

Release Notes

Tobii Studio 2.0 release

This release comes with important new features that will enhance the performance and functionality of your Tobii Studio analysis software.

You can now add multiple choice questionnaires to your test, generate Retrospective Think Aloud recordings, and automatically create scenes using events sent by E-Prime.

A new License Key policy is implemented that allows Tobii Studio to be used legally on multiple computers.

**What's New?**

- Use new media - Questionnaire element
- Record and Playback Retrospective Think Aloud (RTA) interviews
- Create automatically scenes using events sent by an external software (E-Prime)
- Preview your media before performing a recording
- Select the display you wish to use to present the stimulus in a dual-display hardware set up
- License key activation

What has improved?

- Added a PDF document view zoom setting. This feature allows you to manually set the size of the pdf document to fit your screen size.
- AOI Statistics calculations fix
- Synchronization between stimulus presentation and gaze data recording has been improved.

Important Notice

In Studio 2.0 a New License key activation procedure is implemented. When you install and start Tobii Studio 2.0 you need to insert your user license key, if your old reference number does not work press the Activate Later button on the License Data dialog box -> open a project -> and follow the Manual Activation procedure (read instructions on page 11) in order to obtain a new License Key.

Tobii Studio 2.0 Release Notes

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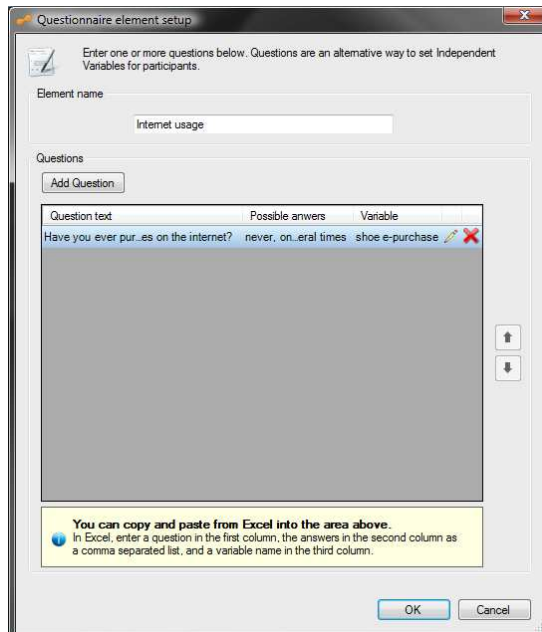
1 New Features

1.1 Questionnaire media element

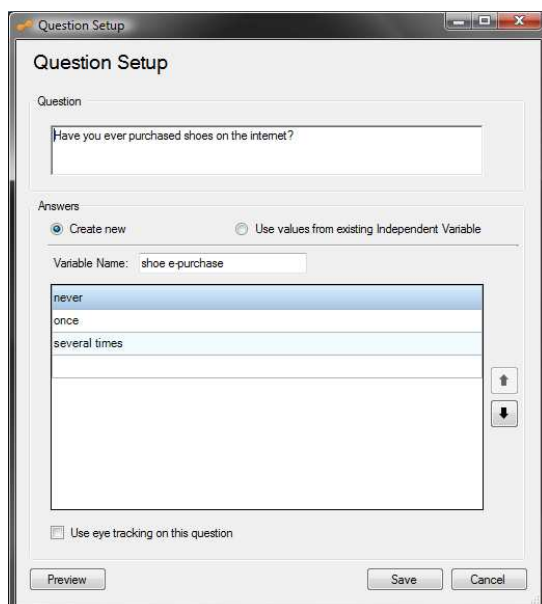
Present a set of multiple choice questions (single answer) during a Tobii Studio test for participants to answer. The questionnaire element is placed as a stimulus on Tobii Studio Design and Recording view timeline. The answers to the questionnaire can later be used as independent variables to filter the eye tracking data on visualizations and descriptive statistics reports.

1.1.1 Adding a Questionnaire element

1. Drag the Questionnaire icon from the Design and Record tab to the drop area on the timeline to open the Questionnaire element setup dialog box.



2. In the Element name text box type a name for the questionnaire element, this name can later be used to identify the element slide on the Design and Record view timeline.
3. Press the Add Question button to open the Question Setup dialog box.



4. In the Question text box type your question.
5. Choose if you wish to create a new answer (click the Create new option) or if you wish to use the values from an existing Independent Variable (click the Use values from existing Independent Variable option).
6. Type or select a name for the variable in the Variable Name combo box (allows you to later identify the answers as variables to filter your data during analysis).
7. Double click in the blue row text field in the Answers list box to type answer. Press enter and click in the next row to add a new answer.
8. Check the Use eye tracking check box if you wish to record the gaze data and allow the questionnaire to be used as media in the Visualizations view.
9. Press the Preview button if you wish to see how the slide will be shown during the test.
10. Press Save to add the question to Questions group box or Cancel to discard the changes.
11. Press Ok to close the Questionnaire element setup dialog box or Cancel to discard the changes.

You can add more than one question to the same element, during the test the questions will be presented as different successive slides starting from the question on the top of the Questions group box to the one on the bottom. To add more questions repeat the procedure from step 3-10.

You can change the order of the questions by selecting it (click on the question to highlight it) and using the arrow buttons located on the right of the Questions group box to move it up or down in the list box.

Click on the  and  icons to edit or delete the questions on the list.

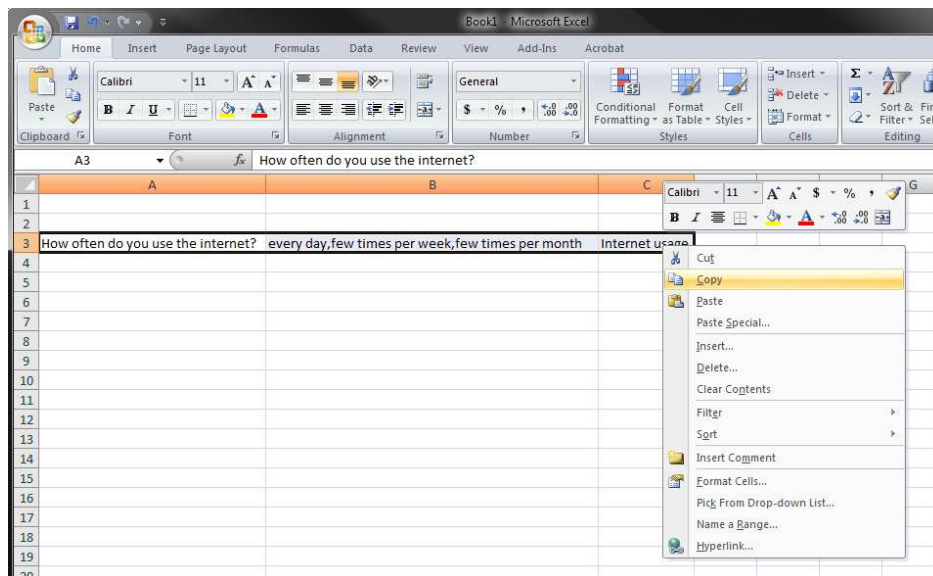
1.1.2 Copying questions from Excel



Create your list of questions in an Excel file and copy it to the Questionnaire element:

1. In Excel write the question text on the first column of the spreadsheet.

	A	B	C	D
1				
2				
3	How often do you use the internet?	every day,few times per week,few times per month	Internet usage	
4				
5				
6				
7				

2. In the same row and in the next column, type the answers separated by a comma.
3. Type a name for the variable in a third column.
4. Select the three cells and copy.



5. In Tobii Studio click on or create a new Questionnaire element to open the Questionnaire element setup.
6. Use your keyboard paste short cut keys to add the question to Questions list box.
7. Click on the  and  icons to edit or delete the questions.
8. Press Ok to close the Questionnaire element setup dialog box or Cancel to discard the changes.

1.1.3 Information for ForSight Customers

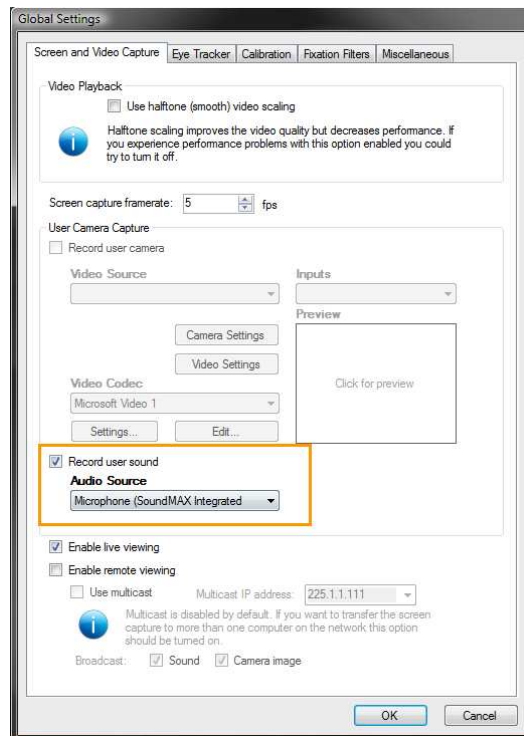
ForSight fees are calculated according to the number of respondents and number of stimuli in a Tobii Studio recording. Questionnaires will be included in the usage fees only if enabled for visualizations. In such case the questionnaire will be charged as 1 question = 1 stimulus unit.

1.2 Retrospective Think Aloud (RTA) feature in Replay view

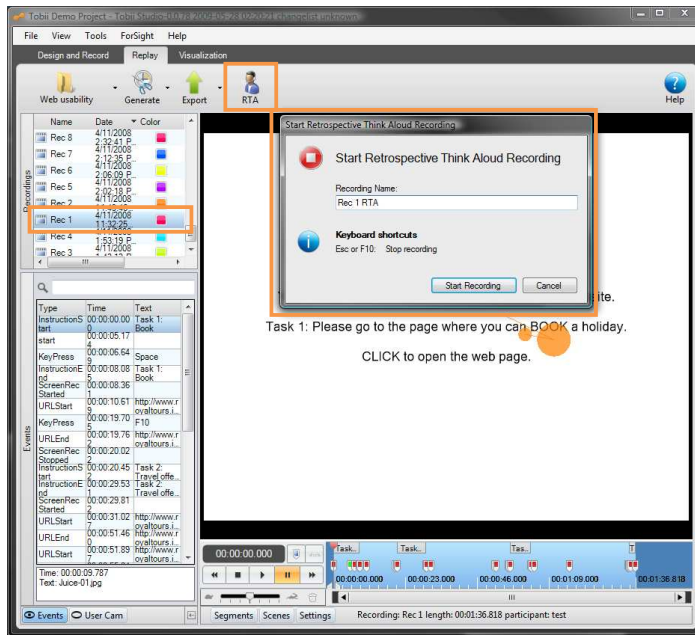
Retrospective Think Aloud (RTA) is a commonly used technique where the test leader follows up an eye tracking usability test with an interview where the subjects explains his/her behaviour during the test. Tobii Studio's RTA feature allows you to conduct and record an RTA interview while showing a playback of the original Tobii Studio recording to subject. The RTA recordings will be available in the recordings list in the Replay view, for playback and further analysis.

1.2.1 Performing an RTA recording in Tobii Studio

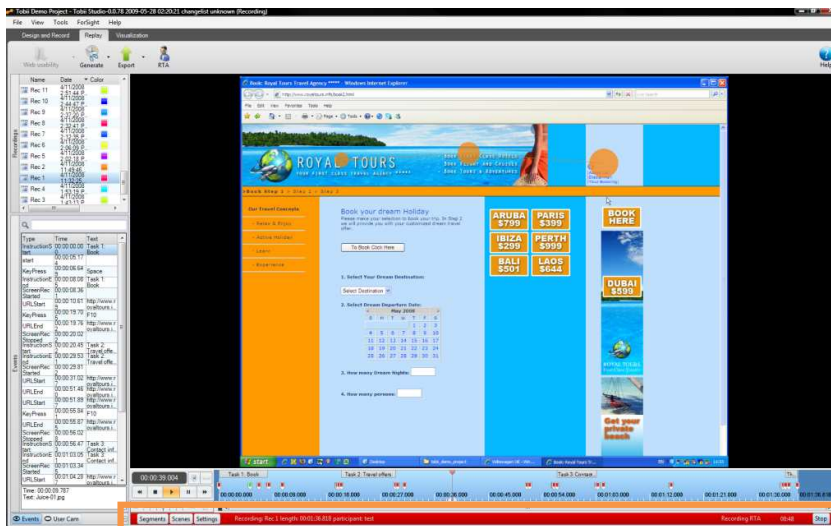
1. Connect a microphone to the computer then go to the Tools menu on Tobii Studio's Main menu and select Settings...



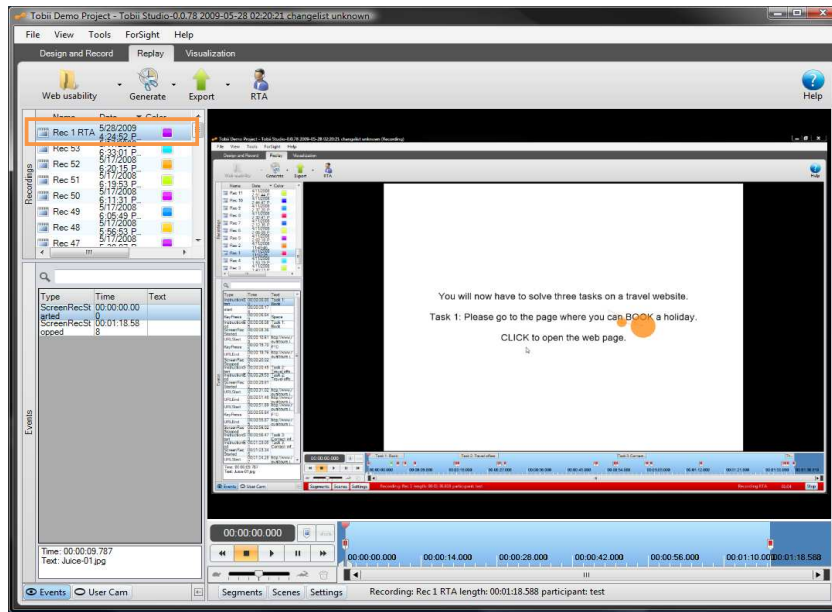
2. In the Screen and Video Capture tab, enable user sound recording by checking the Record user sound check box and selecting your Audio Source (click on the Audio Source drop-down box and select the microphone).
3. Press Ok to accept the changes or Cancel to close the window without changes.
4. In the Replay view select the recording in the Recordings list that you wish to show the subject during the RTA.



5. Press the RTA icon on the Replay tab.
6. In the Start Retrospective Think Aloud Recording dialog box enter a name for the recording on the Recording Name text field. If you do not enter a name for the recording Tobii Studio will name it automatically by using the name of the recording you have selected on step 4 and adding RTA as a suffix.
7. Press Start Recording to start the RTA session. Below the Replay view timeline a red bar shows that you are now in RTA recording mode.



8. During the RTA recording you can use the Replay view playback controls to play the original recording back and forth. Or use any other function and visualization in Tobii Studio (e.g. gaze plots and heatmaps). You can right click on the recording window and select Fullscreen to show the original recording in full screen mode, in this case use the full screen controls to control the playback (read Tobii Studio 1.5 Release Notes for further details on how to control a recording in full screen mode).
9. To stop the recording press the Stop button on the far right side of the red bar, or press the Esc or F10 keys on the keyboard.
10. The RTA recording will then be available in the recordings list on the Replay view. Use the playback controls to view the recording.



RTA recordings can be edited and exported like a normal studio recording. However since no gaze data is collected during the RTA recording you will not be able to use these recordings to create visualizations.

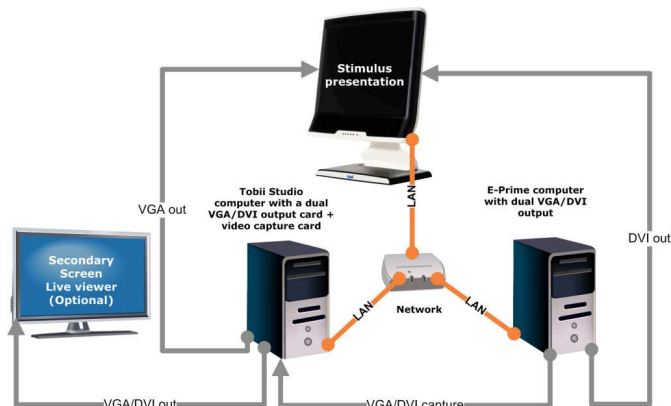
When you start an RTA session with your eye tracker disconnected a warning dialog appears with the following error message: *No such host is known*, ignore the message and press OK to continue your RTA recording.

1.2.2 Information for ForSight customers

ForSight fees are calculated according to the number of respondents and number of stimuli in a Tobii Studio recording. RTA recordings will be charged as a unique recording and per 1 minute recording unit.

1.3 Automatic Scene generation tool for E-Prime Extensions for Tobii (EET ClearView)

This feature currently applies to Tobii Studio and E-Prime software setups, where E-Prime and Tobii Studio are run on separate computers and communicate with the Tobii Eye Tracker Server as well as between each other over a LAN network (TCP/IP protocol). The image or video presented by E-prime on the eye tracker's display is recorded by Tobii Studio and synchronized with the gaze data. The image or video recording is done via a RGB video capture card installed on the Tobii Studio computer. The E- Prime computer sends stimulus related triggers to the Studio computer via the network.

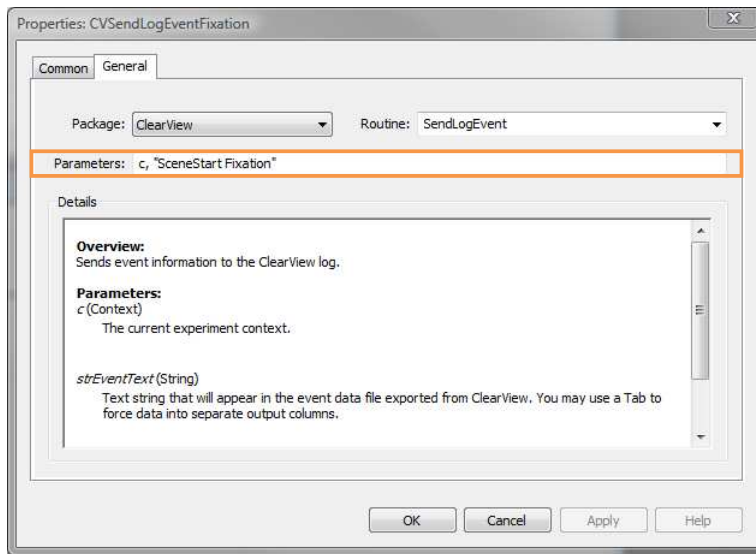


E-Prime Extensions for Tobii (EET) set up example.

This tool can also be used together with other Software that is able to use Clear View's SDK Trigger APIs. For more information on how to build applications that use Clear View's SDK Trigger APIs contact your Tobii Sales representative or Tobii Support.

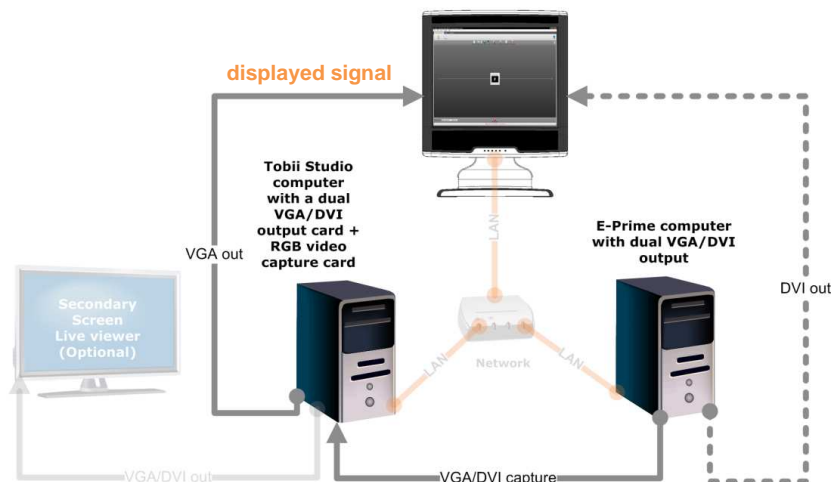
1.3.1 Trigger event format in EET ClearView package

The events send to Tobii Studio must follow a strict format in order for Tobii Studio to interpret them correctly. The format should follow: "SceneStart NameOfTheScene"; "SceneStop NameOfTheScene".

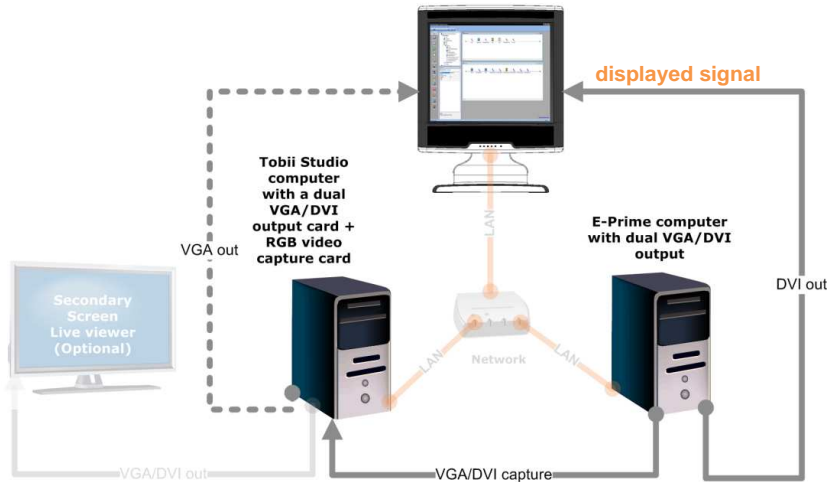


1.3.2 Setting and recording an EET project using ClearView package calls

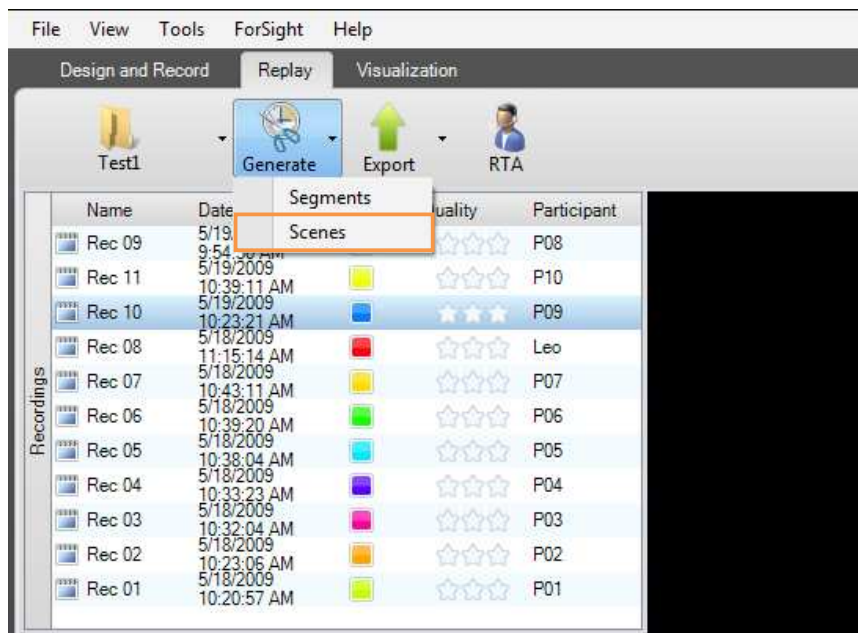
1. Start by displaying the Tobii Studio computer image on the eye tracker's display. This is done by pressing the eye tracker's Source button (located on the front of the eye tracker) or by using an external VGA (or DVI) switch.



2. On the Tobii Studio computer design a test with External Video as stimulus:
3. Make a test recording, to check if Tobii Studio is set correctly to record the video and gaze data.
4. Press the Source button on the eye tracker or the external VGA (or DVI) switch to change the display input to the E-prime computer.

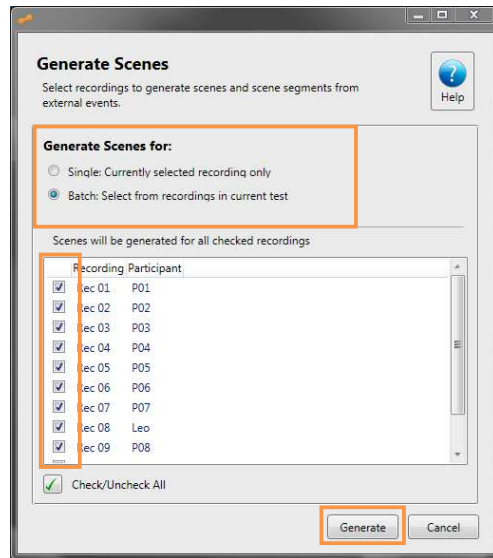


5. Open E-prime and load the E-Prime experiments onto the E-Prime computer.
6. Modify the E-prime experiment so that instead of "localhost", it points to the IP address of the Tobii Studio computer
7. Press the Source button on the eye tracker or the VGA/DVI switch to change the display input to the Tobii Studio computer.
8. On the Tobii Studio Computer, in the Design and Record view of Tobii Studio press the Start Recording button and calibrate. When the calibration process is finished DO NOT press the "start" button to begin recording, the recording will instead be started by E-Prime.
9. Change the display of the eye tracker to the E-prime computer image by pressing the Source button on the eye tracker or the VGA/DVI switch.
10. Select "run" from E-Prime.
11. E-Prime will now start the Tobii Studio recording, and simultaneously start the E-Prime stimulus presentation. During the experiment, E-Prime will send "LogEvents" that will be added to the Tobii Studio recordings.
12. Repeat step 8-12 for all of your test participants.
13. After you're done with the recordings, switch to the Tobii Studio computer, and click on the Replay tab to view the recordings and Events list. The events sent by E-Prime will be visible on the Events list as "SceneStarted" or "SceneEnded" event type, with the scene name on the Text field, and as bookmarks on the recording timeline.
14. Click on the Generate menu in the Replay tab and select Scenes.

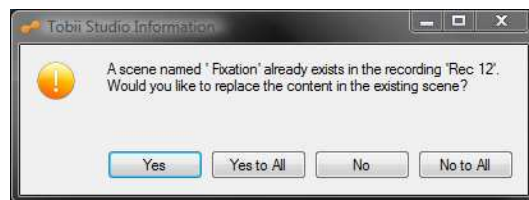


15. Select the recordings to generate the scenes: by clicking on Single, you import only the currently selected recording (the recording highlighted in the recordings list of the Replay view), or Batch if you wish to create

scenes for more than one recording, on the Generate Scenes Dialog box. In the Batch option you can deselect recordings by deselecting the checkboxes in front of each recording name.

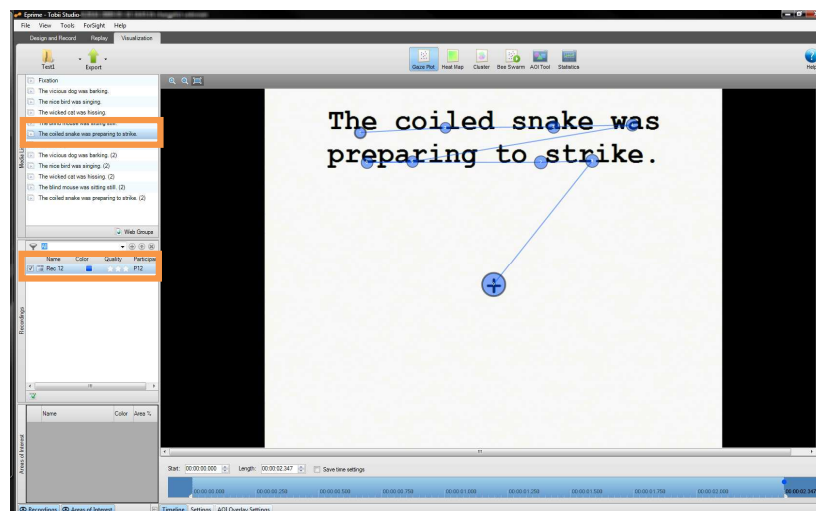


16. Click Generate to create the scenes.
If a recording already contains a scene with the same name as the one being created, a Tobii Studio Information dialog box prompts the user to either replace the existing scene by the newly created one (press Yes), or to continue creating a new scene by adding an identifier to the name (press No), for example, if the old scene is called 'fixation' the new scene will be created as 'fixation(2)'.



Press Yes or No to affect only the scene referred to in the Tobii Studio Information dialog. Press Yes to All or No to All to perform the same action to all scene conflicts.

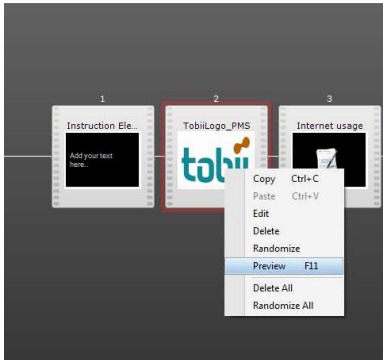
17. Tobii Studio will then segment the video file into scenes that can be used to create AOIs, hot spots and gaze plots for your analysis.
18. To view the scenes go to the Visualization tab and select the scene on the Media list, one or more recordings from the Recordings list and a Visualization from the Visualization tab.



1.4 Full Screen preview of media elements

This feature allows you to check if your stimulus will be presented correctly (e.g. frame size, picture resolution, text size, etc...) on the screen before you run a test.

In Tobii Studio Design and Record view, right click on the element slide and select Preview to show the media element in full screen like in the test.



The Time settings of the media element will not influence the preview time, to end the preview press any key or mouse button.

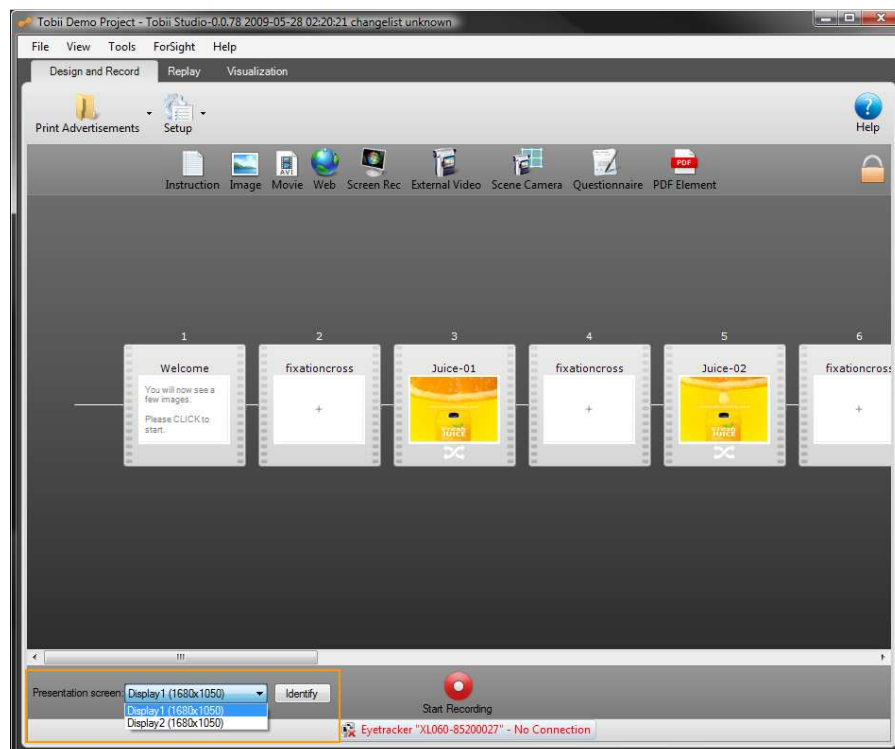
Preview is currently available for the following media types: Instruction, Image, Movie, Questionnaire and PDF.

1.5 Stimulus presentation display selection in a dual-screen setup

Extended desktop dual screen setups are often used to enable a test leader to control the test using one display whilst presenting the stimulus to the test subject using a secondary display.

When using extended desktop dual screen setup, it is now possible to select in Tobii Studio which display you want to use to present the stimulus:

1. In the left bottom corner of the Design and Record view press the Identify button to view which one of displays is set to present the stimulus.



2. If you wish to change the display click on the Presentation screen drop-down combo box and select Display 1 or Display 2. The stimulus will be presented on the display that you select.

Note: Even though you are able to select your stimulus presentation display, Windows and Explorer will often open new windows or pop ups on your primary screen. If you will be performing an eye tracking test that includes internet pop ups, automatic launch of new windows or programs, set your stimulus display to the primary monitor.

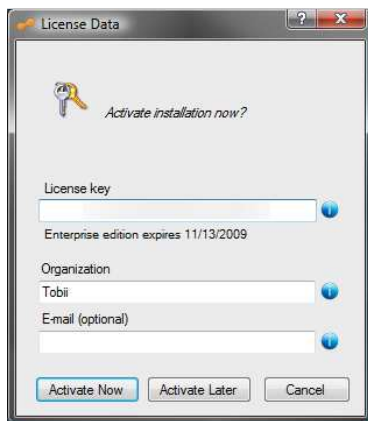
1.6 License Key Activation

Tobii's previous license key policy states that it is not allowed to install Tobii Studio in more than one computer. The new license key policy allows you to use Tobii Studio in multiple computers via license key activation, and at the same time facilitates the legal use of the Tobii Studio software.

Under the new license policy you can install Tobii Studio in several computers and deactivate and reactivate your license key if you wish to use your Tobii Studio software in each computer, however the license can only be activated on one computer at a time. You can also use Tobii Studio during a grace period of 5 days, without license activation, in situations where you are unable to connect your computer to the internet.

1.6.1 Automatic Activation

When opening Tobii Studio enter the new license activation key and click Activate Now.



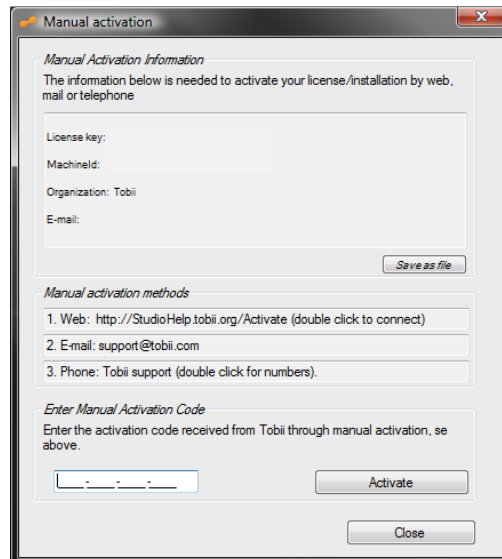
If an error occurs a message will appear stating that you were not able to activate Tobii Studio. Press the Yes button to continue to the manual activation or Press No to activate automatically at a later stage.

If you press Activate Later you have a grace period of 5 days, after which you will not be able to launch Tobii Studio without activating your license.

It is also possible to use the automatic activation later if you have pressed the Activate Later button. Open the Help menu in Tobii Studio's main menu and click on Activate License - Automatic.

1.6.2 Manual Activation

1. Start Tobii Studio, in the License Data dialog box press the Activate Later button.
2. Open the Help menu on Tobii Studio's main menu and click on Activate License – Manual... to open the Manual activation dialog box.
3. On the *Manual Activation Information* box you can find the information needed to activate your license, you can save that information on a text file by pressing the *Save as file* button.
4. You can then choose between three methods to activate your license:
 - Open your web browser and access the activation page <http://StudioHelp.tobii.org/Activate> (if possible on a different computer) and enter the License key, Machine Id and Organization information in the designated text fields on the page and press Activate.
 - Send an E-mail to support@tobii.com, the E-mail should contain the information shown in the Manual Activation Information box; Company name, License key and Machine Id.
 - Call Tobii support on one of the phone numbers shown in the manual activation window.

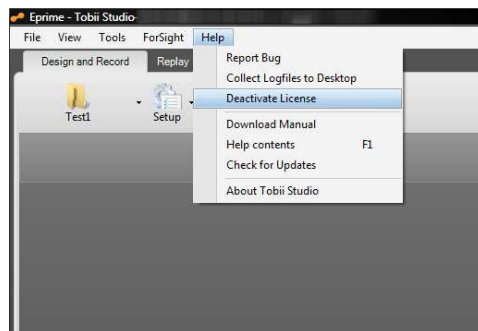


5. An activation code will be obtained from the web page or from support.
6. Enter the activation code in the bottom text field on the *Enter Manual Activation Code* group box. If successful the following message should appear: Thank you for activating Tobii Studio. You may now start using it.
7. Press OK to start using Tobii Studio.

If the activation is not successful, an error message will be shown. Contact support and give them the information shown on the error message.

1.6.3 License Deactivation

1. Open the Help menu on Tobii Studio's main menu and click on Deactivate License.



2. Click Yes in the warning dialog box, wait until it connects to the server.
3. Tobii Studio will shut down.
4. If you start Tobii Studio again you will be prompt to enter a License Activation Key.
5. Press the Activate Now button if you wish to reactivate your license.

1.7 Separate Studio Logger installation

The Tobii Studio Logger can now also be installed separately from the Tobii Studio Software.

The Studio Logger installation file can be downloaded from the Update Server: <http://studiohelp.tobii.org/Updates/>

To download the installation file:

1. Enter your Enterprise License key in the text box and press Login
2. Click on the TobiiStudioLogger 2.02 download link to download the installation file

Once the installation file is downloaded the Studio Logger can be installed on several computers without entering a license key. The Studio Logger can only connect to a Tobii Studio instance with an Enterprise License. The Tobii Studio Logger cannot be installed on a computer where Tobii Studio is already installed.

2 Improvements

2.1 PDF element - new zoom setting

By default Tobii Studio will display a pdf stimulus in its actual size (100% zoom), however it is frequent that the size of the PDF document does not match the test screen size, and if presented at its actual size some parts of the document will not be shown on the screen. In Tobii Studio 2.0 the PDF element Setup has been updated with a new feature in order to deal with such cases, now it is possible to select the zoom size that you wish to use when the document is being viewed during the test.

To set the PDF document size:

1. Create a PDF element, and add the PDF file to the element (For more details read Tobii Studio 1.5 Release Notes)
2. In the PDF Element Setup dialog you will see a group box named Size, click on the Zoom option to manually set the zoom size of the pdf or the Scale to Screen Resolution to automatically set the zoom to match the screen resolution size.
3. Click Preview to see how the stimuli will be presented during the test.
4. To exit the preview mode press ESC.
5. If the size is not correct repeat steps 2 -4.

2.2 AOI-Statistics calculations fix

In some cases fixations have been included in the statistics and text export for **polygon AOIs** even though they were located outside the AOI.

Case 1: When a polygon AOI was drawn with a circular empty area in the middle (see image below) and if the fixation was located exactly in the middle of this circle, the fixation was included in the AOI statistics.



Case 2: When a corner of a polygon AOI was drawn within 15 pixels distance from the middle of a fixation located outside the AOI, but did not cover the centre of the fixation (see image below), the fixation was included on that AOI statistics.



From Tobii Studio 2.0.2, a fixation is only included in the AOI statistics if its center is covered by the AOI.

2.3 Recording timing improvement

Tobii Studio operations are subject to the operative system allocation of memory and processor resources, as a consequence time offsets may occur when recording an eye tracking session. These offsets can vary according to the type of computer used (processor speed, RAM memory, graphics card), third party software installed and running on the computer, type of stimuli used in the test, type of connection to the eye tracker (LAN institution network vs. LAN peer-peer).

However if you are conducting Eye Tracking experiments that require higher time precision some of these offsets can be reduced by following these recommendations:

1. the computer running Tobii Studio should have the least processes running in the background, this means that you should disable or uninstall any unnecessary programs that might be running in the background (Anti-virus software, Firewall software, Anti-Spyware software, Skype or other chat/communication programs) – ideally use the computer only to run Tobii Studio tests and analysis.
2. use Tobii recommend components (computers, graphics cards).
3. for better timing precision in your test use only instructions, images and movies as stimuli.
4. use a peer-peer connection between your computer and the Tobii Eye Tracker

In this version of Tobii Studio the time offset between the stimuli events (image/movie start or stop events) and the gaze data have been improved. Tests performed on a stationary computer - Dell Precision T5400 Intel Xeon Processor E5420 (2.5 GHz) with 4GB internal memory and a NVIDIA Quadro FX570 256MB graphics card – and using images, movies and instructions as stimulus, indicate that these offsets are now below 50 ms.

The tables below show a summary of the test results, there is a clear improvement on the offset when the tests are run using Tobii Studio version 1.6.0 (the same changes were incorporated in Tobii Studio 2.0) compared to Tobii Studio version 1.5.8 (Tables 1 and 2). Both versions of Tobii Studio perform less well when the operative system is Windows Vista (Table 3), however Tobii Studio 1.6.0 still maintains a time offset performance below 50 ms. The offset under Windows Vista can be reduced by using the Windows Vista Classic settings.

Table 1. Tobii Studio 1.6.0, Windows XP SP3: Test results of the time offset between when images and movies are shown on the display and the time stamp made by Tobii Studio.

Studio Version	OS	Eye tracker	Computer ¹	Stimuli	Size	Graphics card	Resolution	Mean (ms)	MAX (ms)	MIN (ms)
1.6.0	XP	T120	Stationary	JPEG_image	574 kB	Nvidia	1280x1024	7.5	20.2	-5.8
1.6.0	XP	T120	Stationary	BMP_image	3,75 MB	Nvidia	1280x1024	9.2	22.1	-7.0
1.6.0	XP	T120	Stationary	Techsmith_movie	171 MB	Nvidia	1280x1024	15.4	31.7	4.3
1.6.0	XP	T120	Stationary	Xvid_movie	5,53 MB	Nvidia	1280x1024	4.7	22.6	-12.9

Table 2. Tobii Studio version 1.5.8, Windows XP SP3: Test results of the time offsets between when images and movies are shown on the display and the time stamp made by Tobii Studio.

Studio Version	OS	Eye tracker	Computer ¹	Stimuli	Size	Graphics card	Resolution	Mean (ms)	MAX (ms)	MIN (ms)
1.5.8	XP	T120	Stationary	JPEG_image	32,0 kB	Nvidia	1280x1024	44.3	58.4	27.7
1.5.8	XP	T120	Stationary	BMP_image	3,75 MB	Nvidia	1280x1024	45.5	59.1	31.3
1.5.8	XP	T120	Stationary	Techsmith_movie	171 MB	Nvidia	1280x1024	84.8	95.9	68.1
1.5.8	XP	T120	Stationary	Xvid_movie	5,53 MB	Nvidia	1280x1024	71.7	95.4	56.6

Table 3. Comparison between Tobii Studio versions 1.5.8 and 1.6.0 using Windows Vista Business SP2: Test results of the time offsets between when movies are shown on the display and the time stamp made by Tobii Studio.

Studio Version	OS	Eye tracker	Computer ¹	Stimuli	Size	Graphics card	Resolution	Mean (ms)	MAX (ms)	MIN (ms)
1.5.8	Vista	T120	Stationary	Techsmith_movie	171 MB	Nvidia	1280x1024	74.52	89.88	58.59
1.6.0	Vista	T120	Stationary	Techsmith_movie	171 MB	Nvidia	1280x1024	30.06	42.16	19.66

¹Stationary computer specifications:

- Dell precision T5400 Intel Xeon Processor E5420 (2.5 GHz)
- 4GB internal memory
- Graphics card Nvidia Quadro FX570 256MB (Driver versions: 186.18_quadro_winxp_32bit and 186.18_quadro_winvista_32bit)
- Operative System - Windows XP (Service Pack 3) or Windows Vista Business (Service Pack 1)

2.3.1 Changes in Tobii Studio 2.0

Tobii Studio uses a series of commands to send images or movies to the computer's graphics card. In order to obtain a better timing, the time stamps related to the image display and movie events were set to be created as close as possible to when the graphics card sends them to the TFT controller.

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