

# Quiet Eye Solutions Inc.

## Quiet Eye Solutions 30-day trial version tutorials

Welcome to Quiet Eye Solutions tutorials. The Quiet Eye Solutions installer includes two sample projects set up and ready to use, including data sets with coded trials. The corresponding videos should be downloaded and placed in the directory:

C:\Program Files\Quiet Eye Solutions\media.

These tutorials will familiarize you with the features of Quiet Eye Solutions. The two examples might have been almost any free movement task, from sport to merchandising. However we have included two golf projects, the putt and the chip shot. "Golfer 1 putts", uses a single "live-mixed" Vision-in-Action video; while "Golfer 2 chips", shows how separately recorded gaze and motor videos can be imported and synchronized by Quiet Eye Solutions to allow "post-mixed" QES Vision-in-Action coding.

### ***Example 1: Golf Putt***

Steps:

1. Set up the task ("Golf Putt" and "Golf Chip" examples are set up)
2. Open data file
3. Open video
4. Familiarize yourself with the program and data
5. Code a trial

#### **1. Set up the task**

- Select "Task - Manage" from the main menu. The QES Task Manager will open.
- two sample tasks are set up. Note the following:
- the first task "Golf Putt" is selected
- under Motor Phases, Backswing is selected
- gaze locations and experimental conditions are entered
- the two sample tasks have a different number of phases, which is reflected in the number of columns in the data file; if you switch tasks, switch back to "Golf putting" before proceeding.
- confirm that the selected task is named in the title of the main interface.
- close task manager

#### **2. Open data file**

- select "File - Data Open" from the menu, and open the data file, "Golfer1 putt Data.csv"
- the full path is "C:\Program Files\Quiet Eye Solutions\Data\ Golfer1 putt Data.csv "
- the data will open in the data progress log

#### **3. Open the video**

- select "File - Video Open" from the menu, and open the video, "Golfer 1 putts VIA.avi"
- the video can be controlled by the controls on the interface, or the arrow and Enter keys on the keyboard

- play the trials at full speed and frame-by-frame to familiarize yourself with the Vision-in-Action format, the motor phases, and the gaze data

#### 4. Familiarize yourself with the program and the data

- load one of the trials from the sample data set. This feature is for demonstration, playback and checking of coding
- to load: highlight a trial in the Data Progress Log and choose "Edit - Load Trial" from the menu
- the trial will load and the video will jump to the start of the selected trial
- play a full trial twice, first watching the motor activity, next watching the gaze behaviour
- return the video to the trial onset by double-clicking on phase 1 in the phase summary (bottom of Motor panel)
- note that the Motor and Gaze images are synchronized
- replay the present motor phase by pressing the keyboard shortcut "Alt+Enter"
- replay the present gaze by pressing the keyboard shortcut "Shift+Enter"
- increment the motor phase counter to scroll through the coded phases; replay any.
- increment the gaze counter to scroll through the coded gazes; replay any.
- replay all motor phases from present to end by pressing "Ctrl+Alt+Enter"
- replay all gazes from present to end by pressing "Ctrl+Shift+Enter"
- gazes can be quite short, try changing the Run Speed to 1/2x to replay the gazes
- double-click on any "frame" number in the Motor or Gaze panels to jump to that frame, but do not press the Motor or Gaze onset/offset coding buttons at this point; if you do, simply re-load the trial.

#### 5. Code a trial

- use the sample trials as a guide
- choose "Data - Reset Trial" from the menu to reset before beginning
- code the motor phases completely first, ignoring the gaze behaviour
- navigate the video to the start of a trial, when the golfer addresses the ball and the putter is still. This is the preparation onset. Preparation offset is the first frame of backswing movement
- increment the phase number and code the onset and offset of the backswing.
- repeat for foreswing, ending with club-ball contact
- with the motor phases coded, double-click on phase 1 in the phase summary to return video to start of trial, and proceed to code the gazes
- when the first gaze onset is coded the "Gaze Location" box will appear
- for each gaze record it's onset, offset, type and location, the duration is calculated
- an example of a coding rule is that a fixation is found when the cursor remains on or within three degrees of visual angle from an object for a minimum of 100ms (three frames of video at 30fps)
- instead of three degrees for this example, code when the red cursor is touching an object
- increment the gaze counter and proceed with the next gaze until all are coded
- after coding a gaze, check your coding by playing it back with "Shift+Enter"
- the last gaze coded is the one with it's onset before the end of the trial, and it's offset is coded at it's natural offset.
- keep an eye on the progress bar at the bottom of the data log to know where you are in the trial

#### Notes:

- this is a very brief introduction to coding. The Quiet Eye Solutions user manual contains an in-depth treatment of the coding rules for both motor phases and gaze behaviour.

- the trial version of Quiet Eye Solutions is for demonstration purposes. Data cannot be saved, nor can new datasets be created.

## **Example 2: Golf Chip**

Steps:

- the steps for coding any task are the same; this example highlights the additional features of Quiet Eye Solutions in setting up "post-mixed" Vision-in-Action" video using separate gaze and motor video clips and synchronizing them.

1. Set up the task
2. Open data file
3. Open videos and synchronize them
4. Familiarize yourself with the program
5. Code a trial

### **1. Set up the task**

- open the QES task manager and select "Golf chips" by clicking once to highlight
- notice that seven motor phases were used to include two practice swings
- again, the last backswing is selected
- press the "Switch Tasks" button to upload the task into the main interface
- note that the main interface title now says, "Quiet Eye Solutions - Golf Chip"
- close the task manager

### **2. Open data file**

- open the data file entitled, "Golfer2 chip Data.csv"

### **3. Open videos and synchronize them**

- choose "File - Vision-In-Action" from the menu
- the "Vision-In-Action: Open Gaze & Motor videos" dialog will open
- click the "Gaze Video Browse" button and select the gaze video "Golfer 2 chips gaze.avi"
- click the "Motor Video Browse" button and select the motor video "Golfer 2 chips ext.avi"
- when both video titles have been loaded into the dialog, click open
- the two clips will open in the same window, arranged similarly to the putting video: with the motor image on the left and the gaze image on the right. Now they only need to be synchronized.
- click the "Sync Timecode" button on the main interface to open the "Synchronize with VIA Timecode" dialog
- play the videos until a reliable synchronize point, the club-ball contact point in trial one.
- find the exact frame of contact in the gaze video (right)
- using the "Sync Gaze/Motor video" counter, advance the motor video until it is synchronized with the gaze video. In this case it needs to be advanced two frames. The frame numbers will read: "Gaze Fr = 471 Motor Fr = 473" in the "Synchronize" dialog.
- choose timecode format "Frames" and close the "Synchronize" dialog.
- the trial is ready to be coded or re-played as if the videos were one
- repeat the procedure to check synchronization of the second trial
- each video can be re-sized independently, with either on top, to see the trial better and to code in the original aspect ratio of the video

#### **4. Familiarize yourself with the program**

- you can load a coded sample trial and play through the motor phases, or the gazes as before

#### **5. Code a trial**

- coding can now proceed normally

#### **Notes**

Some of the features of Quiet Eye Solutions are not available in the trial version, such as editing of the data log, and saving of any data.

However QES can be tested with your own gaze data. You can set up new tasks in the task manager and save them. When a 25fps PAL video is loaded QES video navigation and calculations are adjusted reflect the frame rate. Videos using frame rates other than ~30fps and 25fps may be viewed but not played frame-by-frame or coded. A warning will let you know, or you can find the frame rate under "Movie - Get Movie Properties" from the main menu.

#### **Additional Resources**

This tutorial contains the minimum information necessary to demonstrate Quiet Eye Solutions trial version software. We have compiled several sources of information on topics from the science of gaze and motor behaviour, and decision training, to applying it to research and training situations using Quiet Eye Solutions software.

- i. The Quiet Eye Solutions user manual, included with the full version, documents all of the features of QES along with a full discussion of the coding rules and their grounding in the gaze literature, along with suggestions on topics from data collection to managing video.
- ii. The book: "Perception, Cognition, and Decision Training" will be released this summer, 2007. Please see our website for more information.
- iii. Selected research papers from Dr. Vickers and colleagues are available on our website.

Thank you for trying Quiet Eye Solutions.

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