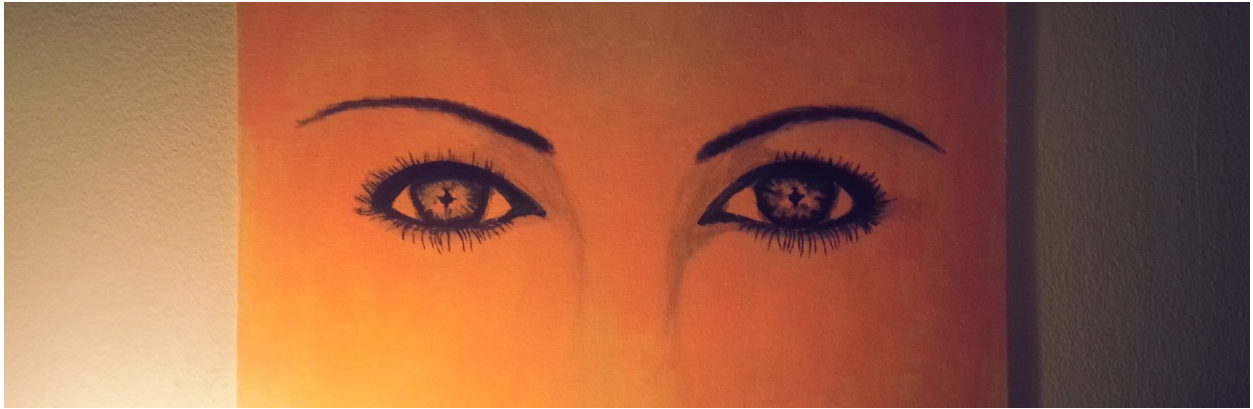# Eye-Wink
User Manual and Documentation

By Naser Al Madi

Introduction

Eye-Wink is an open-source project for opening/visualizing/analyzing eye-tracker recorded data files. The project aims at making eye-tracking research tools accessible and easily available, and therefore this project will always be free to use and distribute (giving credit to the creators and contributors). As this is a community driven project, your collaboration, feedback, and suggestions are most welcome!
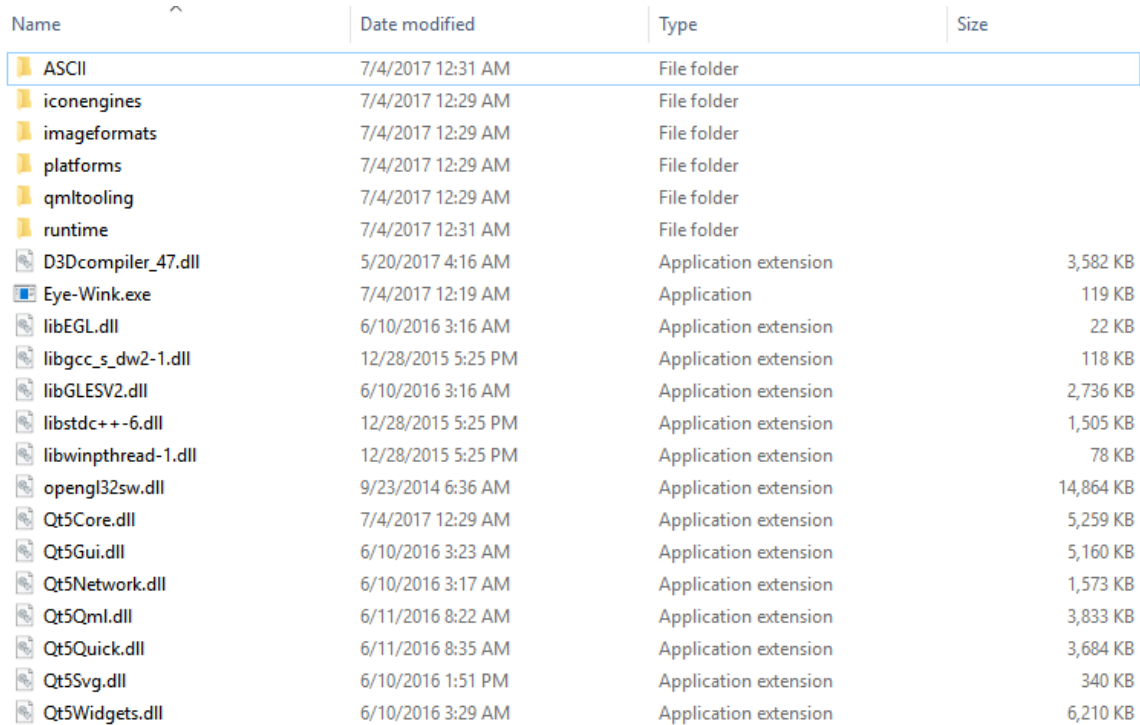
Pre-Alpha Release

Pre-Alpha means that this software has not been tested completely yet. Using it at this stage could cause damage to your files, therefore it is advised to work on a copy of your date while you keep the original files somewhere safe.

Please, let me know if you run into any problems or bugs during the use of this release, as it would be helpful to discover and fix problems at this stage. An email documenting the details of the bug would be much appreciated. Email: **nmadi@kent.edu**

Installation

To install Eye-wink, start by downloading "Eye-Wink-Release-Pre-Alpha.zip" to your computer. Currently, Windows 7/8/10 are supported with Mac and Linux expected by september 2017. After that, unzip the downloaded file to any directory, and you should get the files shown in Figure 1.

Name	Date modified	Type	Size
ASCII	7/4/2017 12:31 AM	File folder	
iconengines	7/4/2017 12:29 AM	File folder	
imageformats	7/4/2017 12:29 AM	File folder	
platforms	7/4/2017 12:29 AM	File folder	
qmltooling	7/4/2017 12:29 AM	File folder	
runtime	7/4/2017 12:31 AM	File folder	
D3Dcompiler_47.dll	5/20/2017 4:16 AM	Application extension	3,582 KB
Eye-Wink.exe	7/4/2017 12:19 AM	Application	119 KB
libEGL.dll	6/10/2016 3:16 AM	Application extension	22 KB
libgcc_s_dw2-1.dll	12/28/2015 5:25 PM	Application extension	118 KB
libGLESV2.dll	6/10/2016 3:16 AM	Application extension	2,736 KB
libstdc++-6.dll	12/28/2015 5:25 PM	Application extension	1,505 KB
libwinpthread-1.dll	12/28/2015 5:25 PM	Application extension	78 KB
opengl32sw.dll	9/23/2014 6:36 AM	Application extension	14,864 KB
Qt5Core.dll	7/4/2017 12:29 AM	Application extension	5,259 KB
Qt5Gui.dll	6/10/2016 3:23 AM	Application extension	5,160 KB
Qt5Network.dll	6/10/2016 3:17 AM	Application extension	1,573 KB
Qt5Qml.dll	6/11/2016 8:22 AM	Application extension	3,833 KB
Qt5Quick.dll	6/11/2016 8:35 AM	Application extension	3,684 KB
Qt5Svg.dll	6/10/2016 1:51 PM	Application extension	340 KB
Qt5Widgets.dll	6/10/2016 3:29 AM	Application extension	6,210 KB

Figure 1: contents of unzipped "Eye-Wink-Release-Pre-Alpha" directory.

The directory contains the executable "eye-wink.exe" and sample data files in the directories "ASCII" which contains the ASCII exported eye-tracker files, and "runtime" which is copied from the eye-tracker data files as is.

How can I open my own experiment data files?

Easy! First, you should convert your experiment data to ASCII format (using the eye-tracker provided software). Second, you should copy the folder "runtime" from your experiment to the working directory (directory where Eye-wink.exe is located at).

Using Eye-Wink

For the purpose of testing Eye-Wink sample data files are provided. So go ahead and double-click on "Eye-Wink.exe" and hopefully a window will open (if not, please record the error details).

Now, let's click on open experiment and select the directory "ASCII" and double click on any of the sample files, for example "006.asc". This will open up the 16 trials in that experiment in the trial list on the left hand side of the screen. You can double click on any trial to load the information and a visualization of that trial, so let's pick trial number 7 for example to get something like Figure 2.
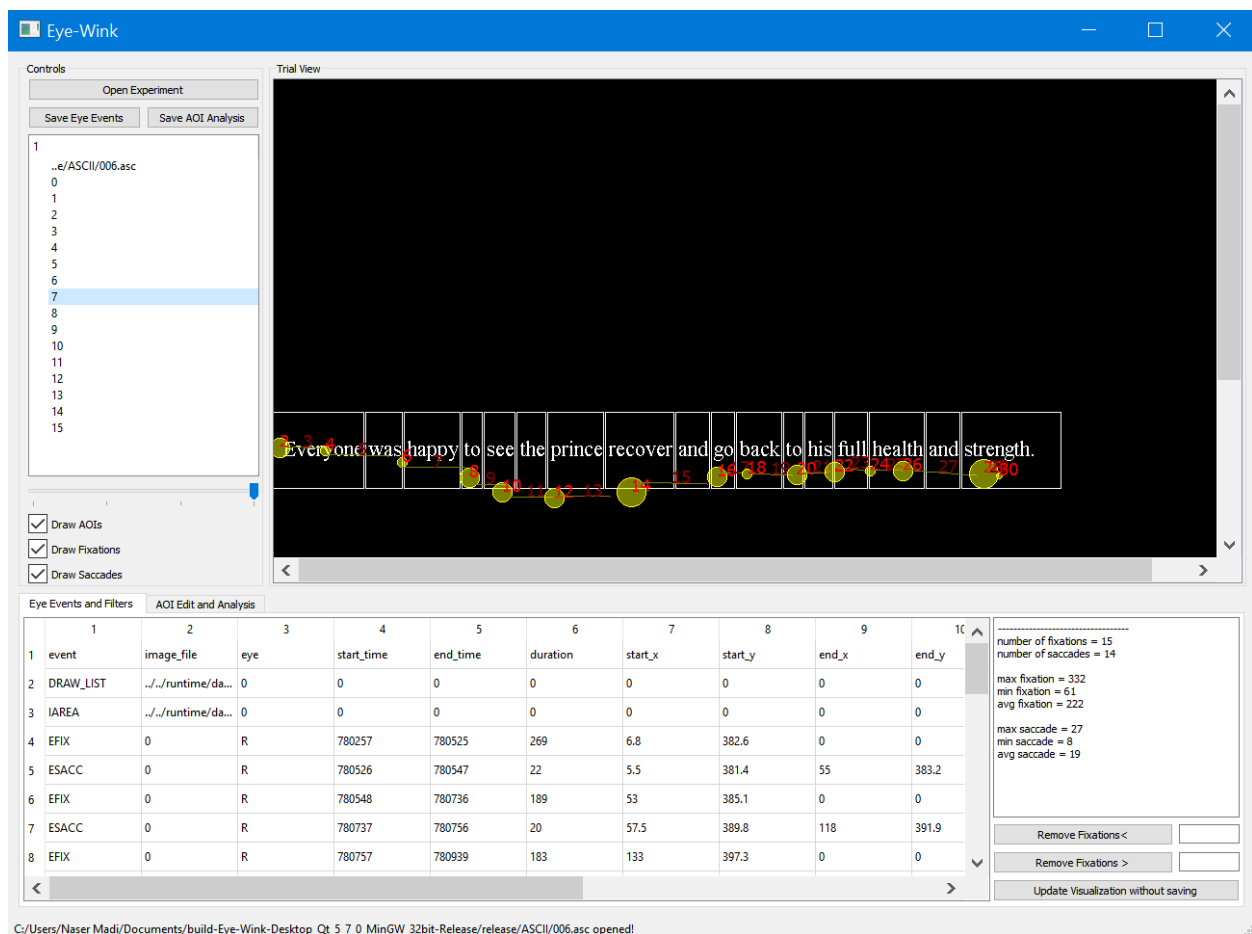

Figure 2: Eye-Wink main window opening sample trial 7.

Below the trial list, you can drag the blue bar to visualize the sequence of eye-event on the trial view window. Also, you can select to visualize AOIs, fixations, and saccades by checking the boxes on the left, after checking/unchecking you should click on the trial number again.

At the lower half of the window you can see "eye-events and filters" where you get a table of all eye-events and all available details. The beauty of this view is that you can edit any value you want and that will update the visualization, and you can also save this table in CSV format. On the right of the table you get basic statistics on this individual trial and fixation filters, allowing you to remove extra-long or very-short fixations and update the visualization again.

Finally, on the "AOI Edit and Analysis" tab, you get all the AOIs in that trial and the corresponding words in a neat table, and again you can modify/add/remove any value you want using the row number on the lift. And last, the button "Run AOI Analysis" should run an AOI analysis providing first-fixation time, skipping, total-fixation time, total number of fixations, and regression information for each AOI.

For the trial view, I would like to note that the data is read exactly as it was recorded with no processing or software enhancement of any kind, therefore it might look slightly different than the actual data-viewing software of the eye-tracker. Also, the notation is slightly different, here the numbers associated with the eye-events (fixation/saccade) indicate the eye-event order of appearance in time. And the size of the fixation circle correlates to the duration of that fixation as shown in figure 3.

Figure 3: Trial view example showing eye-events in order of appearance.

Acknowledgement

Many thanks to you, for your help with making this project better by sharing your feedback and comments. A list of project contributors will be compiled and shared with Eye-Wink V1.