Description of sample projects

FaceReader 10

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Description of FaceReader Sample Projects

You can download two example projects from your MyNoldus account: https://my.noldus.com. These are examples of projects made with FaceReader.

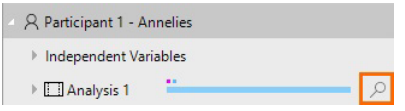
To open the sample experiments:

1. Download the project files and the video files.
2. In FaceReader, choose **File** > **Open Project**.
3. Select the appropriate **.frx** file and click **Open**.

FACEREADER SAMPLE PROJECT - TWO STIMULI

In the project, five test participants were shown two video fragments. One video fragment shows baby twins that are feeding each other and the other shows a big pan with insects being fried.

To view the analysis of the facial expressions of one of the test participants, click the magnifying glass button next to **Analysis 1** for that participant.



Click **Yes** when FaceReader indicates that it cannot find the video of the participant's face, browse to the location in which you stored it, select it and click **Open**.

The **Analysis Visualization** window shows the recording of the test participant's face while watching the video fragments. The other windows show FaceReader's analyses. Click the **Select window** button in the top-right corner of one of the windows to select other

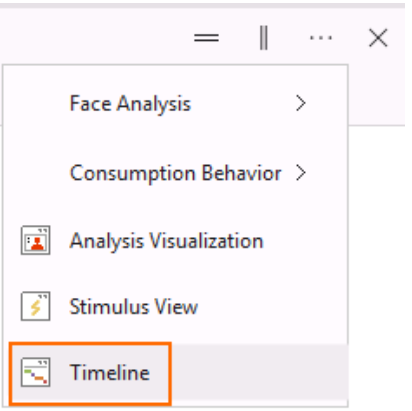
visualization options. See FaceReader's Output in the FaceReader Help for an overview of the visualization options.

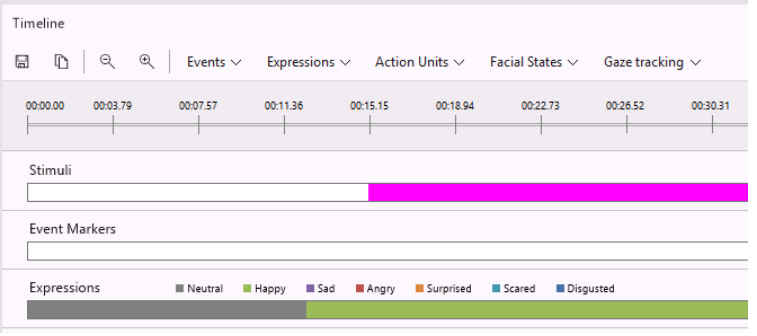
Play the video to, for example, watch the effect of the videos on the facial expressions of test participant 1. For this participant, the video fragment with baby twins starts at 00:03:97 and stops at 00:29:13. The video fragment with the insects that are fried starts at 00:38:00 and stops at 01:07:90.

WITH THE ACTION UNIT MODULE

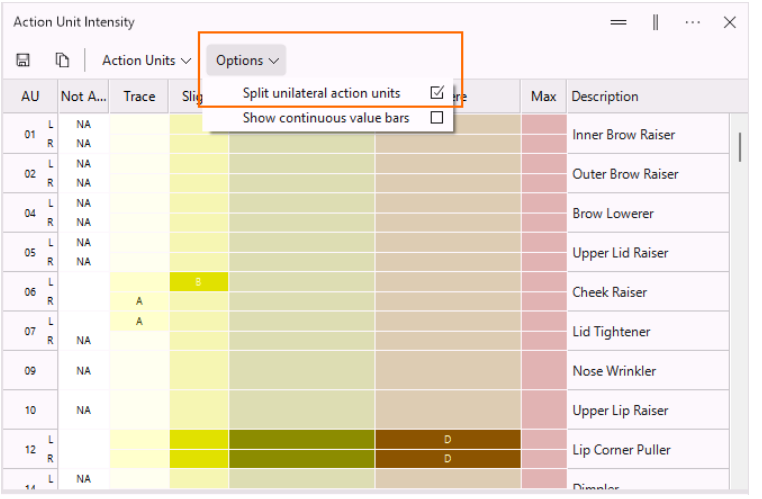
Action Units are muscles or muscle groups in the face that are responsible for facial expressions. The Action Units are described in the Facial Action Coding System (FACS) that was published in 1978 by Ekman and Friesen. If your FaceReader license includes the Action Unit Module, you can view the Action Units from the test participants in the sample project.

Open one of the analyses by clicking the magnifying glass button next to **Analysis 1** for that participant. The action units are displayed in the **Timeline**. Select the Timeline from the list for the bottom-right window.

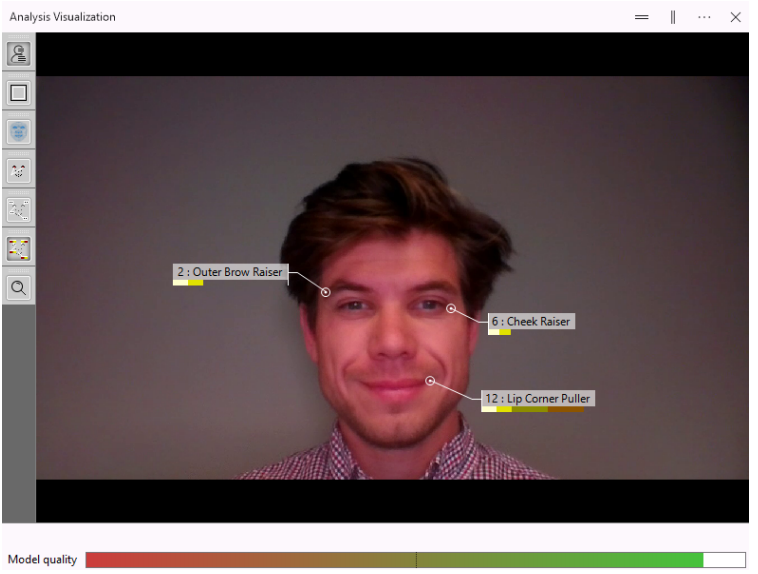




To view the intensity of each action unit, while playing the video, select **Action Unit Intensity** in one of the windows. These intensities are shown by consecutive letters from A (trace) to E (max). From the **Action Units** list, choose which ones to display. To display action units separately for the left and right side of the face (if applicable), click **Options,** and then **Split unilateral action units**.



To show the intensity of the action units in the **Analysis Visualization** window, click on the **Show action units** button.



PROJECT ANALYSIS MODULE

If you have the Project Analysis Module, you can analyze the facial expressions of participants groups. These groups can be created manually, or can be based on the values of independent variables. In the Project Analysis Module it is also possible to mark episodes of interest as stimuli or event markers and to analyze these episodes.

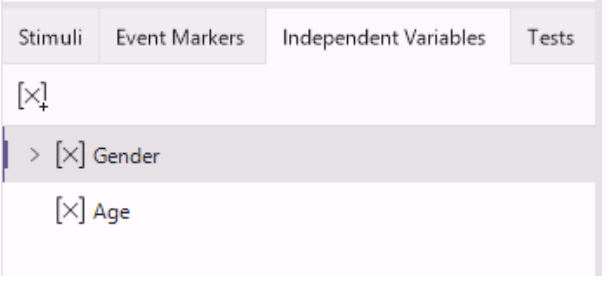
Stimuli

The **Stimuli** tab in the bottom-left window shows two stimuli present in this sample experiment:

- **Twins Eating** – The video fragment in which two baby twins feed each other.
- **Frying Insects** – The video fragment of a big pan in which insects are fried.

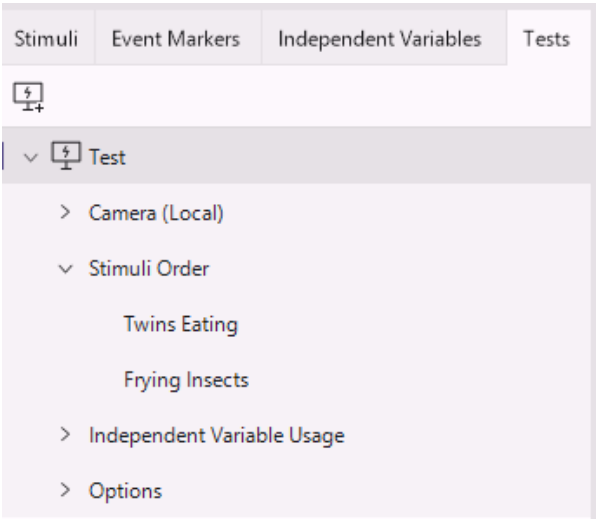
Independent Variables

Open the **Independent Variables** tab in the bottom-left window to view the two independent variables present in this sample experiment: *Age* and *Gender*. These independent variables are present by default. The values are estimated by FaceReader. It is also possible to set them manually. From the **Project** menu you can create additional independent variables.



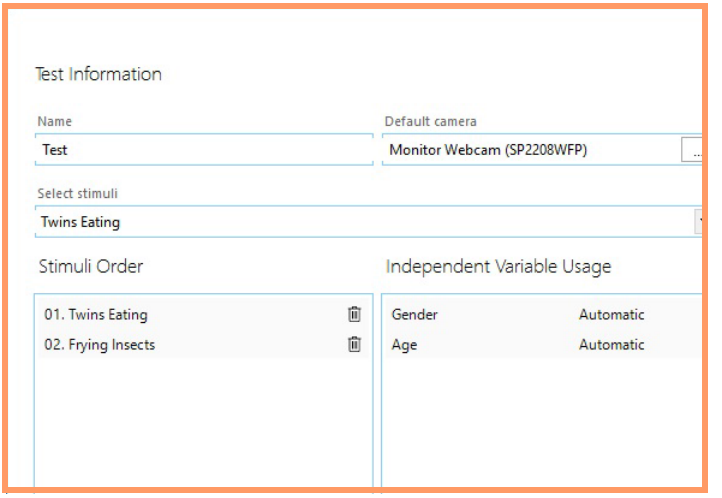
Test

Open the **Tests** tab in the bottom-left window to view the test with the Stimulus Presentation Tool that is defined in this sample experiment.



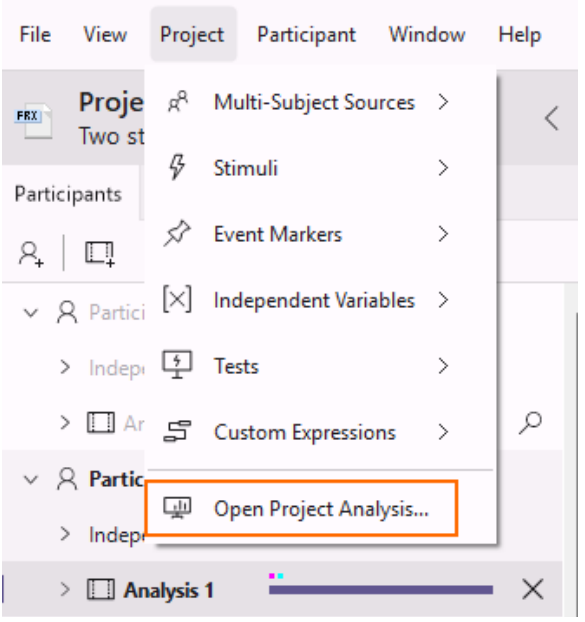
The two stimuli *Twins Eating* and *Frying Insects* are defined in the test. Double click **Test** to view how the test was set up. If you want to run this test with the Stimulus Presentation Tool, change the camera that

was used to create the experiment to your own camera in the **Default camera** field.



Table

The Project Analysis Module makes analysis per participant group possible. To do so, choose **Project > Open Project Analysis**.



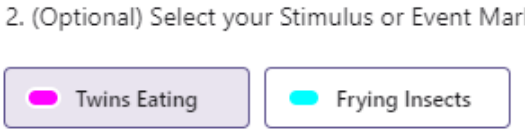
To view a table with the statistics on the analyzed facial expressions and other parameters of all participants, participant groups or single participants, click **Table** and select the data you want to include in your analysis. FaceReader will show a table with the results.

Multiple Participants (N = 5)

Baseline Correction : None | Temporal Aggregation : Mean | Participant Aggregation : Mean

Participant	Neutral	Happy	Sad	Angry	Surprised	Scared	Disgusted
	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Mean	0.4932	0.2832	0.0793	0.0637	0.0314	0.0155	0.0254

To view the results per stimulus click **Table** and select one of the two stimuli.



A new table appears:

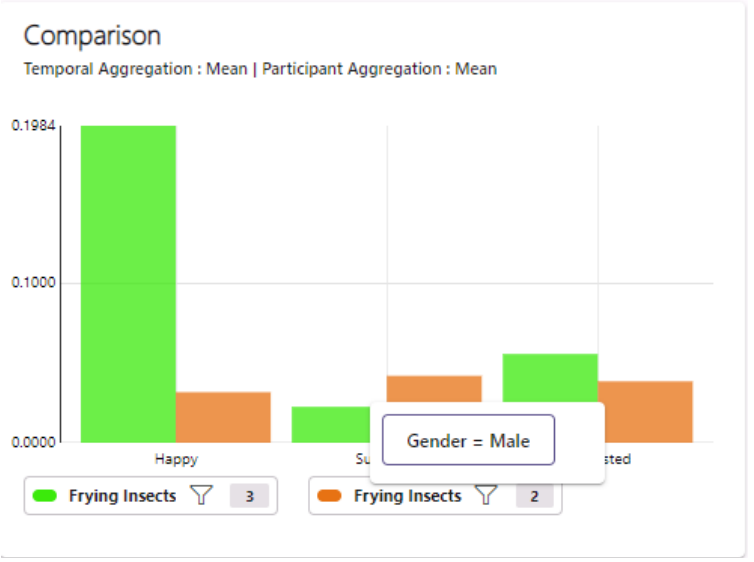
Twins Eating (N = 5)

Baseline Correction : None | Temporal Aggregation : Mean | Participant Aggregation : Mean

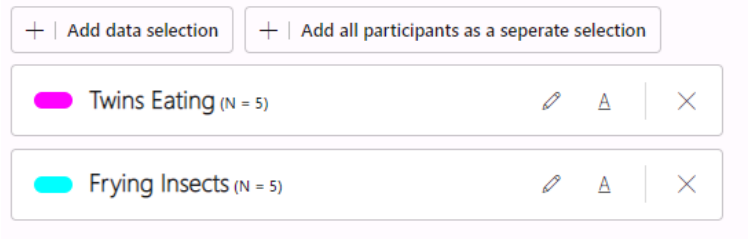
Participant	Neutral	Happy	Sad	Angry	Surprised	Scared	Disgusted
	Mean	Mean	Mean	Mean	Mean	Mean	Mean
Mean	0.3533	0.5025	0.0390	0.0289	0.0244	0.0056	0.0047

Compare participant groups and stimuli

To compare two or more datasets select **Project > Open Project Analysis** and then click **Compare > Add Data Selection** to add the datasets. You can compare, for instance, the facial expressions of the male and female test participants in the project. The chart below shows the average intensities of the facial expressions *Happy Sad* and *Disgusted* for the female (green bars) and male (orange bars) in the project during the *Frying Insects* stimulus.

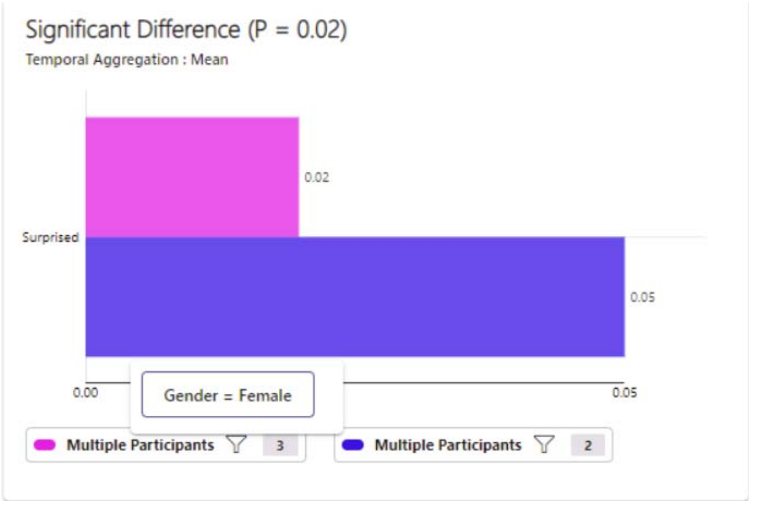


You can also compare the two stimuli.



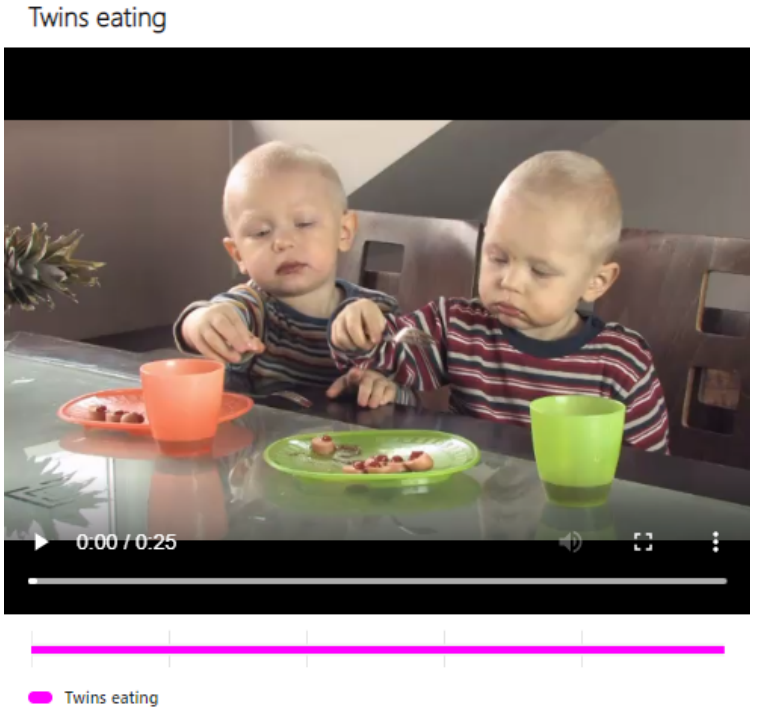
For instance, by tabulating the data. Click one of the rows to test for significant differences. Colored cells indicate significant differences.

Alternatively, you can visualize the significant differences by selecting **Insights**.

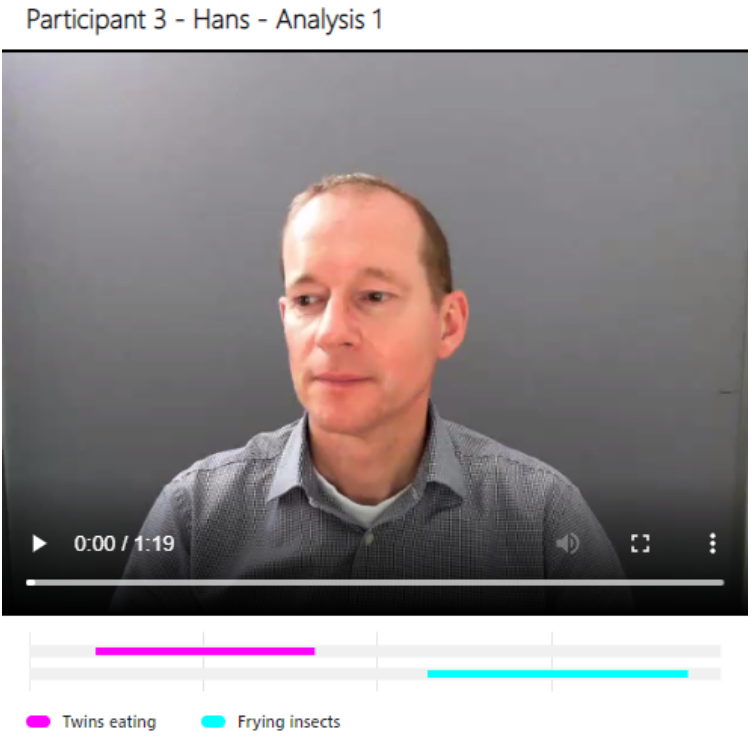


Visualize your stimulus and participant video

To play back one of the stimulus videos together with the video of one of the test participants, choose **Project > Open Project Analysis**, click **Stimulus** and select the stimulus of your choice.



Subsequently, select **Participant** and choose one of the test participants. If necessary, click to convert the participant video.



The participant video will open next to the stimulus video. You can play back the stimulus video together with the participant video. If you like, you can additionally visualize a Line Chart with the facial expressions of the test participants during the stimulus.

WITH THE VITAL SIGNS MODULE

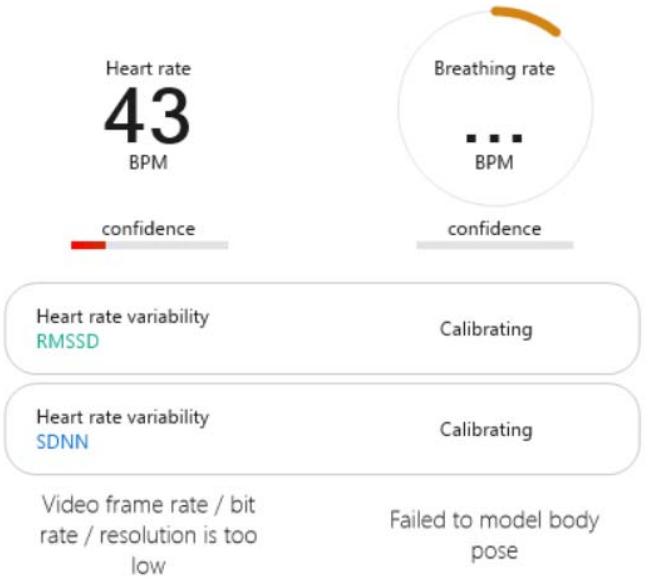
If you have the Vital Signs Module, FaceReader can estimate the test participants' heart rate, heart rate variability and breathing rate. It does so by means of remote PPG (Photoplethysmography) measuring

changes in the reflectance of the skin (heart rate and heart rate variability) and by measuring upper body movement (breathing rate).

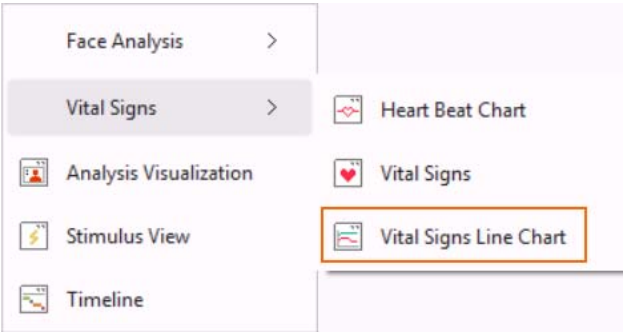
To view the heart rate in the sample project:

Open one of the analyses by clicking the magnifying glass button next to **Analysis 1** for that participant.

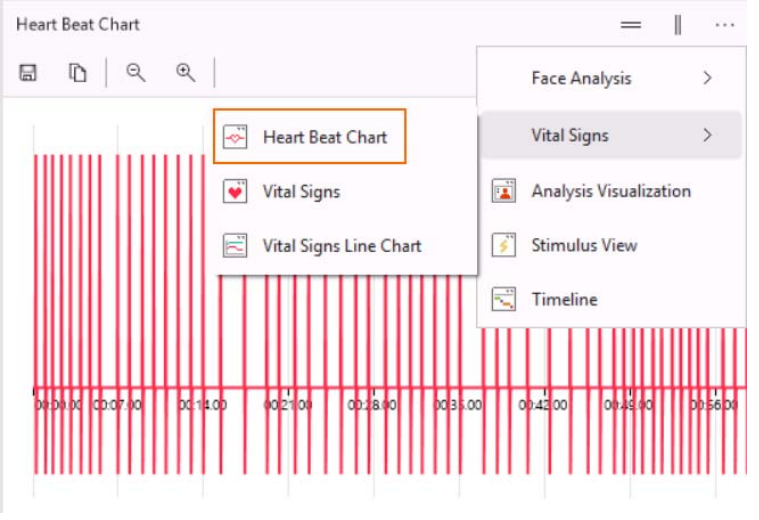
To view the vital signs, while playing the video, select **Vital Signs** and then again **Vital Signs** in one of the windows. Note that the sample project was created with a previous version of FaceReader. It does not meet the quality requirements of FaceReader 10 to estimate heart rate and breathing rate accurately. The tests were too short to measure heart rate variability.



To view a line chart of the vital signs over time, choose **Vital Signs** and then **Vital Signs Line Chart** in one of the windows. Note that the videos are too short for Heart Rate Variability calculation.



To view the heart beats in a graph choose Vital Signs and then **Heart Beat Chart** in one of the windows.



FACEREADER SAMPLE PROJECT - INFRARED RECORDING

In this sample project we filmed a driver in a car driving in the near-dark to illustrate that FaceReader can analyze infrared recordings.

To view the analysis of the facial expressions click the magnifying glass button next to **Analysis 1**. The **Analysis Visualization** window shows the recording of the test participant's face. The other windows show FaceReader's analyses.

Click the **Show mesh** button in the **Analysis Visualization** window to see the 468 landmark points in the face. The axes on the nose indicate the head orientation.

Click the **Show global gaze direction** button in the **Analysis Visualization** window to see the test participant's gaze direction. If this button is disabled then close the project (**File** - **Close Project**) and from the **File** menu select **Settings** and under **Analysis Options** select **Gaze tracking**. Then re-open the project.

Click the **Select Window** button in the top-right corner of one of the windows to select other visualization options. Select, for instance,

Head Orientation Line Chart to see what head orientations FaceReader can deal with or **Gaze Angles LIne Chart**. See FaceReader's Output in the FaceReader Help for an overview of the visualization options.

TECHNICAL SUPPORT

If you have any problems, questions, remarks or comments, please let us know. From the **Help** menu select **Noldus Online** and then **Contact Help Desk** or browse to the MyNoldus section on our website (my.noldus.com). Under **Get Support** you will find the contact details of the help desk in your region.

Note that if you send us videos showing people's faces, you should have permission from those people that you can use the video for that purpose and you may need to sign a form granting consent for us to use those videos.

Before you contact Technical Support, please have the version number and license number of your copy of FaceReader available. To find these numbers, from the **Help** menu select **About**.

Please refer to the **About** > **Contact Noldus** section on our web site (www.noldus.com) for other contact information.