

Brain Data Visualisation Software



USER MANUAL

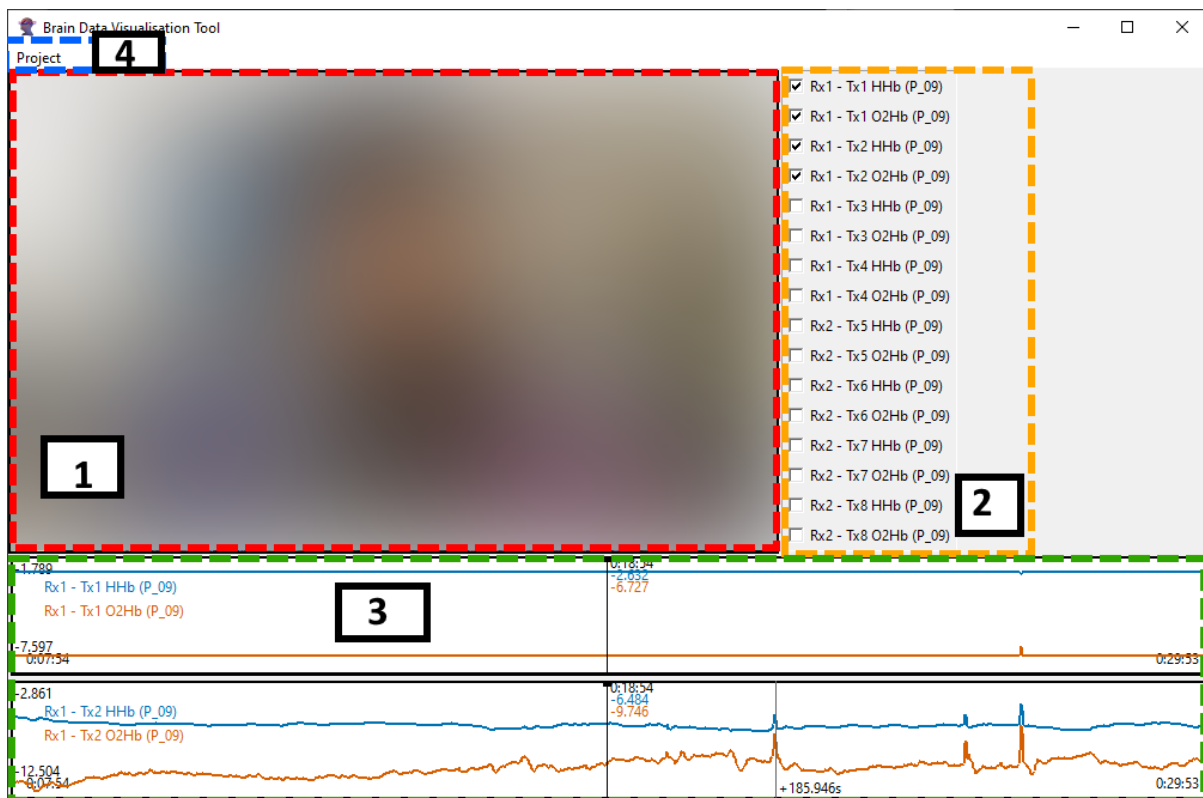
Julian H

DISSERTATION PROJECT | UNIVERSITY OF NOTTINGHAM

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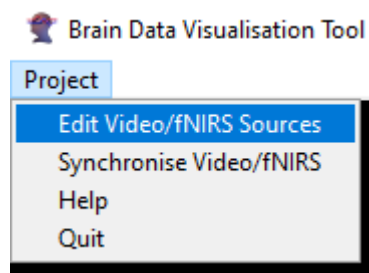
Overview of User Interface



1	Video Player	This region displays the project video
2	Data Channel Selector	Here you can select which data channels you want to display
3	Data Channels	The data channels plot data for the specified sensors
4	Project Menu	You can import data and edit project settings from here

Importing fNIRS and video data

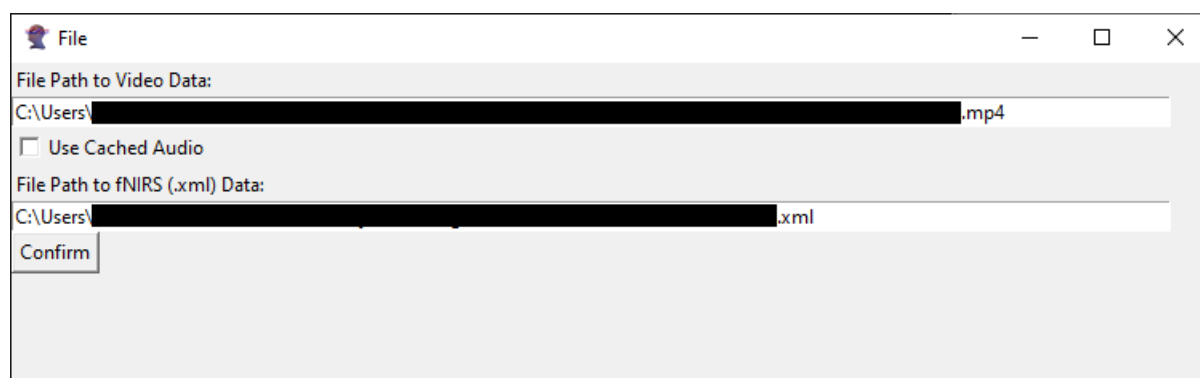
Select **Project > Edit Video/fNIRS Sources**.



Enter the path to your video file in the 'File Path to Video Data' entry box, and the path to your xml data in the 'File Path to fNIRS (.xml) Data' box.

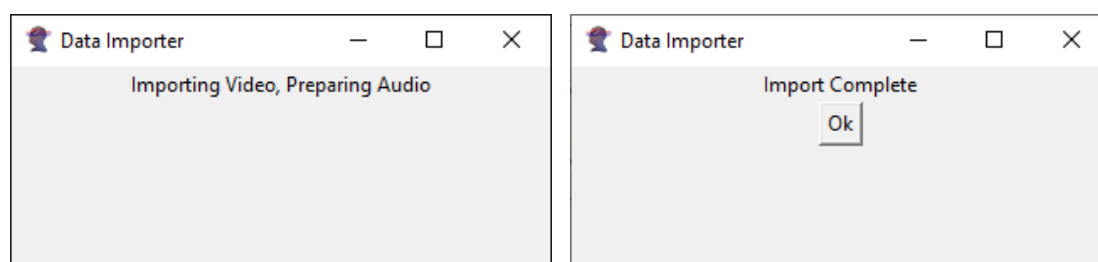
The fNIRS data must be of type XML, in the format exported by Oxysoft.

Video data may be mp4, avi, mov, wmv, flv, mkv, mpg, ogv, webm, 3g2, and 3gp.



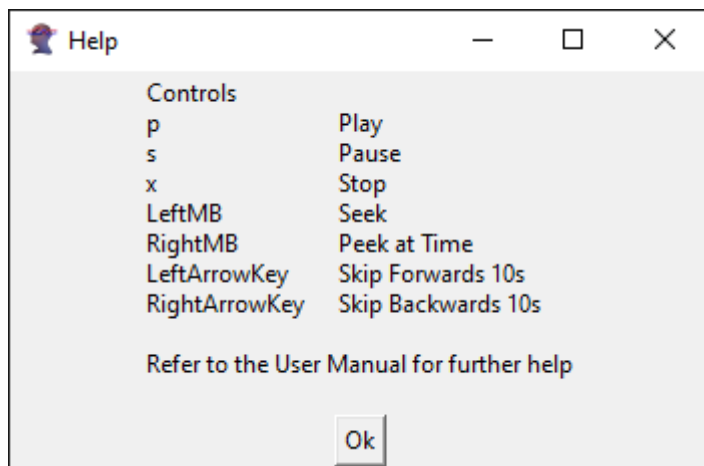
To reuse the audio from your last opened project, select 'Use Cached Audio'. If not selected, the loading process may take longer.

When you are ready, select 'Confirm'. A dialog box will appear to notify you that the data is being loaded. Please allow time for the data to load, especially when not using cached audio. When the data has been imported, the box will notify you and present an 'Ok' button, which will restore control to the user.

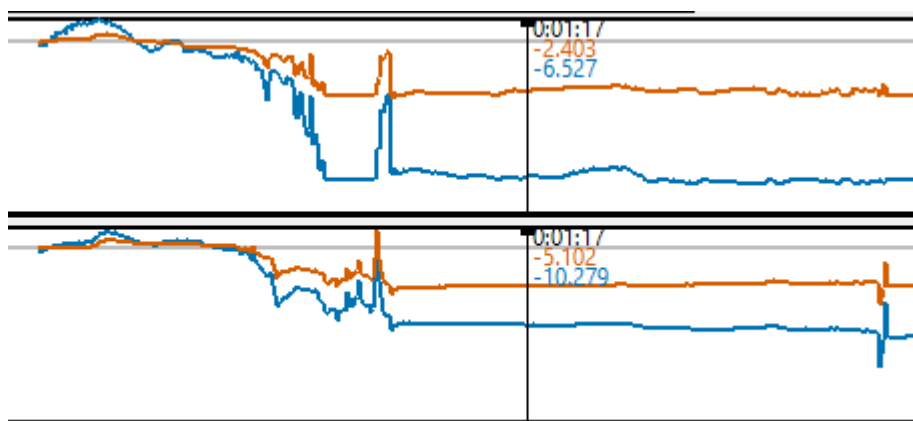


Playing your video and fNIRS data

To play your video and fNIRS data, use the hotkeys. These can be reviewed under **Project > Help**.

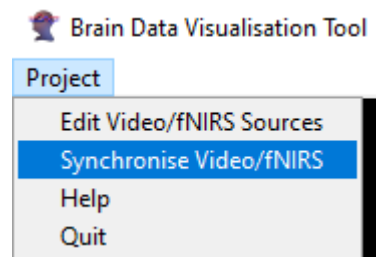


To seek to a certain point by clicking the data players and zoom in and out with the scroll wheel. Zooming will rescale the x-axis around the scrubber, and the y-axis is adapted to fit the data within that section.

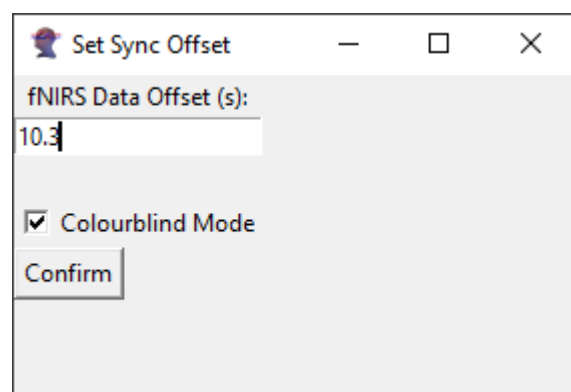


Synchronising your Data

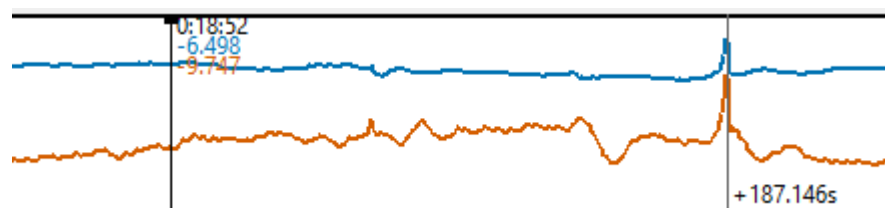
To synchronise your data, select **Project > Synchronise Video/fNIRS**.



In the dialogue box, specify the fNIRS data offset. This is, in seconds, the offset at which the data players will play relative to the video. This can also be negative, or a decimal value if required. Select 'Confirm' to apply your changes.



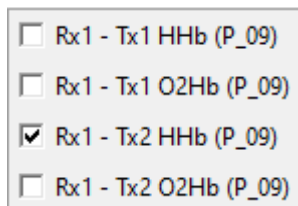
To intuitively find this offset value, you can play your video to the sync point, then select with the right mouse button the corresponding location in the data which represents the same point. This will generate a peek marker, which will display the difference to the scrubber in seconds. The offset is not automatically applied, so the settings must be updated via the menu. Please also note that different tracks have their own markers, and that they are not permanent.



You can restart the video using the 'x' key, then 'p' to play. You will now notice the data player has a head-start of your specified time delay. This delay is maintained until it is changed in the settings again, or the config file.

Selecting Data Channels

To view specific data channels, select the checkbox next to the specified channel in the channel selector.



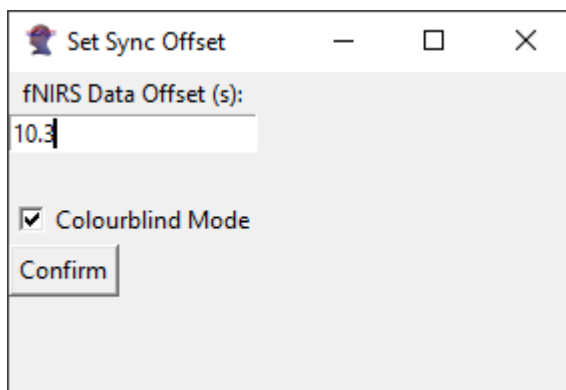
A list of four data channels with checkboxes:

- ☐ Rx1 - Tx1 HHb (P_09)
- ☐ Rx1 - Tx1 O2Hb (P_09)
- ☒ Rx1 - Tx2 HHb (P_09)
- ☐ Rx1 - Tx2 O2Hb (P_09)

Data channels are grouped into pairs, and pairs are drawn on the same graph.

Colour-blind Mode

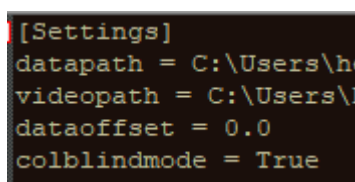
Colour-blind mode can be enabled and disabled in the Sync Offset menu. When enabled, the colour scheme of the data-players is replaced by colours more easily perceptible to the colour-blind.



A dialog box titled "Set Sync Offset" with a close button. It contains a text field for "fNIRS Data Offset (s)" with the value "10.3". Below it is a checkbox labeled "Colourblind Mode" which is checked. At the bottom is a "Confirm" button.

Config File

This software will generate a BDVSETTINGS.ini file when run, which stores project settings on quitting. Upon relaunch the software will try to reload the project according to the settings, which contains the locations of the video and fNIRS data. It will also load the data offset and set colour-blind mode. Directly editing the config file is not advised, but possible.



```
[Settings]
datapath = C:\Users\he
videopath = C:\Users\h
dataoffset = 0.0
colblindmode = True
```