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|  |  | Edf2Mat© Matlab Toolbox  Converts EyeLink 1000 Edf files into Matlab  Version 1.5 |
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|  |  | Abstract |
|  |  | Edf2Mat is a Matlab Toolbox for easy conversion of EyeLink Edf result files. For fast verification of valid data, there is an included plot function, which displays eye movement and pupil size. There are a few examples in the example file which help analyze eye data. |
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|  |  | Terms and Conditions |
|  |  | Acknowledgment |
|  |  | You are allowed to use this software for free, but please acknowledge if you are using this software to process Edf-files:  The conversion of the EyeLink® 1000 Edf files was done with the Edf2Mat Matlab Toolbox designed and developed by Adrian Etter at the University of Zurich. |
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|  |  | License |
|  |  | Edf2Mat Toolbox is Licensed under the BSD 2 License.  The Edf2Mat Toolbox uses slightly modified code (Kovach, 2011) from C. Kovach 2007. |
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|  |  | Installation |
|  |  | Requirements |
|  |  | On Windows: Matlab |
|  |  | On Mac: the edfapi.framework must be in /Library/Frameworks. Can be found in the Package. Attention: If the Zip file was unpacked on windows first, and then copied, the folder structure will be broken. The Zip file must be extracted on a Mac in order to work. Otherwise the symlinks are broken. |
|  |  | Files needed |
|  |  | * The Edf2Mat Class * All files in the private folder * All Dlls in the private folder |

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|  |  | How to use Edf2Mat – Toolbox |
|  |  | There is an edf2mat\_example script. Have a look at it. |
| Type help for help |  | help Edf2Mat |
|  |  | Edf2Mat is a converter to convert Eyetracker data files to  Matlab file and perform some tasks on the data    The new procedure uses code from SR-Research that returns all info of  the edf and not just part of it. The new routine is based on the work  of C. Kovach 2007 and is only for non-commercial use!        Syntax: Edf2Mat(filename);  Edf2Mat(filename, verbose);    Inputs:  filename: must be of type \*.edf   useOldProcedure: If you want to use the old procedure with  edf2asc.exe, you can set this argument to  true, default is false  verbose: logical, can be true or false, default is true.  If you want to supress output to console,   verbose has to be false |
|  |  | The Basic functionality is as follows: |
| Convert Edf File |  | edf1 = Edf2Mat('fMRI\_Results\_sub\_025\_270712EYE25r1.edf'); |
|  |  | Calling the Edf2Mat with a filename converts the given edf file to a Matlab structure, which will be available in the Matlab workspace.  In order to save the produced structure to a matfile, just call “save(edf1)”, whereas edf1 is the variable assign when calling the Edf2Mat Class. |
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| Plot |  | The Edf2Mat class has its own plot functionality to plot the content. It’s more for a fast forward validation of data than actually the way you should plot your data. |
|  |  | plot(edf1); |
|  |  | Fig. 1 Output of the Edf2Mat plot command |
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| Last 2000 Elements |  | In order to plot eye movement only in a specified time range, the Matlab builitin plot command could be used as following: |
|  |  | figure(); plot(edf1.Samples.posX(end - 2000:end), edf1.Samples.posY(end - 2000:end), 'o'); |
|  |  | Fig. 2 Only plot a certain time frame of eye movement |

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| Plot the pupil size |  | To simply plot the pupil size for a given time window, the pupil size array can be accessed as stated in the next line. |
|  |  | figure(); plot(edf1.Samples.pa(2, end - 500:end)); |
|  |  | Fig. 3 The progress / development of the pupil size for a given time frame |

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|  |  | Acknowledgment |
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|  |  | Many thanks to Stefan Schmid to point out typos. |
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|  |  | Bibliography Kovach, C. (2011, 01 12). *SR Research*. Retrieved from SR Research Support: https://www.sr-support.com/showthread.php?255-Import-of-EDF-file-into-Matlab&p=6781#post6781 |