

Tobii Pro Lab

Product Description

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1 Introduction

1.1 Overview

This document describes the features and functionality of **Tobii Pro Lab**. This powerful, versatile, and comprehensive software supports the entire research workflow for eye trackers from Tobii Pro. The software comprises three modules: *Designer*, *Recorder*, and *Analyzer*. Pro Lab is available in four editions: **Full Edition**, **Presenter Edition**, **Analyzer Edition**, and **VR 360 Edition**. The Full Edition contains all three modules; the Presenter Edition contains Designer, Recorder/Stimuli, Presentation and a part of Analyzer's functionality; and the Analyzer Edition contains only the Analyzer module. The Full Edition and the VR 360 Edition contains all three modules but with different eye tracker support.



This document applies to Tobii Pro Lab. The software is continuously being developed and refined. Please visit tobiipro.com for the most recent specifications for the software and for the latest version of this document.

1.2 Modules

1.2.1 Design

You can create experiments in the Designer module based on Timelines consisting of different stimuli. You can also edit stimuli presentation settings like display position, background color, presentation time and stimulus advancement methods, (i.e. end on a mouse click or key press to adapt your experiment). Here you also get a preview of what the stimuli will look like on the screen.



The Designer module works with selected screen-based eye trackers from Tobii Pro and with the HTC VIVE Pro Eye and Tobii Pro VR Integration VR Headsets, but not with Pro Glasses 2.

1.2.2 Record

The Recorder module lets you configure eye trackers from Tobii Pro and present different stimuli, with high timing accuracy. You can read more about this in the Tobii Pro Learning article [Stimulus presentation timing in Tobii Pro Lab](#). You can also validate a calibration, record eye tracking (or mouse-as-gaze) data, mouse clicks and key presses, as well as Galvanic Skin Response (GSR) data from Shimmer3 devices. The participant camera with audio lets you record the participant. Recorder turns into a Moderator view during live viewing of the track status, stimuli displayed and gaze data.



The Recorder module works with selected screen-based eye trackers from Tobii Pro and with the HTC VIVE Pro Eye and Tobii Pro VR Integration VR Headsets, but not with Pro Glasses.

1.2.3 Analyze

The Analyzer module enables you to replay, visualize and analyze your recorded data. It provides data-filtering features, visualizations and the ability to export data for presentations and for further processing in third-party software. In addition, for Pro Glasses 2 based projects, it also provides manual and automatic fixation mapping.

1.3 License models

Pro Lab has two different license models; a *perpetual*-based license model and a *subscription*-based license model. A subscription license provides you with access to the latest software versions as soon as they become available. A perpetual license grants you one year of free upgrades. One- to four-year upgrade contracts are available for perpetual licenses.



If you use the subscription-based model, your Pro Lab must connect to the internet at least once every 14 days to validate the license. If you fail to do this, your software will cease to function.

1.4 System requirements

For the most up-to-date information about Pro Lab's software system requirements, please visit the Tobii Pro website:
<https://www.tobii.com/product-listing/tobii-pro-lab/system-requirements/>

1.5 Tobii eye tracking data transparency

Tobii Pro Lab conforms to [Tobii's Data Transparency](#) policy. This policy controls the transferring, storing and analyzing/aggregating the eye tracking, presence and position of data collected during eye tracking.

2 Software Features and Editions

2.1 Design Module

Feature	Presenter	Analyzer	Full	VR 360
Design experiments with multiple timelines or use hierarchical structures with randomized presentation (shuffled order, randomized sampling), and repetitions with images and video stimuli	•		•	•
Designate a gaze trigger zone to advance to next stimulus when looked at	•		•	
Batch editing of stimuli settings	•		•	•
Use multiple stimuli advance options, either alone or in combination (advance on time, key press, mouse click)	•		•	•
Configure stimulus onset markers (TTL) for synchronization purposes	•		•	•

2.2 Record Module

Feature	Presenter	Analyzer	Full	VR 360
Scene camera project (support for real world experiments using screen based eye trackers)	•		•	
External Presenter project	•		•	
Configure eye tracker settings	•		•	
Define experiment participants	•		•	•
Calibrate eye tracker (regular and infant calibration)	•		•	•
Numeric calibration results (accuracy and precision values)	•		•	
Present image and video stimuli	•		•	•
Record eye tracking, mouse, and keyboard data	•		•	•
Recording of galvanic skin response data from Shimmer3 GSR+ sensors	•		•	•
Moderator view: track status, stimuli displayed and gaze data live	•		•	•
Send stimulus onset markers (TTL) for synchronization purposes	•		•	•
Receive TTL-in markers and the value for synchronization (available for Pro Spectrum and Tobii Pro TX300 eye trackers only)	•		•	
Participant camera	•		•	
Present web pages and make screen recordings	•		•	

2.3 Analyze Module

Feature	Presenter	Analyzer	Full	VR 360
Replay of recordings	•	•	•	•
Import Tobii Pro Glasses recordings		•	•	
Manual mapping onto Snapshot images for Glasses, Screen, and Scene Camera projects		•	•	
Assisted mapping onto Snapshot images (Pro Glasses projects only)		•	•	
Create and edit static and dynamic Areas of Interest (AOIs) on images and videos		•	•	•
AOI Tags and Grouping (static and dynamic AOIs)		•	•	•
Log Events for behavioral coding		•	•	•
Times of Interest: define time intervals based on recording and logged Events		•	•	•
Selecting a frame as background and pairing it with Time of Interest (Screen and Scene camera projects only).		•	•	
Plot gaze x and y coordinates as well as eye movement velocity over time		•	•	•
Plot and visualize galvanic skin response (GSR) data over time (together with gaze video replay and eye movements)		•	•	•
GSR data analysis: noise reduction filters and detection of Skin Conductance Responses (SCRs) and Event Related SCRs		•	•	•
Static Heat Map Visualizations on images		•	•	•
Static Gaze Plot Visualizations on images		•	•	•
Video export of recordings and recording segments	•	•	•	
Export eye tracking metrics		•	•	•
Export Event and time interval based metrics		•	•	•
Export GSR Metrics		•	•	•
Export visualizations as images (.png and .jpg)		•	•	•
Export numeric calibration results (accuracy and precision values)	•	•	•	
Export calibration results as images (.png format)	•	•	•	
Recording data to text file (.tsv)	•	•	•	•

2.3.1 Data Export

General data	Description	Format/ Units	Screen project	Glasses project	Scene Camera project	VR360 project
Project name			•	•	•	•
Export date			•	•	•	•
Participant name			•	•	•	•
Participant variables			•	•	•	•
Recording name			•	•	•	•
Recording date	Date when the Recording was performed in this time zone.	YYYY-MM-DD	•	•	•	•
Recording date UTC	Date when the Recording was performed in UTC	YYYY-MM-DD				
Recording start time	Start time of the Recording in this time zone.	HH:MM:SS:FFF	•	•	•	•
Recording start time UTC	Start time of the Recording in UTC format	HH:MM:SS:FFF				
Recording duration	Total duration of the recording	Milliseconds	•	•	•	•
Timeline name	Name of the Timeline used during the Recording (Screen projects only)		•	•	•	•
Recording Fixation filter name	The name of the Fixation Filter applied to the Recording eye tracking data in the export		•	•	•	•
Snapshot Fixation filter name	The name of the Fixation filter applied to the Snapshot eye tracking data in the export (Glasses projects only)			•		
Recording software version			•		•	•
Recording resolution width		Pixels	•		•	•
Recording resolution height		Pixels	•		•	•
Recording monitor latency	The stimulus start and Event timestamps have been offset by this number to account for the monitor latency. (Screen projects only)	Milliseconds	•		•	
Calibration results	Average accuracy and precision of calibration in millimeters, degrees and pixels		•		•	
Recording Timestamp	Timestamp counted from the start of the recording (t0=0)	Milliseconds	•	•	•	•

Participant Video Start	Start Participant video	Milliseconds	•			
Participant Video End	End Participant video	Milliseconds	•			
Participant Audio Start	Start Participant audio	Milliseconds	•			
Participant Audio End	End Participant audio	Milliseconds	•			
Eye tracker timestamp	The Recording timestamp in the eye tracker clock.	Microseconds or milliseconds	•		•	
Computer timestamp	Eye tracker timestamp translated to local computer clock		•	•	•	
Gaze Point X	Horizontal coordinate of the averaged left and right eye gaze point	Pixels (DACS)	•	•	•	•
Gaze Point Y	Vertical coordinate of the averaged left and right eye gaze point	Pixels (DACS)	•	•	•	•
Gaze point left X	Horizontal coordinate of the left eye gaze point.	Pixels (DACS)	•		•	•
Gaze point left Y	Vertical coordinate of the left eye gaze point.	Pixels (DACS)	•		•	•
Gaze point right X	Horizontal coordinate of the right eye gaze point.	Pixels (DACS)	•		•	•
Gaze point right Y	Vertical coordinate of the right eye gaze point.	Pixels (DACS)	•		•	•
Gaze 3D position combined X*	Combined X coordinate of the gaze position in the scene camera coordinate system (Glasses projects only)	Millimeter (HUCS)		•		
Gaze 3D position combined Y*	Combined Y coordinate of the gaze position in the scene camera coordinate system (Glasses projects only)	Millimeter (HUCS)		•		
Gaze 3D position combined Z*	Combined Z coordinate of the gaze position in the scene camera coordinate system (Glasses projects only)	Millimeter (HUCS)		•		
Gaze direction left	Gaze direction (X, Y, Z) of the left eye. For details, see "The Gaze Direction Coordinate System" in this manual.	Millimeters	•	•	•	•
Gaze direction right	Gaze direction (X, Y, Z) of the right eye. For details, see "The Gaze Direction Coordinate System" in this manual.	Millimeters	•	•	•	•

Pupil position left	Pupil Position (X, Y, Z) of the left eye (Glasses projects only)	Millimeters		•		
Pupil position right	Pupil Position (X, Y, Z) of the right eye (Glasses projects only)	Millimeters		•		
Pupil diameter left	Estimated size of the left eye pupil	Millimeters	•	•	•	•
Pupil diameter right	Estimated size of the right eye pupil	Millimeters	•	•	•	•
Validity left	Indicates the confidence level that the left eye has been correctly identified. The available values are <i>valid</i> and <i>invalid</i> . (Screen projects only)		•		•	
Validity right	Indicates the confidence level that the right eye has been correctly identified. The available values are <i>valid</i> and <i>invalid</i> . (Screen projects only)		•		•	
Eye position left (DACSm)	(X, Y, Z) coordinate of the 3D position of the left eye. (Screen projects only)	Millimeters	•		•	
Eye position right left (DACSm)	(X, Y, Z) coordinate of the 3D position of the right eye. (Screen projects only)	Millimeters	•			
Gaze point left left (DACSm)	(X, Y, Z) coordinate of the 3D position of the unprocessed gaze point for the left eye on the screen. (Screen projects only)	Millimeters	•			
Gaze point right left (DACSm)	(X, Y, Z) coordinate of the 3D position of the unprocessed gaze point for the right eye on the screen. (Screen projects only)	Millimeters	•			
Gaze point left (DACSp)	(X, Y, Z) coordinate of the 3D position of the unprocessed gaze point for the left eye on the screen. (Screen projects only)	Pixels	•			
Gaze point right (DACSp)	(X, Y, Z) coordinate of the 3D position of the unprocessed gaze point for the right eye on the screen (Screen projects only)	Pixels	•			
Gaze point (MCSnorm)	The normalized X-, Y-coordinate of the averaged left and right eye gaze point in the scene camera coordinate system.	Pixels	•	•	•	•

Gaze point left (MCSnorm)	The X, Y coordinate of the gaze point in scene camera coordinates for the left eye.	Pixels	•	•	•	•
Gaze point right (MCSnorm)	The X, Y coordinate of the gaze point in scene camera coordinates for the right eye.	Pixels	•	•	•	•
Eye movement type	Type of eye movement classified by the fixation filter	Fixation, Saccade, Unclassified, EyesNotFound	•	•	•	•
Gaze Event duration	The duration of the currently active eye movement	Milliseconds	•	•	•	•
Eye movement type index	Count is an auto-increment number starting with 1 for each eye movement type	Number	•	•	•	•
Fixation point X	Horizontal coordinate of the averaged gaze point for both eyes	Pixels	•	•	•	•
Fixation point Y	Vertical coordinate of the averaged gaze point for both eyes	Pixels	•	•	•	•
Event	Name of the Event		•	•	•	•
Event value	The value of any Event parameter, if applicable		•		•	•
Recording media name				•		
Recording media width		Pixels		•		
Recording media height		Pixels		•		
Presented Stimulus name	(Screen projects only)		•			•
Presented Media name	(Screen projects only)		•			•
Presented Media width	The horizontal size of the Media presented on the screen to the Participant, including any scaling set in the Stimulus properties (Screen projects only)	Pixels	•			
Presented Media height	The vertical size of the Media presented on the screen to the Participant, including any scaling set in the Stimulus properties (Screen projects only)	Pixels	•			

Presented Media position X (DACSpix)	The horizontal position of the Media on the screen. The value represents the horizontal position of the left edge of the Media in relation to the left edge of the screen. (Screen projects only)	Pixels	•			
Presented Media position Y (DACSpix)	The vertical position of the Media on the screen. The value represents the vertical position of the top edge of the Media in relation to the top edge of the screen. (Screen projects only)	Pixels	•			
Original Media width	The original horizontal size of the Media presented to the Participant (Screen projects only)	Pixels	•			
Original Media height	The original vertical size of the Media presented to the Participant (Screen projects only)	Pixels	•			
Gaze point X (MCSnorm)	The normalized horizontal position of the averaged left and right eye gaze point on the media (Screen projects only)	Normalized coordinates (MCSnorm)	•		•	
Gaze point Y (MCSnorm)	The normalized vertical position of the averaged left and right eye gaze point on the media (Screen projects only)	Normalized coordinates (MCSnorm)	•		•	
Gaze point left X (MCSnorm)	The normalized horizontal position of the unprocessed gaze point for the left eye on the media (Screen projects only)	Normalized coordinates (MCSnorm)	•		•	
Gaze point left Y (MCSnorm)	The normalized vertical position of the unprocessed gaze point for the left eye on the media (Screen projects only)	Normalized coordinates (MCSnorm)	•		•	
Gaze point right X (MCSnorm)	The normalized horizontal position of the unprocessed gaze point for the right eye on the media (Screen projects only)	Normalized coordinates (MCSnorm)	•		•	
Gaze point right Y (MCSnorm)	The normalized vertical position of the unprocessed gaze point for the right eye on the media (Screen projects only)	Normalized coordinates (MCSnorm)	•		•	
Fixation point X (MCSnorm)	The normalized horizontal position of the fixation point on the Media (Screen projects only)	Normalized coordinates (MCSnorm)	•			

Fixation point Y (MCSnorm)	The normalized vertical position of the fixation point on the Media (Screen projects only)	Normalized coordinates (MCSnorm)	•			
Media width	Enabling this column generates one column per Snapshot in a Glasses project.	Pixels		•		
Media height	Enabling this column generates one column per Snapshot in a Glasses project.	Pixels		•		
Mapped gaze data X [Snapshot Name]	Horizontal coordinate of the gaze point mapped to a Snapshot (Glasses projects only)	Pixels		•		
Mapped gaze data Y [Snapshot Name]	Vertical coordinate of the gaze point mapped to a Snapshot (Glasses projects only)	Pixels		•		
Mapped eye movement type [Snapshot Name]	Type of eye movement classified by the default fixation filter (Glasses projects only)	Fixation, Saccade, Unclassified, EyeNotFound		•		
Mapped eye movement index [Snapshot Name]	An auto-increment number starting with 1 for each mapped eye movement type (Glasses projects only)	Number		•		
Mapped fixation X [Snapshot Name]	Horizontal coordinate of a fixation mapped to a Snapshot (Glasses projects only) Column is empty if the EyeMovement- Type is other than Fixation. Column is not affected by settings in the Fixation Filter. Default fixation filter is applied.	Pixels		•		
Mapped fixation Y [Snapshot Name]	Vertical coordinate of a fixation mapped to a Snapshot (Glasses projects only) Column is empty if the EyeMovement- Type is other than Fixation. Column is not affected by settings in the Fixation Filter. Default fixation filter is applied.	Pixels		•		

Automatically-mapped gaze data score [Snapshot name]	Validity score of the automatically-mapped gaze point- enabling this column generates one column per Snapshot (Glasses projects only)	Pixels		•		
Automatically-mapped gaze data X [Snapshot name]	Horizontal coordinate of the automatically-mapped gaze point (Glasses projects only)	Pixels		•		
Automatically-mapped gaze data Y [Snapshot name]	Vertical coordinate of the automatically-mapped gaze point (Glasses projects only)	Pixels		•		
Manually-mapped gaze data X [Snapshot name]	Horizontal coordinate of the manually-mapped gaze point.	Pixels		•		
Manually-mapped gaze data Y [Snapshot name]	Vertical coordinate of the manually-mapped gaze point (Glasses projects only)	Pixels		•		
AOI hit [Snapshot/ Image Name – AOI Name]	Reveals if there is a fixation within a given AOI on a given Snapshot 0 = No fixation within AOI 1 = Fixation within AOI	0;1		•		•
Gyro	Rotation along the X, Y, and Z axis in degrees/second (Glasses projects only)	degrees/second		•		
Accelerometer	Acceleration along X, Y, and Z axis in degrees/second^2 (Glasses projects only)	meter/second^2		•		
Galvanic skin response (GSR)	The raw galvanic skin response signal of the participant received from the Shimmer GSR sensor.	micro Siemens	•		•	•
Head rotation	The coordinates of the participant's head rotation quaternion.	Normalized coordinates				•
Mouse Position X and Y	Mouse position along the X and Y axis.	Pixels	•			

2.3.2 Metrics export: Interval-based and AOI-based TSV files

The metrics available for export in the Interval-based and AOI-based TSV file formats are shown in the table below.

An interval corresponds to one occurrence of a specific time of interest. The interval start is defined as the starting event for the TOI. The interval end is defined as the ending event for the TOI. A specific TOI can occur multiple times during a recording which means there are multiple intervals.



Byte Order Marks (BOM) flags are removed in .tsv flags. If you have scripts that rely on this flag, be sure to update them.

The metrics available for export to the Interval-based TSV and the AOI-based TSV file formats are shown in the table below.



Some metrics are not available for the AOI-based TSV file format. These metrics are marked with an asterisk.

Interval metrics

* metrics not available for the AOI-based TSV file format have an asterisk

Metric name	Description	Unit
Duration of interval*	The duration of an interval.	milliseconds
Start of interval*	The start time of an interval.	milliseconds

Event metrics

Events can also be used in measures. Event metrics allow you to measure behavior and calculate statistics based on your event coding scheme.

* metrics not available for the AOI-based TSV file format have an asterisk

Metric name	Description	Unit
Number of Events*	The number of Events, including Custom Events and Logged live Events, for an interval.	number
Time to first Event*	The time to the first Event, including Custom Events and Logged live Events, for an interval.	milliseconds

AOI fixation metrics

AOI fixations correspond to fixations that fall within an AOI. The fixations are defined based on the gaze filter you use (e.g. if you use the Raw gaze filter, every valid eye tracking sample is a fixation). AOI fixations metrics allow you to measure statistics based on the fixations within an AOI. They present as an interval (or an occurrence) of the TOI in separate rows in the exported spreadsheet.

Metric name	Description	Unit
Total duration of fixations	The total duration of the fixations inside this area of interest during an interval.	milliseconds
Average Duration of fixations	The average duration of the fixations inside this area of interest during an interval.	milliseconds
Minimum duration of fixations	The duration of the shortest fixation inside this area of interest during an interval.	milliseconds
Maximum duration of fixations	The duration of the longest fixation inside this area of interest during an interval.	milliseconds
Number of fixations	The number of fixations occurring in this area of interest during an interval.	number
Time to first fixation	The time to the first fixation inside this area of interest during an interval.	milliseconds
Duration of first fixation	The duration of the first fixation inside this area of interest during an interval.	milliseconds

AOI fixation metrics (exclude partial fixations)

These metrics exclude fixations that don't fulfill the criteria for whole fixations (see previous section).

Metric name	Description	Unit
Average Duration of whole fixations	The average duration of the fixations inside this area of interest during an interval.	milliseconds
Minimum duration of whole fixations	The duration of the shortest fixation inside this area of interest during an interval.	milliseconds
Maximum duration of whole fixations	The duration of the longest fixation inside this area of interest during an interval.	milliseconds

Metric name	Description	Unit
Number of whole fixations	The number of fixations occurring in this area of interest during an interval.	number
Time to first whole fixation	The time to the first fixation inside this area of interest during an interval.	milliseconds
Duration of first whole fixation	The duration of the first fixation inside this area of interest during an interval.	milliseconds

AOI visit metrics

An AOI visit corresponds to all the data between the start of the first fixation inside and AOI to the end of the last fixation in the same AOI. From the first fixation inside the AOI until the last fixation inside the AOI, all data is considered as part of the AOI visit (even saccades, blinks or invalid gaze data).

AOI visit metrics allow you to measure statistics based on visits inside an AOI (e.g. calculating revisiting rate of an AOI).

Metric name	Description	Unit
Total duration of Visit	The total duration of the visits inside this area of interest during an interval.	milliseconds
Average duration of Visit	The average duration of the visits inside this area of interest during an interval.	milliseconds
Minimum duration of Visit	The duration of the shortest Visit inside this area of interest during an interval.	milliseconds
Maximum duration of Visit	The duration of the longest Visit inside this area of interest during an interval.	milliseconds
Number of Visits	The number of visits occurring in this area of interest during an interval.	number
Time to first Visit	Time in milliseconds to the first Visit inside this area of interest during an interval.	milliseconds
Duration of first Visit	The duration of the first Visit inside this area of interest during an interval.	milliseconds

AOI glance metrics

All data is considered to be part of the AOI glance (even saccades, blinks or invalid gaze data) from the first saccade leading into the AOI until the last fixation inside the AOI.

Metric name	Description	Unit
Total duration of Glances	The total duration of the glances inside this area of interest during an interval.	milliseconds
Average duration of Glances	The average duration of the glances inside this area of interest during an interval.	milliseconds
Minimum duration of Glances	The duration of the shortest glance inside this area of interest during an interval.	milliseconds
Maximum duration of Glances	The duration of the longest glance inside this area of interest during an interval.	milliseconds
Number of Glances	The number of glances occurring in this area of interest during an interval.	number
Time to first Glance	Time in milliseconds to the first Glance inside this area of interest during an interval.	milliseconds
Duration of first Glance	The duration of the first Glance inside this area of interest during an interval.	milliseconds

AOI click metrics

One click is defined as the combination of when the participant presses the primary (left or right) button of the mouse, and when he or she releases it again.

Metric name	Description	Unit
Number of clicks	The number of clicks in this area of interest during an interval.	number
Time to first click	The time to the first click inside this area of interest during an interval.	milliseconds
Time from first fixation to mouse click	Time from first fixation to the next mouse click inside this area of interest during an interval.	milliseconds

GSR metrics

SCRs can be generated as a response to an specific event (e.g., visual stimulus or unexpected question) known as event-related SCR (ER-SCR). ER-SCRs are the most common measure used in research to relate changes in emotional arousal to a specific stimuli. A good stimulus design that allows enough time between stimuli is necessary to avoid uncertainties about which stimulus caused a specific ER-SCR.

Metric name	Description	Unit
Average GSR	The average galvanic skin response (GSR) signal, after filtering, for an interval.	microsiemens
Amplitude of event related SCR	The amplitude of each event-related skin conductance response (ER-SCR) for an interval. ER-SCRs are calculated using filtered GSR data.	microsiemens
Number of GSR	The number of skin conductance responses (SCR) for an interval.	number

Saccade metrics

Saccade metrics let you measure statistics based on saccades within an interval (occurrence of a TOI). You can get general indicators on the velocity, amplitude and direction of saccades.



Note: If you have unrecognizable data, try adjusting the fixation filter settings. This is not a problem that can be fixed in the metrics.

* metrics not available for the AOI-based TSV file format have an asterisk

Metric name	Description	Unit
Number of saccades*	The number of saccades occurring during an interval.	number
Average peak velocity of saccades*	The average peak velocity of all saccades in this interval.	degrees per second
Minimum peak velocity of saccades*	The peak velocity of the saccade with the lowest peak velocity in this interval.	degrees per second
Maximum peak velocity of saccades*	The peak velocity of the saccade with the highest peak velocity in this interval.	degrees per second
Standard deviation of peak velocity of saccades*	The standard deviation of all peak velocities of the saccades in this interval.	degrees per second
Average amplitude of saccades*	The average amplitude of all saccades in this interval.	degree
Minimum amplitude of saccades*	The amplitude of the saccade with the lowest amplitude in this interval.	degree
Maximum amplitude of saccades*	The amplitude of the saccade with the highest amplitude in this interval.	degree
Total amplitude of saccades*	The total amplitude of all saccades in this interval.	degree

Metric name	Description	Unit
Time to first saccade*	The time to the first saccade during an interval.	milliseconds
Direction of first saccade*	The direction of the first saccade in the interval.	degree
Peak velocity of the first saccade*	The peak velocity of the first saccade in the interval.	degrees per second
Average velocity of the first saccade*	The average velocity of the first saccade in the interval.	degrees per second
Amplitude of the first saccade*	The amplitude of the first saccade in the interval.	degree

* metrics not available for the AOI-based TSV file format have an asterisk

AOI saccade metrics

AOI saccades are saccades that start, end, or are within an AOI. AOI saccade metrics let you measure statistics based on saccades within an AOI. You can get general indicators on the velocity, amplitude and direction of these saccades..

Metric name	Description	Unit
Number of saccades in AOI	The number of saccades occurring in this area of interest during an interval.	number
Time to entry saccade	The duration until the start of the first saccade that ends in this area of interest during an interval.	milliseconds
Time to exit saccade	The duration until the start of the first saccade that exits this area of interest during an interval.	milliseconds
Peak velocity of entry saccade	The peak velocity of the first saccade that ends in this area of interest during an interval.	degrees per second
Peak velocity of exit saccade	The peak velocity of the first saccade that exits this area of interest during an interval.	degrees per second

2.3.3 Metrics export: Microsoft Excel file

This format presents the metrics in an aggregated form, intended to be viewed directly in Microsoft Excel. Every metric is presented as a separate sheet in the Excel workbook. It contains tables showing the results, including averages and totals, for every time of interest.

The metrics available for export to an Excel report are shown in the table below:



All Glance metrics comply with ISO 15007–1.

Interval metrics

AOI saccades are saccades that start, end, or are within an AOI. AOI saccade metrics let you measure statistics based on saccades within an AOI. You can get general indicators on the velocity, amplitude and direction of these saccades.

Metric name	Description	Unit
Duration of interval	The duration of all time intervals for each Time of Interest, with averages, medians, sums, counts, variances, and standard deviations.	seconds
Start of interval	The start time of all time intervals for each Time of Interest, with averages, medians, and counts, variances, and standard deviations.	seconds

Event metrics

Events can also be used in measures. Event metrics let you measure statistics based on your event coding scheme.

Metric name	Description	Unit
Number of events	The number of Events, including Custom Event Types and Logged live Events, for each Time of Interest, with averages, medians, counts, variances, and standard deviations (n-1). Descriptive statistics only include recordings where Events occur.	number
Number of events (include zeroes)	The number of Events, including Custom Event Types and Logged live Events, for each Time of Interest, with averages, medians, counts, variances, and standard deviations (n-1). Descriptive statistics only include recordings where Events occur.	number
Time To First Event	The time to the first Event, including Custom Events and Logged live Events, for each Time of Interest, with averages, medians, counts, variances, and standard deviations (n-1).	seconds

AOI fixation metrics

AOI fixations correspond to fixations that fall within an AOI. The fixations are defined based on the gaze filter you use (e.g. if you use the Raw gaze filter, every valid eye tracking sample is a fixation). AOI fixations metrics will allow you to measure statistics based on the fixations within an AOI. They are specific intervals (or occurrences) of the TOI and each one will be on its own row in the exported TSV file.

Metric name	Description	Unit
Total duration of fixation in AOI	The total time each participant has fixated each AOI on all Media, with averages, medians, sums, variance, and standard deviations (n-1); the share of total time spent on each AOI out of all AOIs; and the percentage of Participants that fixated within each AOI at least once. Descriptive statistics are only based on Recordings with fixations within the AOIs.	seconds
Total duration of fixation in AOI (include zeroes)	The total time each participant has fixated on each AOI on all Media, with averages, medians, sums, variance, and standard deviations (n-1); the share of total time spent on each AOI out of all AOIs; and the percentage of Participants that fixated within each AOI at least once. Descriptive statistics also include Recordings with zero fixations within the AOIs.	seconds
Average duration of fixation in AOI	The average duration of the fixations within each AOI on all Media, with averages, medians, variances, and standard deviations (n-1); the total Time of Interest; and Recording durations.	seconds
Number of fixations in AOI	The number of fixations within each AOI on all Media, with averages, medians, sums, variances, and standard deviations (n-1); the percentage of Participants that visited each AOI at least once; total number of fixations within the Time of Interest; and the total Time of Interest and Record durations. Descriptive statistics are only based on Recordings with fixations within the AOIs.	number
Number of fixations in AOI (include zeroes)	The number of fixations within each AOI on all Media, with averages, medians, sums, variances, and standard deviations (n-1); the percentage of Participants that visited each AOI at least once; total number of fixations within the Time of Interest; and the total Time of Interest and Record durations. Descriptive statistics are only based on Recordings with zero fixations within the AOIs.	number

Metric name	Description	Unit
Time to first fixation in AOI	The time to first fixation for each AOI on all media, with averages, medians, counts, variances, standard deviations (n-1) and Recording durations.	seconds
Duration of first fixation in AOI	The duration of the first fixation for each AOI on all media, with averages, medians, counts, variances, standard deviations (n-1) and Recording durations.	seconds

AOI visit metrics

AOI visit metrics allow you to measure statistics based on visits inside an AOI (e.g. calculate revisiting rate of an AOI).

Metric name	Description	Unit
Total duration of Visit	The total time each participant has visited each AOI on all Media, with averages, medians, and sums; the share of total time spent in each AOI out of all AOIs; and the percentage of Participants that visited each AOI at least once. Descriptive statistics are only based on recordings with fixations within the AOIs.	seconds
Total duration of Visit (include zeroes)	The total time each participant has visited each AOI on all Media, with averages, medians, and sums; the share of total time spent in each AOI out of all AOIs; and the percentage of Participants that visited each AOI at least once. Descriptive statistics also include Recordings with zero fixations within the AOIs.	seconds
Average duration of Visit	The average duration each participant has visited each AOI on all Media; with averages, medians, sums, variances, and standard deviations (n-1).	seconds
Number of Visits	The number of visits within each AOI on all Media, with averages and medians; and the percentage of Participants that fixated within each AOI at least once. Descriptive statistics are based on Recordings with fixations within the AOIs.	number
Number of Visits (include zeroes)	The number of visits within each AOI on all Media, with averages and medians; and the percentage of Participants that fixated within each AOI at least once. Descriptive statistics also include Recordings with zero fixations within the AOIs.	number

AOI click metrics

One click is defined as the combination of when the participant presses the primary (left or right) button of the mouse, and when he or she releases it again.

Metric name	Description	Unit
Number of clicks in AOI	The number of clicks within each AOI on all Media, with averages, medians, variances, and standard deviations (n-1); and the percentage of Participants that clicked within each AOI at least once. Descriptive statistics only based on Recordings with fixations within the AOIs.	number
Number of clicks in AOI (include zeroes)	The number of clicks within each AOI on all Media, with averages, medians, variances, and standard deviations (n-1); and the percentage of Participants that clicked within each AOI at least once. Descriptive statistics also include Recordings with zero clicks within the AOIs.	number
Time to first click in AOI	The time to first mouse click for each AOI on all Media, with averages, medians, counts, variances, standard deviations (n-1) and Recording durations.	seconds
Time from first fixation to mouse click in AOI	The time from first mouse click for each AOI on all Media, with averages, medians, counts, variances, standard deviations (n-1) Recording durations, and the percentage of Participants that fixated and then clicked within each AOI at least once.	seconds

GSR metrics

SCRs can be generated as a response to a specific event (e.g., visual stimulus or unexpected question) known as event-related SCR (ER-SCR). ER-SCRs are the most common measure used in research to relate changes in emotional arousal to a specific stimuli. A good stimulus design that allows enough time between stimuli is necessary to avoid uncertainties about which stimulus caused a specific ER-SCR.

Metric name	Description	Unit
GSR Average	The average galvanic skin response (GSR) signal, after filtering, for each Time of Interest, with averages, medians, and counts for each participant.	microsiemens
ER-SCR amplitude	The amplitude of each event-related skin conductance response (ER-SCR) for each Interval in Time of Interest, with mean amplitudes, mean magnitudes, response frequencies, and counts for each participant. Time of Interest intervals that do not have an ER-SCR are shown with the symbol “—”. ER-SCRs are calculated using filtered GSR data.	microsiemens
SCR count	The number of skin conductance responses (SCR) for each interval in Time of Interest, with averages, medians, counts, variances, and standard deviations (n-1).	number



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