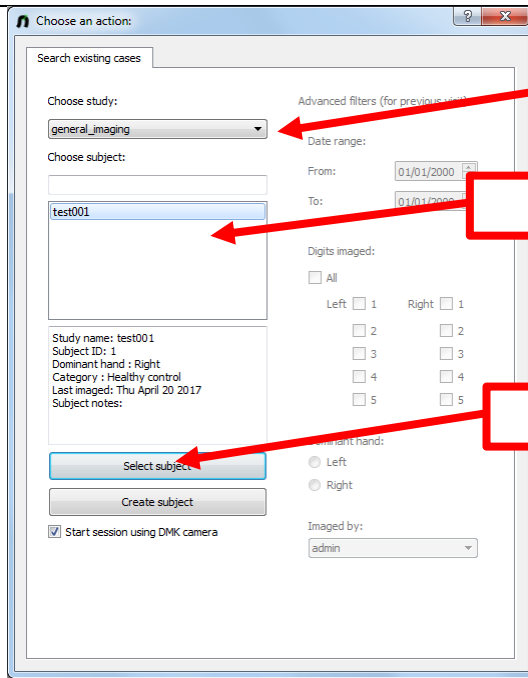
1. Select a study

2. Choose subject

3. Click **Select subject**

First select which study the subject belongs to using the drop-down menu, the list of existing subjects in that study will be displayed below. In the general_imaging study you will see there is a pre-created subject test001 which you can select to test the cameras are working. Alternatively you can create a new subject. When you have a selected a subject, the software will load the cameras and start the main imaging screen, this may take a few moments.

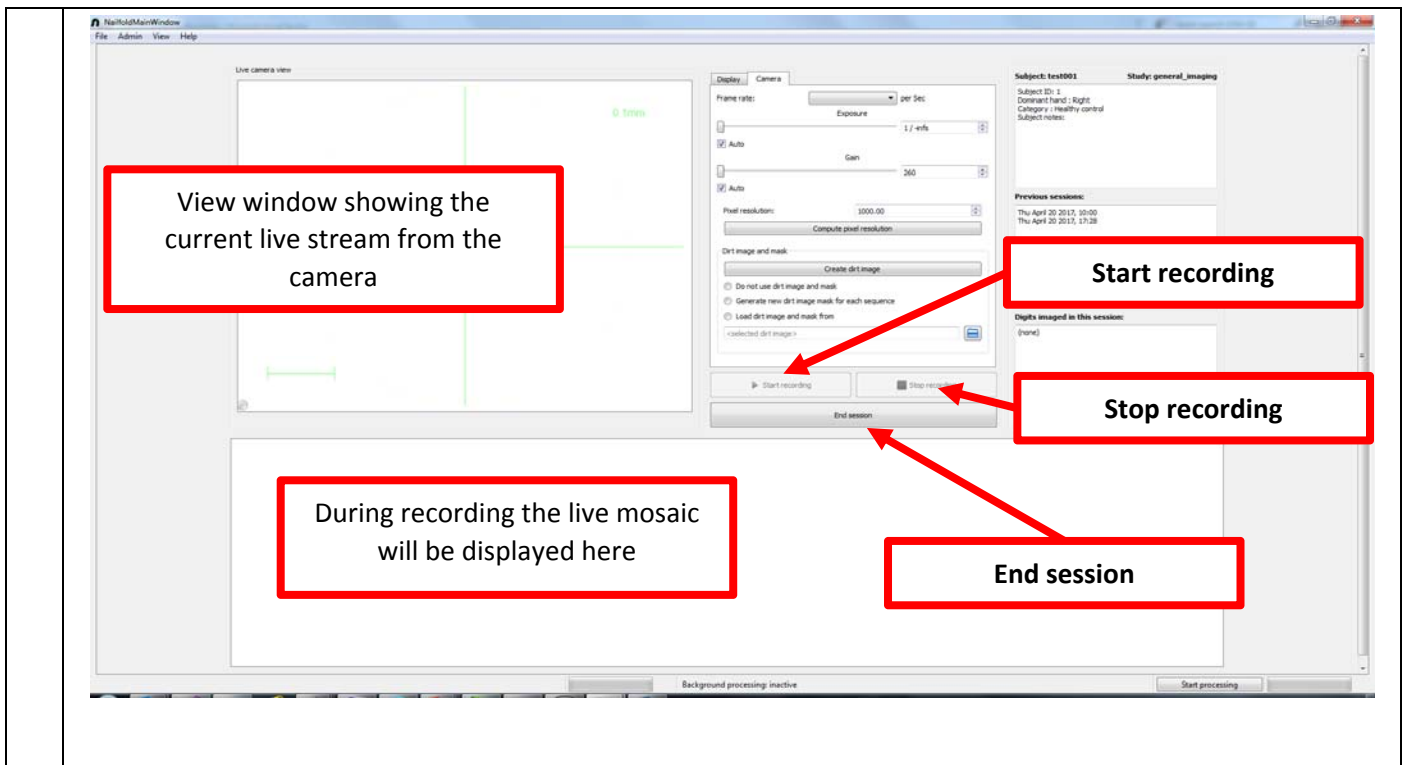| 6	**Loading the camera**

The first time you run the software, a menu to select the new camera should pop-up. If the camera has been connected and installed correctly it will appear the dropdown list of Device Names. Select the camera and click OK. Future sessions should load the camera automatically.
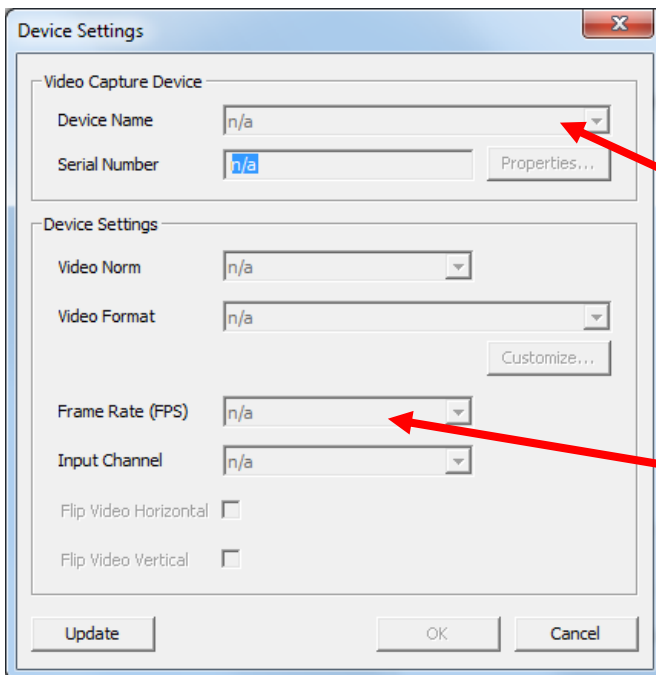
Camera should appear here as "DMK…"

If you have connected the camera to a USB3.0 port, the Frame Rate should be 120fps. Note frame rate and other camera controls can be adjusted later in the software.

Once the camera is loaded a live video stream will appear in the main screen window. The main imaging screen is described below

View window showing the current live stream from the camera

Start recording

Stop recording

During recording the live mosaic will be displayed here

End session

7	**Recording an image sequence**

The process for recording a nailfold mosaic image has been designed to be a similar experience to your old nailfold software.

1) Positon the subject's finger and manually focus the microscope on nailfold vessels
2) Click the start recording button. A sequence of 120 frames (ie 1 second, this value can be changed in your preferences using the **Number of segment frames** option)) will be recorded. These frames will appear in the live mosaic window, with a rectangle highlighting that the position of this stationary segment.
3) Slowly and carefully adjust the microscope to move across the nailfold. As you move the live mosaic will try and register the stream of frames into the mosaic. During movement only 1 in 30 frames will be recorded (this value can be changed in your preferences using the **Moving frames save interval** option)).
4) When you have moved to a suitable position with approximately half a frames overlap to the original position, press the space bar on your keyboard to record another sequence of 120 stationary frames. A rectangle showing the position of this segment will be added to the mosaic.
5) Repeat steps (3) and (4) until you have completed the mosaic, then click **Stop recording**
6) A window will pop-up to where you can enter details of the sequence recorded
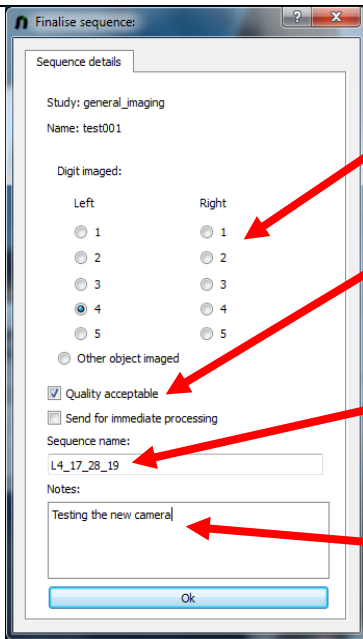
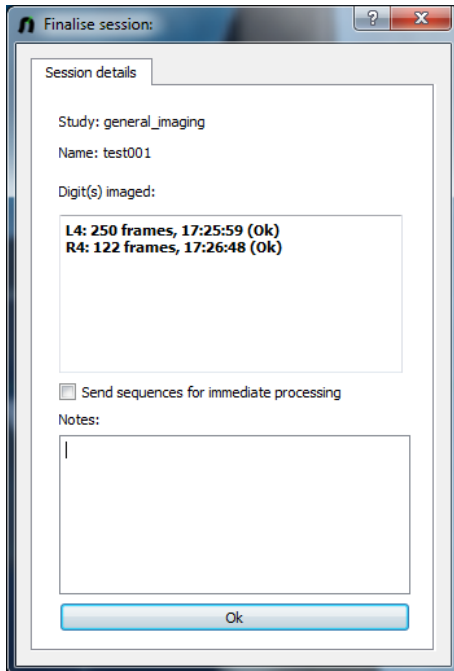Select which digit (if any) was imaged

If the sequence is not of sufficient quality to process, uncheck **Quality Acceptable**

Select a name for the sequence. By default this will be the sequence time, prepended by the digit imaged
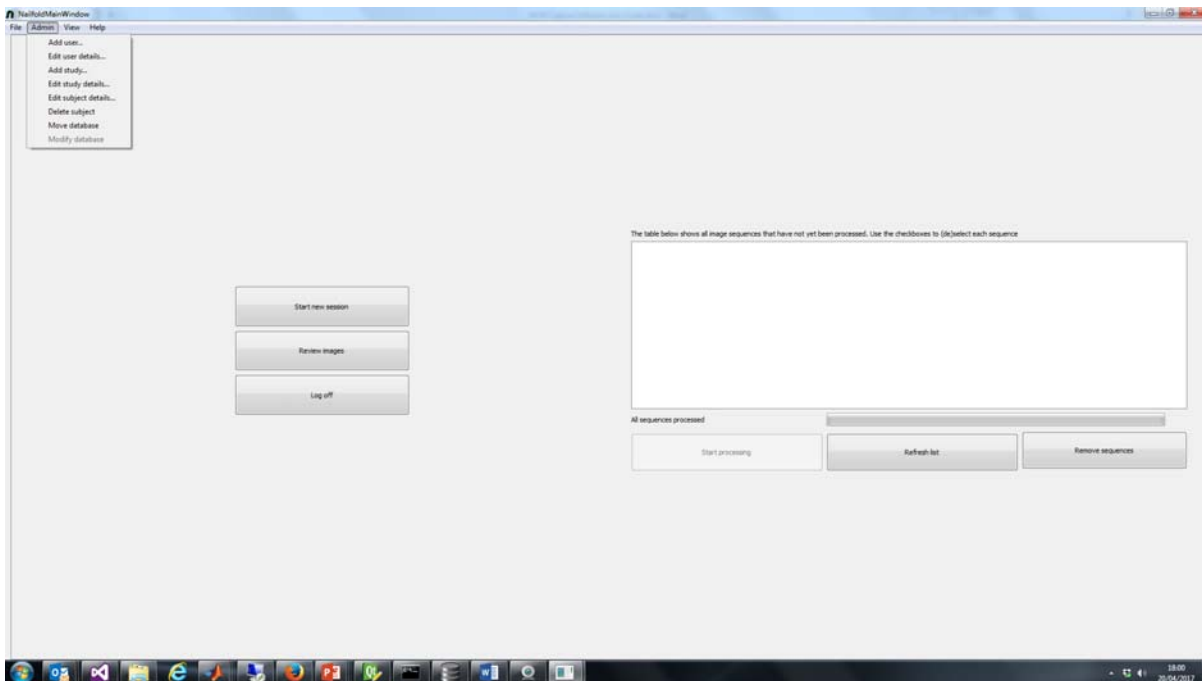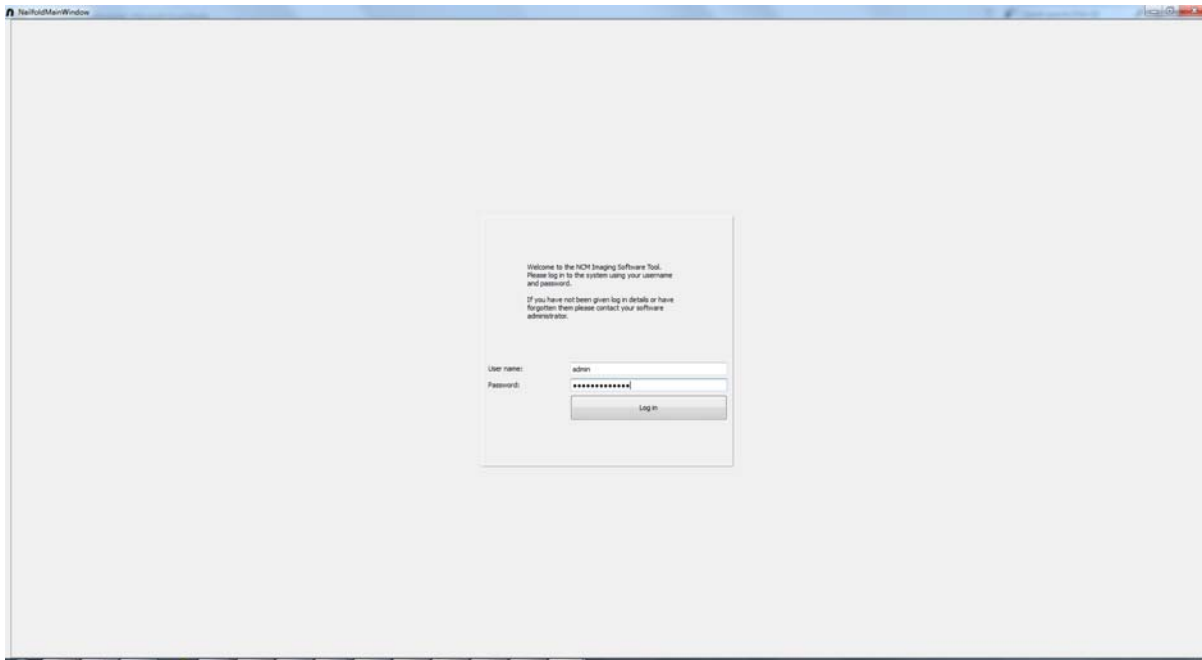
Add any additional notes for the sequence

8	**Finalising a session** All done
9	**Process the sequences**

NailfoldMainWindow

Welcome to the NCM Imaging Software Tool.
Please log in to the system using your username
and password.

If you have not been given log in details or have
forgotten them please contact your software
administrator.

User name: admin
Password: ••••••••••••

                [Log in]

NailfoldMainWindow

File   Admin   View   Help

Add user...
Edit user details...
Add study...
Edit study details...
Edit subject details...
Delete subject
Move database
Modify database

The table below shows all image sequences that have not yet been processed. Use the checkboxes to (de)select each sequence

[Start new session]

[Review images]

[Log off]

All sequences processed

[Start processing]   [Refresh list]   [Remove sequences]

Choose an action:

Add new user details

User name:

Display name:

Permission level:

User ▾

Password:

Repeat password:

Create user

Select user

Usernames:

admin ▾

OK   Cancel

NailfoldMainWindow

File   Admin   View   Help

The table below shows all image sequences that have not yet been processed. Use the checkboxes to (de)select each sequence

Start new session

Review images

Log off

All sequences processed

Start processing   Refresh list   Remove sequences

Choose an action:

Add new user details

User name:

admin

Display name:

Nailfold Administrator

Permission level:

Local admin

Password:

Repeat password:

Update user details

Choose an action:

Add new study details

Study name:

Select folder for study data

<Study dir>

Study type:

Testing

Study subject names:

Use fixed name format:

Study name suffix:

Max no of subjects:

Create study

Choose an action:

Add new subject details

Study: general_imaging

Study ID:

test001

Dominant hand:

○ Not known

○ Left

⦿ Right
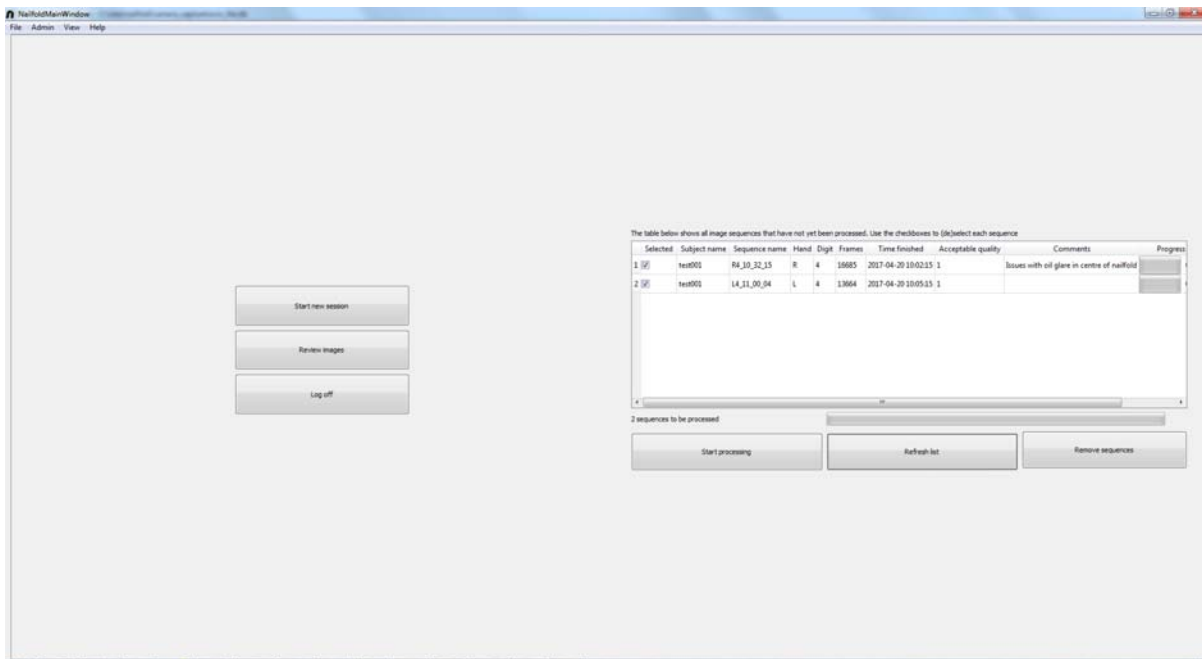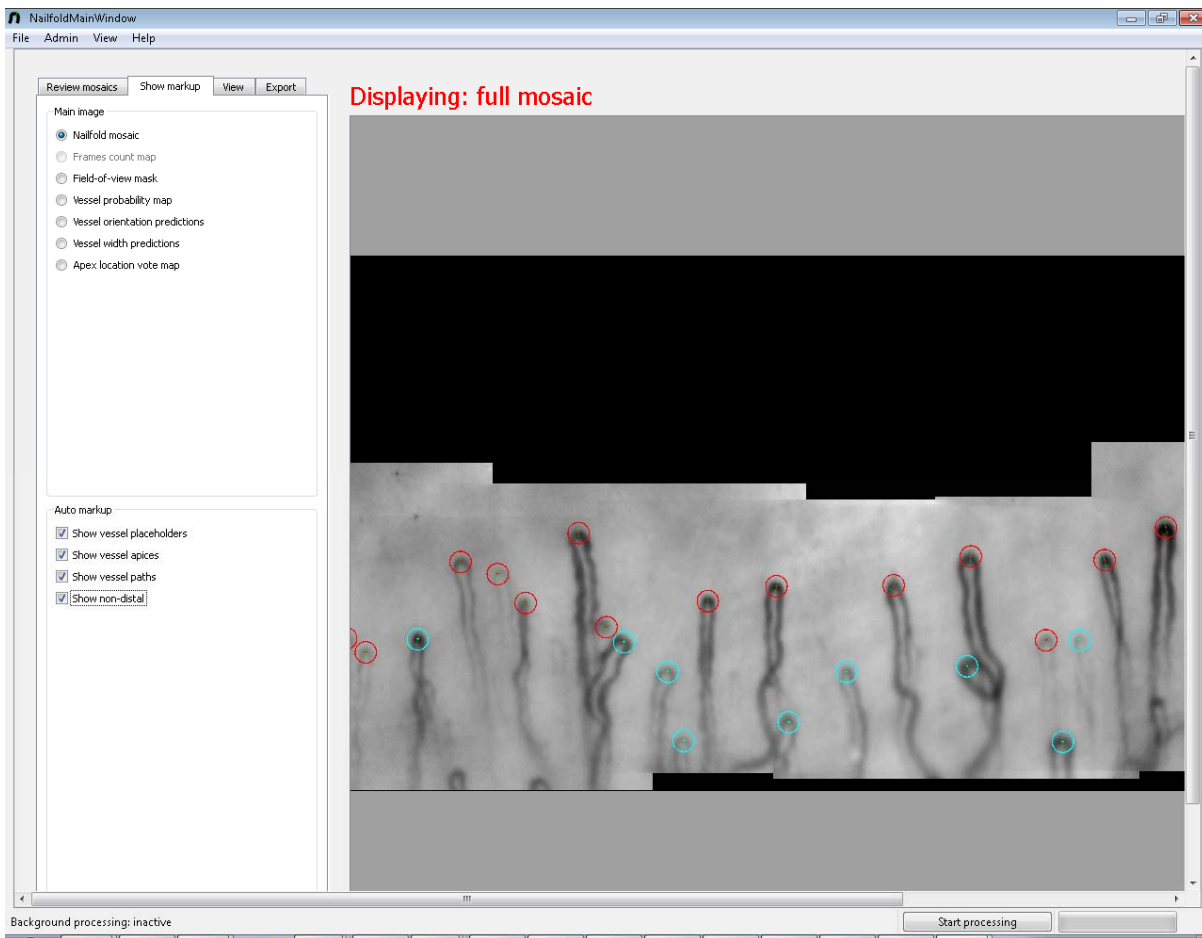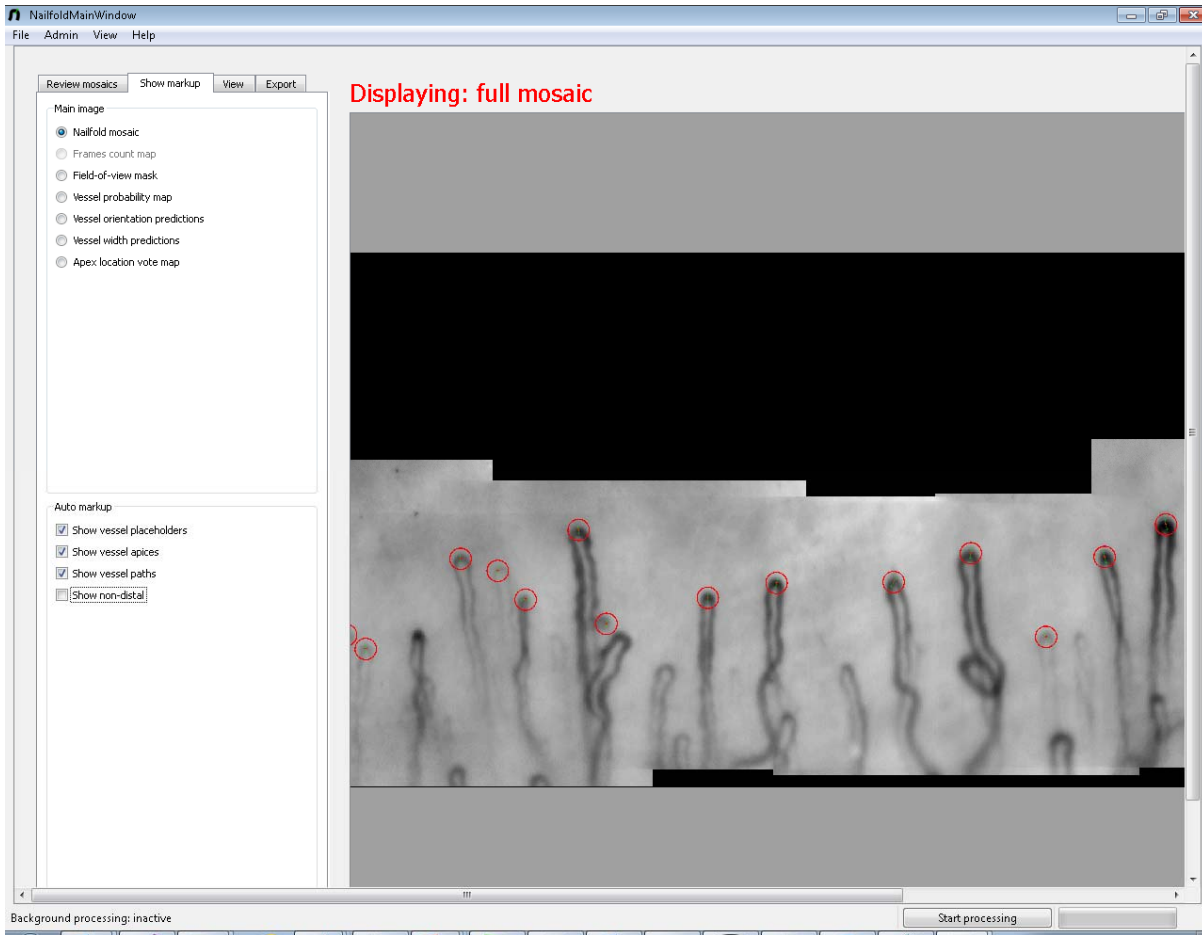
Subject category:

Healthy control ▾

Notes:

Update subject details

NailfoldMainWindow

File   Admin   View   Help

Start new session

Review images

Log off

The table below shows all image sequences that have not yet been processed. Use the checkboxes to (de)select each sequence

All sequences processed

Start processing | Refresh list | Remove sequences

NailfoldMainWindow

File Admin View Help

Review mosaic | Show markup | View | Export

Displaying: full mosaic

Export mosaic

Export...
- ○ Just this sequence
- ○ All sequences for this session
- ○ All sequences for this subject
- ○ All sequences in this study (ALL subjects)

To...

Export sequence mosaic(s)

Export data to CSV

Export study data to...

Export study data

Finish reviewing
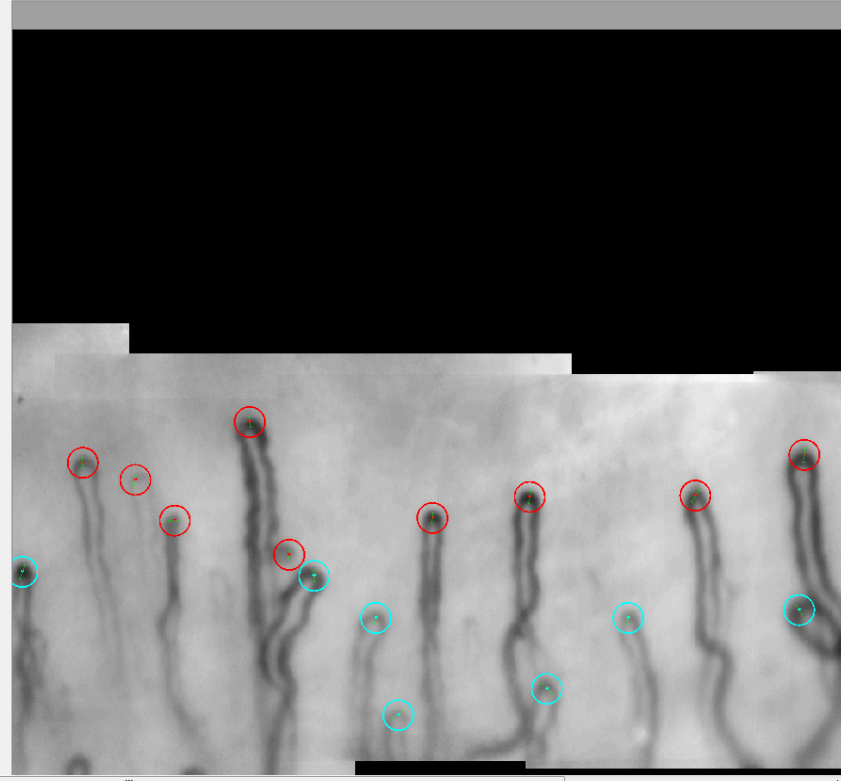
Background processing: inactive

Start processing

NailfoldMainWindow

File Admin View Help

Start new session

Review images

Log off

The table below shows all image sequences that have not yet been processed. Use the checkboxes to (de)select each sequence

	Selected	Subject name	Sequence name	Hand	Digit	Frames	Time finished	Acceptable quality	Comments	Progress
1	☑	test001	R4_10_32_15	R	4	16685	2017-04-20 10:02:15	1	Issues with oil glare in centre of nailfold	
2	☑	test001	L4_11_00_04	L	4	13664	2017-04-20 10:05:15	1		

2 sequences to be processed

Start processing | Refresh list | Remove sequences