IMOTIONS®

UX and Usability Research

Increase Insights with Biosensors

UX and Usability

UX and Usability

State-of-the-art user experience research

Eye tracking and other biosensors provide deeper insights into human behavior. In UX and usability you can now get objective data to identify problem areas, quantify experiences, understand emotional responses and much more. iMotions provides a tailored UX solution that gives UX professionals the tools needed to elevate their insights.

- Get objective data on actual human experiences
- Measure non-verbal emotional responses
- Understand visual attention and cognitive state

With the iMotions UX and Usability solution you can take your insights of nonverbal user experience to the next level.

Some of the companies using iMotions in their UX and usability work..

How iMotions is used for UX testing

Versatile Solution for web, mobile, and physical product testing

UX and usability professionals use the iMotions UX solution in a wide range of scenarios. These include:

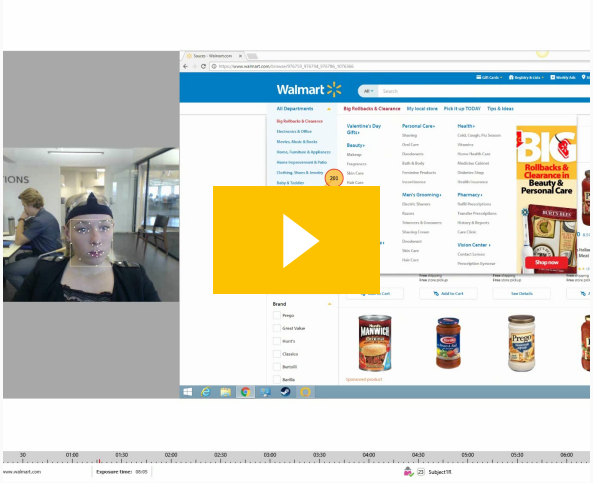
- Website usability
- Mobile device usability
- Game usability
- Software Application usability
- Product usability
- VR experience and usability

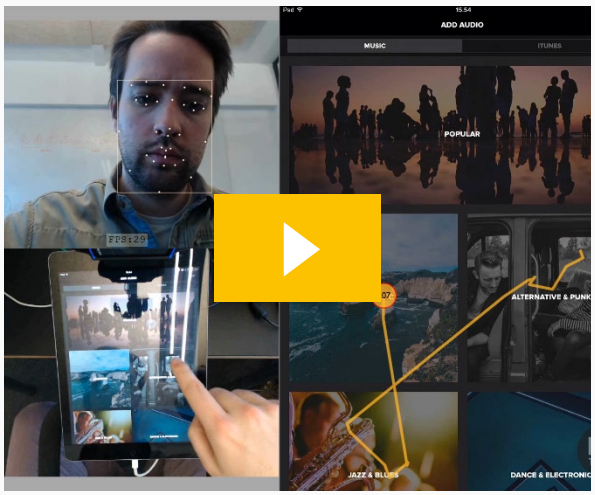
Adding eye tracking and biosensors with objective data gives additional value that allows for new test types. Examples of key test types our clients are using include:

Experience measurement

Gain better insights into a user's experience. By understanding visual attention and changes in emotional responses, you can better identify what is working well in the experience, and what may be points of potential frustration.

Watch the video to the right for an example of how the user journey can be followed.





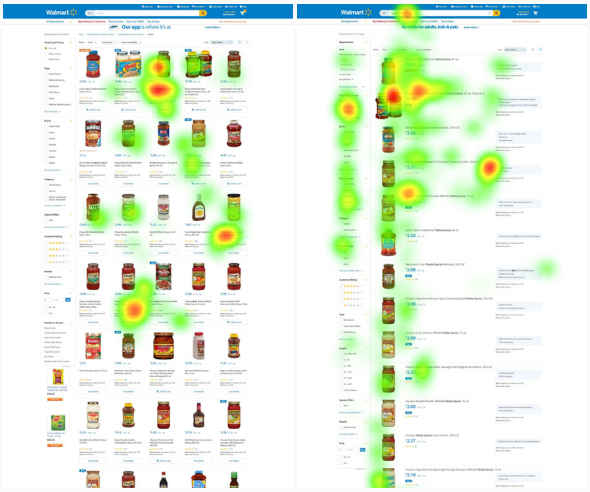
Quantify impact

Predict future impact by getting deeper insights into user behavior.

Watch the video to the left to see an excerpt of a user's journey, as well as some of the metrics that are collected.

Diagnosis of problem areas

It's important to get as much data as possible if something doesn't work as intended, in order to understand why things don't work. Diagnosis with biosensors can help this process be faster and more focused.

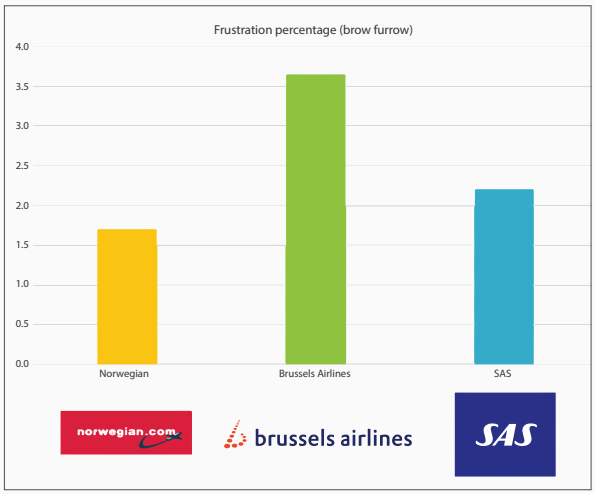


A/B testing

Objective data makes A/B testing more powerful. Easily determine the best performing version with quantitative data.

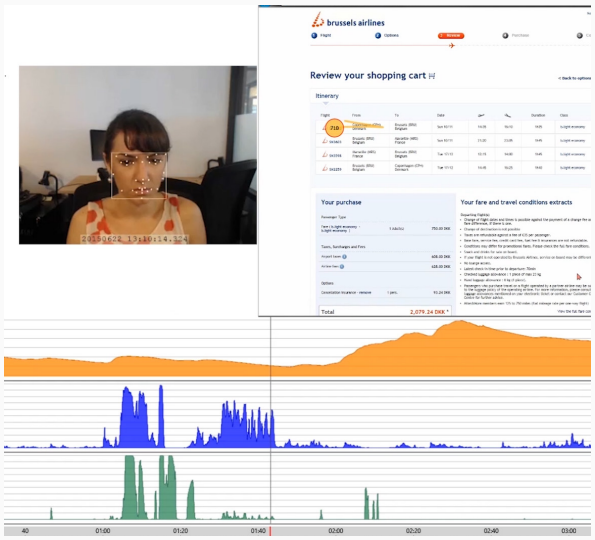
Benchmarking

Benchmark experiences up against competition and get quantitative data to differentiate actual differences clearly.



UX and Usability Research Benefits

Go beyond traditional methods



Get deeper insights into user experience

Objectively measure what humans do, feel and say, and get a fuller picture of the user's experience. Using eye tracking and facial expressions gives you access to a great range of data that provides a more empirical understanding of behavioral patterns.

Measure non-verbalized emotions and feelings

Individuals are not always aware of the brain-based responses that underlie decision making. These responses ultimately drive user behavior. By measuring things like emotional relevance, brow furrow, smiling, and visual attention, researchers can better identify what works well and what does not, in order to best optimize the user experience.

Understand visual attention and cognitive states

Adding eye tracking and other psychophysiological measurements such as facial expression analysis, GSR, and EEG provides a deeper understanding of users' nonconscious attention and cognition. With these measurements, it's easier to understand where users look, their level of cognitive workload, and their nonverbal responses.

Super charge existing qualitative methods

Augment your existing qualitative methods with eye tracking and other biosensors to objectively quantify users' behavior. Quantify attention and emotions in already existing sessions.

Add quantitative methods to UX

With the iMotions UX solution it's easy to create quantitative experiments. All objective data can be effortlessly collected, and aggregating data is fast. Deliver strong reports and arguments for significant UX changes and make better decisions based on behavioral data.

Versatile testing: websites, mobile devices, software applications, and more

iMotions provides a versatile setup that allow for eye tracking testing in both in-lab and out-of-lab scenarios. Bring test setups to user's natural place of use, and test users on website, software applications and mobile devices to get the full view of the differences.

UX Application Areas

The ideal solution for diverse research approaches

1. Cued retrospective think aloud

Think aloud is a powerful method in traditional research. Doing retrospective think aloud with users removes the potential bias of in-session think alouds. Having detailed insights of visual attention and emotional responses gives the moderator a better tool for interviewing, and the user a better chances of memorizing important moments when replayed.

Examples include:

What are the principal reactions to the user experience?

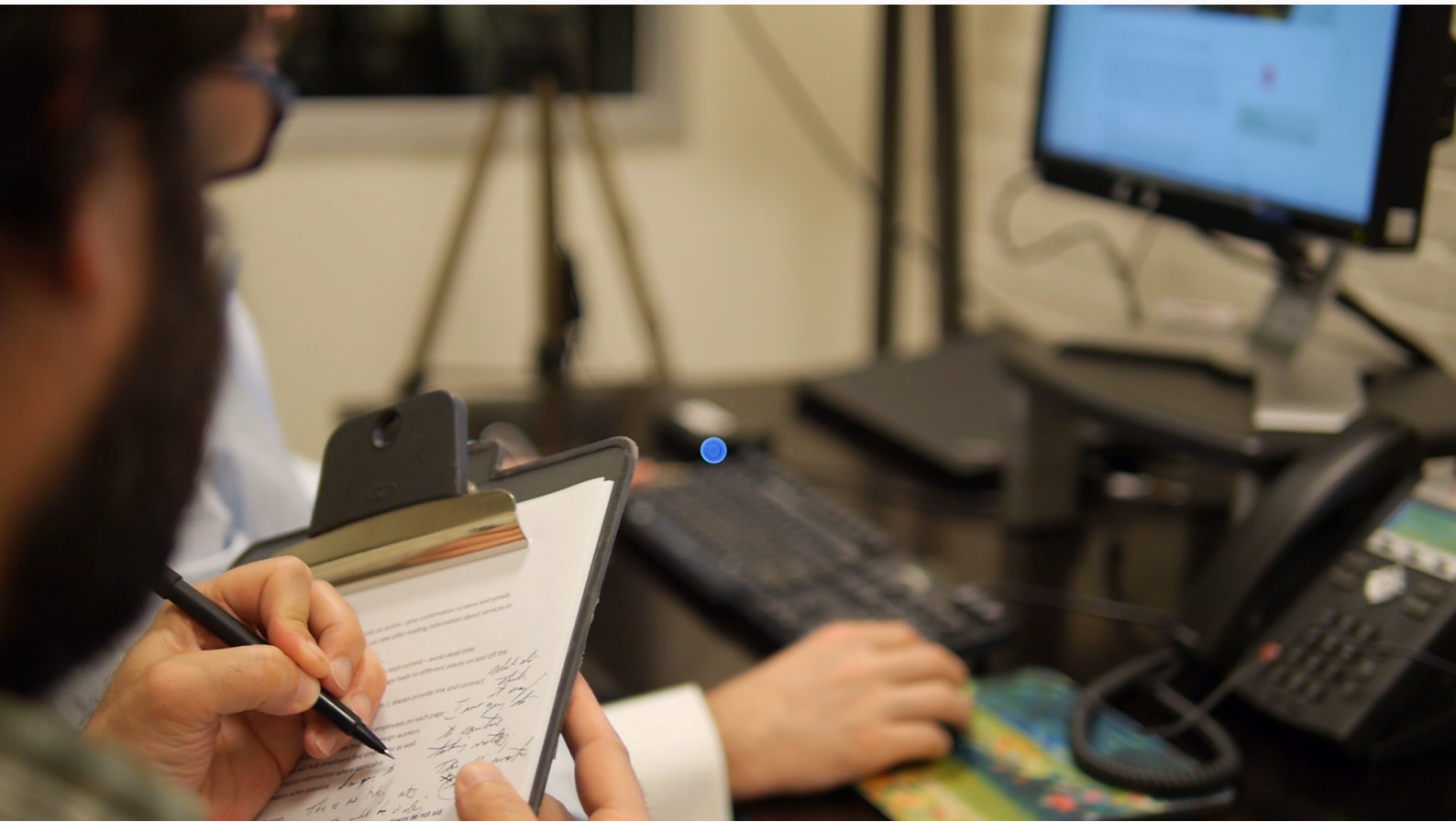
Walk a user through his own reactions, and explore further with questions Gather quantitative information on the user's intent and reasoning during a test.

How did the user journey evolve and change through time?

Validate any changes in attention and emotional responses that occur. User's seeing their own quantified reactions typically remember more

What are the strong and weak points of the design?

Get a better understanding of crucial moments to explore further. Identify specific pain points and act upon them with the help of objective data.



2. Session intervention

Having a live insight into visual attention and emotional responses gives the moderator in the room a better and more incisive tool to catch important moments. Not relying on verbal cues and instead using behavioral data provides a less-biased user session.

Examples include:

Which part of the user experience journey is most challenging?

Discover the otherwise invisible points at which visual attention and frustration is highest, and discuss further with user.

When are aspects of the design paid attention to?

See behavioral details otherwise not noticeable. Know the exact moment when a user viewed a part of the design.

Why does the design elicit certain emotions?

Use data to ask better questions. Track both visual attention and changes in emotional responses simultaneously, and discuss with the user when they exhibit an response of interest. Observe which aspect of the design elicited the reaction.

Dan Berlin, VP of Experience Research at MadPow, describes his experience of using iMotions for UX and usability testing in the video below:

3. Team observation

Having a live viewing experience comprising of a video of the user's face, environment video, audio, stimuli, as well as attention and emotion overlaid in one single view, gives a more powerful observation experience. There is a limited need for one way mirrors, and teams can observe sessions remotely.

Examples include:

How does the user experience the design when not being explicity observed?

Increase team observation impact with better and easier viewing possibilities. Observe with zero intrusiveness.

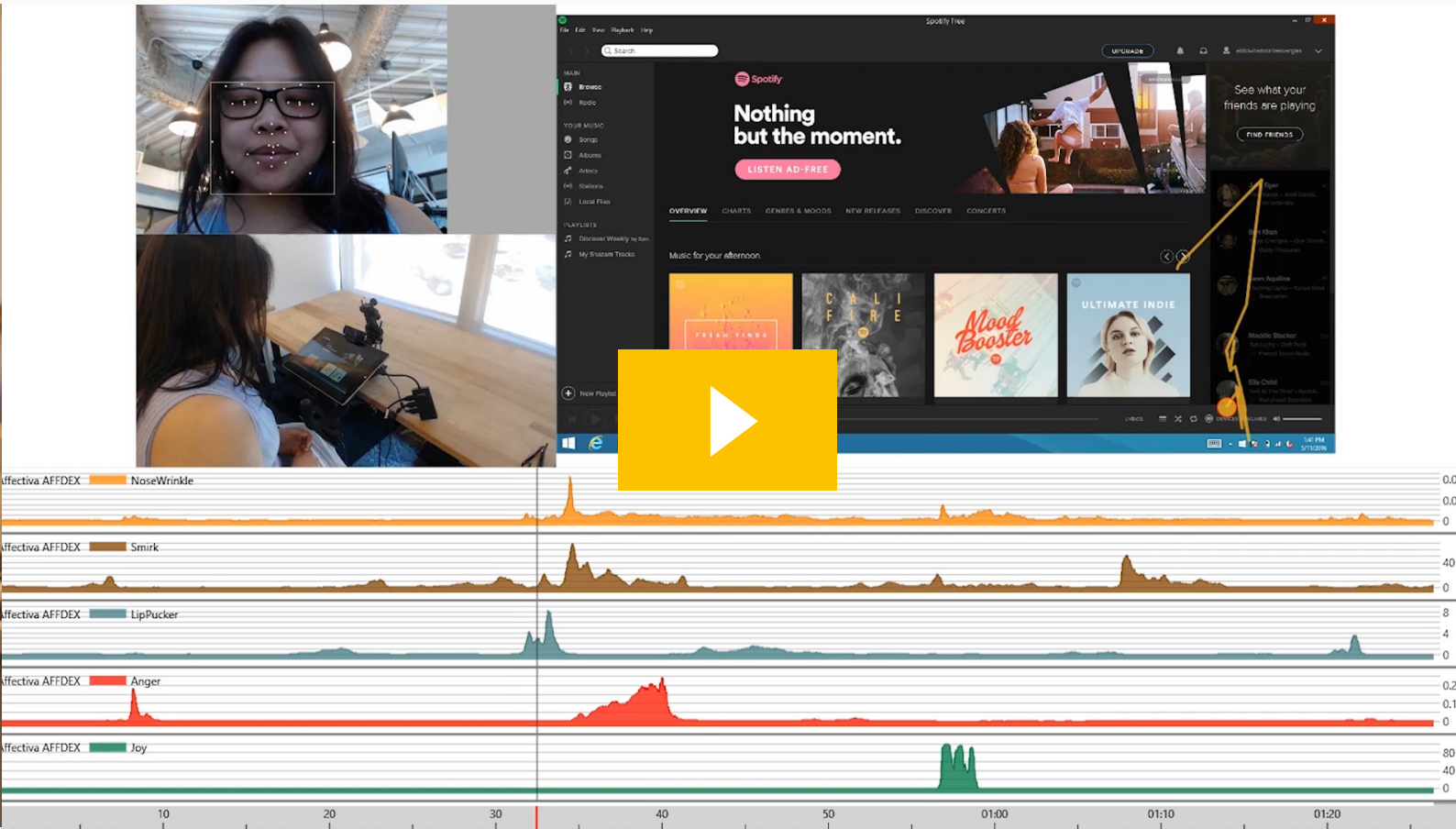
What does each team member think of the user experience?

Easily communicate detailed user reactions to stakeholders. Discuss strategies on the fly as the user works with the design. Collaborate and discuss in real-time.

How can UX findings be understood by the entire production team?

Better objective data to discuss and make decisions from. Easily translatable and actionable findings are immediately available, helping bring the whole team into the design process.

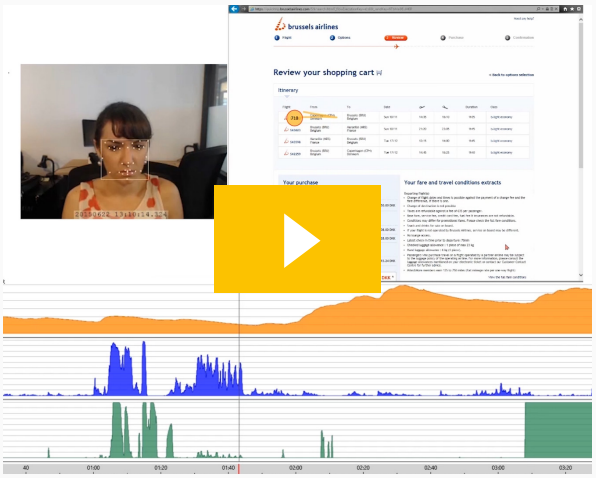
Watch the video below to see how iMotions can be used to observe and investigate user experience on the Spotify Platform, with data about attention, and emotions.



Features for UX research

Incisive data for deep insights

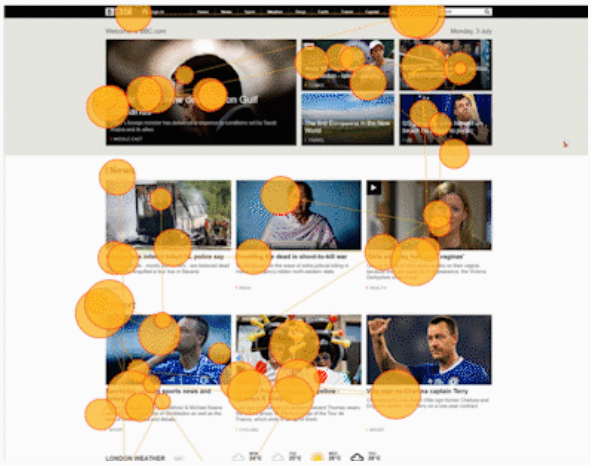
iMotions provides detailed and objective data where you need it the most. By quantifying the user experience with both traditional and biosensor-based methods, you can take your understanding a level deeper. iMotions enables you to find the perfect balance between quantification and observation.



Recording of video, audio, stimuli and emotions

iMotions allows data collection of both eye tracking and emotional responses, as well as recording of face video, environment video, audio, and the stimuli. All of which is visualized in real-time and synchronized in one software application.

Watch the video on the left to see what this can look like in action.



Live session viewing

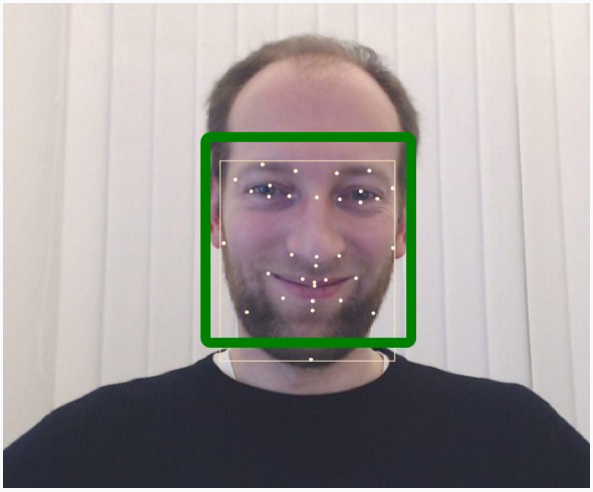
See the full session live on one screen with all data streams. Use for observation or for active moderator use.

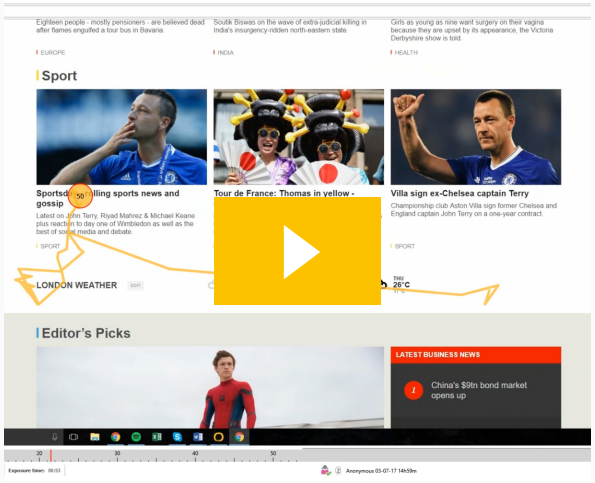
Live behavioral coding and annotations

Take notes of interesting events during sessions, directly in iMotions. Write annotations with one or multiple people simultaneously.

Expressed emotions analysis

Facial expression analysis is built into iMotions. Based on unique facial expressions that are automatically calculated, and can then be paired with eye tracking or behavioral observation, researchers can identify potential points of frustration, areas of joy or excitement, or tasks that may be particularly difficult.





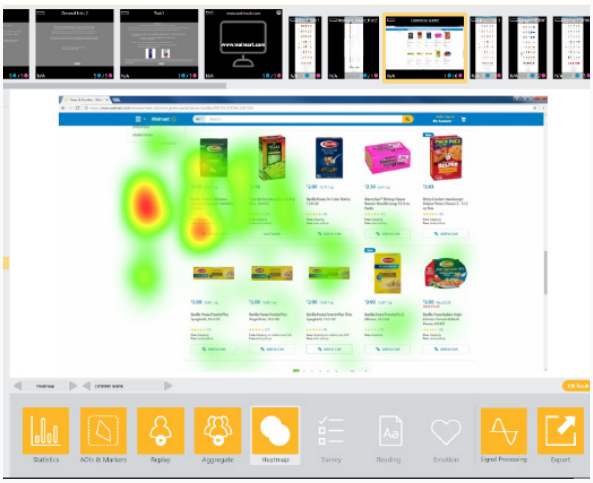
Session video replay and sharing

All data is recorded in iMotions, and can easily be exported and shared. Customize visualizations and export videos. Get powerful insights and convey key messages to stakeholders.

Watch the video on the left to see an example of iMotions eye tracking on a webpage. This can easily be combined with other measures, such as facial expression analysis, surveys, and scene video camera recordings.

Heatmaps and areas of interest

Detailed eye tracking analysis is possible with key metrics like the time to first fixation, time spent, and more available with the click of a button. It's easy to analyze areas of interest (AOIs) to quantify areas, and visualize individual or aggregate behavior with heatmaps.



Self-report and interviews

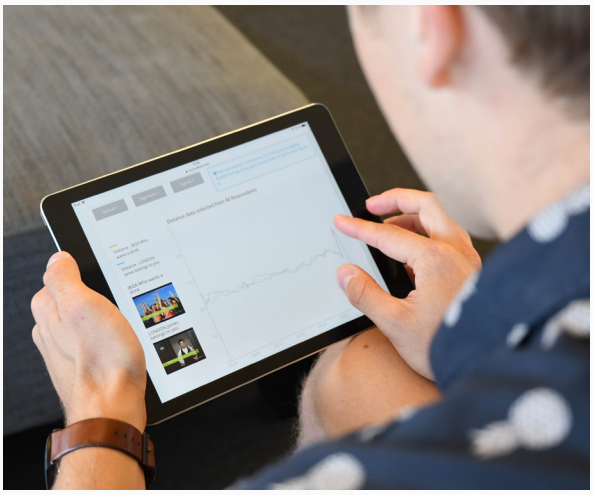
A built-in survey system provides a system for recording user feedback directly into the system. Audio recording for recording interviews can also be carried out, all in the same system.

Task performance

Automatic task performance measurement. Get visualizations and metrics on how fast people complete tasks.

Mobile and tablet testing support

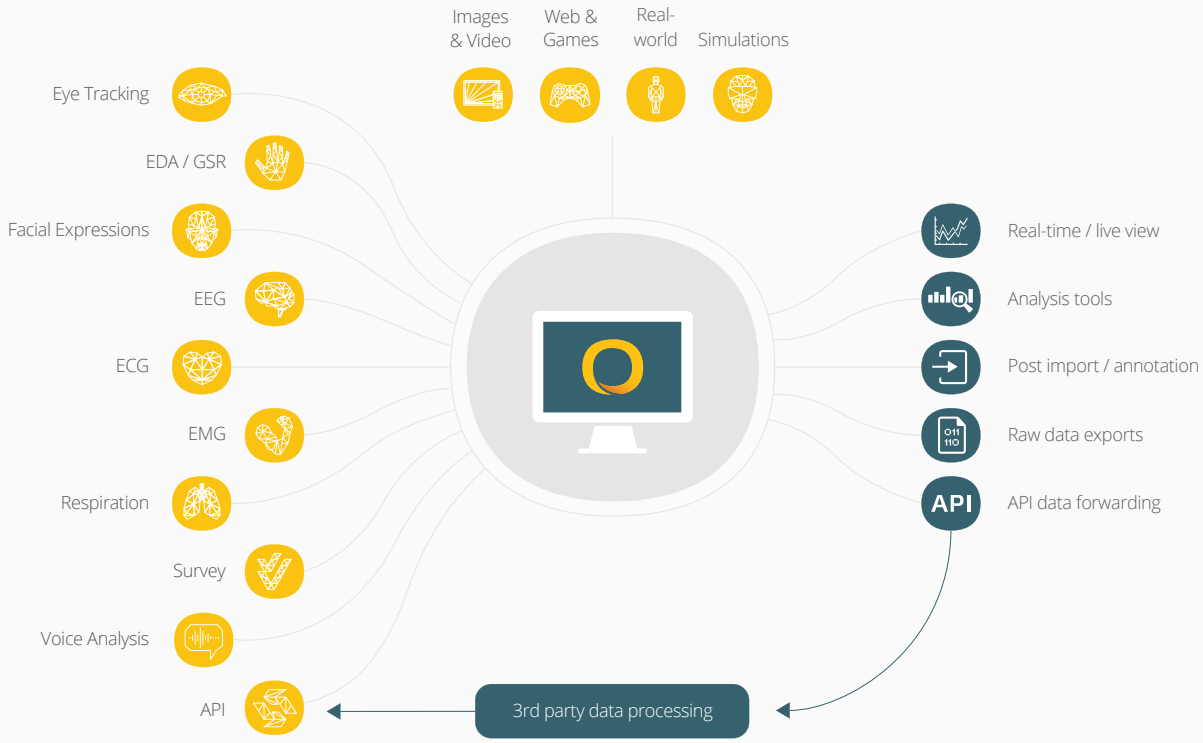
Carry out screen-based website or usability experiments with screen recording on desktop computers, laptops, tablets, or mobile phones. Automatic analysis of experiences on mobile devices can be carried out.



iMotions Software Solution

Multimodal research in any environment

iMotions reduces the complexity of carrying out multimodal research, enabling a wide array of sensors to be seamlessly connected. By combining these different physiological measurements, it's possible to get a better understanding of human behavior in any environment.



iMotions enables multimodal research to be carried out in an array of research scenarios.

Lab-based studies

Natural environments

VR environments

iMotions supports leading 3rd party sensor products. Additional sensors can be integrated via our API.

Biosensors

iMotions has a suite of partners that provide biosensor hardware like EEG, electrodermal activity (EDA), ECG, EMG, etc that are suitable for automotive research.

- Eye tracking: SMI, Smart Eye, EyeTech, Gazepoint
- EEG: Advanced Brain Monitoring (ABM), NeuroElectrics, Brain Products, Emotiv, OpenBCI
- EDA: BIOPAC, Shimmer, Empatica
- ECG: BIOPAC, Shimmer
- EMG: BIOPAC, Shimmer
- Respiration: BIOPAC

Additional sensor integration

iMotions has a powerful API equipping researchers with the tools to:

- Integrate new sensors with real-time data capture in iMotions
- Live synchronize all data streams
- Live forward all synchronized data streams
- Control the iMotions application via remote control
- Supports standard sensor protocols like LSL and TTL

EEG

EDA

ECG / EMG

UX Solution Packages

Discover the impact of new technologies

iMotions has built packages that serves the main needs of UX professionals. Whether it is in-lab, out of lab or real world, iMotions has the solution.

	UX Basic	UX Professional	UX Premium
Use cases	• Screen-based lab	• Screen-based lab • Mobile devices lab	• Screen-based lab • Mobile devices lab • Real-world
Use	• Record • Live visualize • Analyze • Replay	• Record • Live visualize • Analyze • Replay	• Record • Live visualize • Analyze • Replay
Software	• Screen-based eye tracking	• Screen-based eye tracking • Mobile eye tracking • Facial coding	• Screen-based eye tracking • Mobile eye tracking • Facial coding • GSR • (EEG)*
Hardware	• Eye tracker	• Eye tracker • Mobile eye tracking stand	• Eye tracker • Eye tracking glasses • Mobile ET stand • GSR • (EEG)*
Metrics	• Attention	• Attention • Emotion	• Attention • Emotion • Emotional intensity • (cognitive state)*
Training	• Training included	• Training included	• Training included

* can be added as needed

Selected Publications

UX research made possible with iMotions

Unique Object Characteristics Differentially Affect Visual Attention During Viewing of Dynamic Stimuli: The Influence of Location and Luminosity

Authors: Brooke E. Wooley, David S. March

Company: MediaScience

View publication

A Quantitative Way for Measuring the Building User Design Feedback and Evaluation

Authors: Shideh S. Amiri, Mahsa Masoudi, Somayeh Asadi, Ebrahim Karan

Institutes: Pennsylvania State University, Millersville University

View publication

Understanding The Utilization Of Information Stimuli In Design Decision Making Using Eye Gaze Data

Authors: Youyi Bi Murtuza Shergadwala Tahira Reid Jitesh H. Panchal

Institute: Purdue University

View publication

Design of Public Sector Websites: Findings from an Eye Tracking Study Emphasizing Visual Attention and Usability Metrics

Author: Hanne Sørum

Institute: Westerdals Oslo School of Arts

View publication

Reducing Sketch Inhibition During Concept Generation: Psychophysiological Evidence Of The Effect Of Interventions

Authors: Wan-Lin Hu, Joran Booth, Tahira Reid

Institute: Purdue University

View publication

A Close Look at the Phenomenon: An Eye Tracking Study on the Usability of the Profile Pages in Social Networking Sites

Authors: Kerem Rizcanoglu, Özgürol Öztürk

Institute: Galatasaray University

View publication

Enhancing the Professional Vision of Teachers: A Physiological Study of Teaching Analytics Dashboards of Students' Repertory Grid Exercises in Business Education

Authors: Kostas Pantazos, Ravi Vatrapu

Institutes: University of Copenhagen, Copenhagen Business School, Westerdals Oslo School of Arts

View publication

Establishing wiki design principles to advance wiki-based learning: an eye tracking study

Author: Haijun Kang

Institute: Kansas State University

View publication

Spencer Gerrol, Founder and CEO of SPARK Neuro, describes his experience of using iMotions for UX and usability testing in the video below:

SPARK NEURO

Want to know more?

GET IN TOUCH

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