EyeLinkServer

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1 How it works

Coordinates: (0,0) is the center of the screen. Positive values going to the right and up respectively. The auto reset event named `EyeServerDone` is signaled after server startup and when a "stop" command finishes (this may take some time when an `.edf` file is transferred).

2 Commands

Commands are sent through the named kernel32 pipe `EyeServerPipe`.

2.1 General Commands

`[00 0 0]` stop recording. If a file was specified in the start command, a file selection dialog will open. You may specify a destination for the `.edf` or abort the dialog (then the `.edf` will not be copied).

`[00 0 0 filename]` stop recording (and copy `.edf` to the specified file).

`[00 0 1 width height]` set screen size. This command is not needed if the EyeLink `.INI` files contain valid entries.

`[00 0 2]` start recording without `.edf`

`[00 0 2 filename]` start recording. The `filename` has to be specified with the extension (`.edf`) included. Note that this specifies the name of the file on the remote EyeLink computer. The filename is resticted to 8 characters (plus extension). Consider to always use the same filename. This will prevent the remote disk from filling up over time.

`[00 0 3]` remove transformation

`[00 0 3 x0 y0 x1 y1]` set coefficients (single precision floating point) for a linear transformation

`[00 0 3 x0 y0 x1 y1 x2 y2]` set coefficients (single precision floating point) for a quadratic transformation

`[00 0 3 x0 y0 x1 y1 x2 y2 x3 y3 x4 y4 x5 y5]` set coefficients (single precision floating point) for a mixed term quadratic transformation:

$$\begin{aligned} x' &= x_0 + x_1 \cdot x + x_2 \cdot y + x_3 \cdot xy + x_4 \cdot x^2 + x_5 \cdot y^2 \\ y' &= y_0 + y_1 \cdot x + y_2 \cdot y + y_3 \cdot xy + y_4 \cdot x^2 + y_5 \cdot y^2 \end{aligned}$$

`[00 0 4 message]` pass the `message` to EyeLink to be stored into the `edf` file.

2.2 Target Creation

Each target creates two named manual reset kernel32 event objects: name`In` and name`Out`. These events are set when the eye position enters or leaves the target region. You have to read the key of the newly created target as a 16 bit unsigned integer after issuing this command.

If these commands are issued while the tracker is in offline mode (not recording) then the target regions are also drawn on the tracker's screen.

`[00 1 x y r name]` create circular target with radius `r` at position `(x,y)`. `x`, `y`, `r` are single precision floating point values.

2.3 Target Commands

`[kk 0]` remove target.

`[kk 1]` force target to generate `Out` events on blinks.