

Successful Products through Usability Research with Mangold Labs

Successful companies have one thing in common: their products are very well received by customers. Why is that so?

Websites, software programs, mobile devices and machines – the development of products and services should be about the way that people can use them. Instead, many developers become lost in technical details and provide an overkill of functionalities that many customers do not even utilize. Those numerous functionalities play a minor role and are not crucial for market success. The key factor in competition is rather the usability. The successful companies recognize this now and are acting accordingly.

Usability as an USP

Usability is the user-friendliness of a product. User-friendly products reduce the learning curve, reduce operating errors, increase productivity and accelerate work processes. A high usability helps users to manage their tasks quickly, accurately and to achieve its objectives in an intuitive way. Therefore, usability is essential for the success of a product and this value must be implemented in the development and application of the product.

User-friendliness plays a huge factor in the decision making process for purchasing products. This is not only true in B2B, but also in private households. So, how do you check the usability of a product?

“Live Observation” – the essential remains undiscovered?

One method is to observe users in the application and to ask them about their experience. However, the results of this method are subjective impressions of the observer and also subjective information from the test person.

Furthermore, live observation can only capture very simple behavior due to the well-known and well-studied limitations of human cognition, mainly the “attentional blindness.” The majority of be-

havior simply remains undiscovered for many reasons. Here are the most obvious reasons:

- A live observation cannot be paused or re-wound in case the observer missed an important behavior (contact between the observed participants, a short gaze, one single word that lead to frustration, aggression or relaxation of the participants etc.). It is simply impossible to observe complex interactions such as gestures, speech, facial expressions and actions, through live observation.
- A comprehensive live observation is not possible especially when complex situations or large groups should be analyzed. The complex interactions among each other simply cannot be detected with the naked eye.
- The observer needs to categorize the observations in order to make some quick notes in a short amount of time. This categorization is in fact, an interpretation and therefore a prejudice.
- The quality of observation highly depends on the training and knowledge of the observer. An usability expert with long-term experience will certainly observe more complex behaviors than a branch newcomer. Also, they will both interpret and write

down very different observations and draw different conclusions.

- It can also never be proven which observation and conclusion were correct, because the observation in real life can never be “re-played” for verification or clarification.

In conclusion, live observation has serious limitations and disadvantages. Numerous amounts of studies would need to be made with live observation to eventually discover the amount of insight which can be easily gained through professional video based usability studies.

Advantages of Video Analysis in Usability Research

Detailed and objective results are obtained by video analysis and eye tracking. Both methods detect all user impressions and the entire user experience. An example of a website analysis can illustrate this well:

- The test person receives a task which has to be solved with a certain website, e.g. “Find the specifications of product XY at the website of the company NN.” This is to examine whether the potential customer will find this relevant information on the website within a specified time frame.



- Every mouse click and keyboard entry of the test person is recorded by the Mangold LogSquare software.
- A camera records the gestures and the facial expressions for later analysis.

- Audio recording captures all comments of the test person and also the conversations between the different users. This provides valuable information for errors in product use and potential improvements.
- The MangoldVision eye tracking system measures the gaze pattern of the user, how he captures the visual information on the screen and in which order and intensity he views the content.



- Optionally, the analysis can include physiology measurements, e.g. electrodermal activity or heart rate, which gives conclusions on the stress perception of the test person.

However, these records are only the first step of the usability analysis. The complex challenge is the analysis and interpretation of the recorded video footage. Accomplishing this without a professional tool, such as Mangold INTERACT, is a very time consuming and error prone task. Certain evaluations are only possible with Mangold INTERACT.

Performing professional video analysis with Mangold INTERACT and eye tracking studies with MangoldVision enable accelerated answers to complex research questions in reasonable time, which would be impossible to answer through live observation. The goal is to produce a maximum of professional insights and research results with minimum effort. This can only be achieved with tools that empower a smooth workflow, starting from the audio- and video recording, to profes-

sional behavior analysis, all the way to the statistical reporting of the collected data. Developing such professional tools is what Mangold International has specialized in for more than 20 years now.



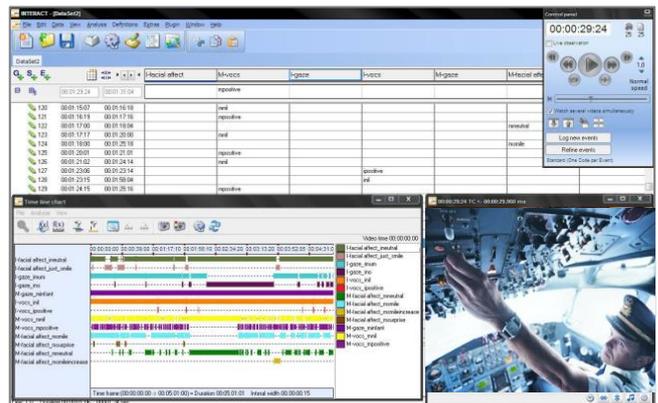
Mangold offers the right solution for every application. Due to the wide usage of mobile devices (e.g. smartphones), Mangold has developed a special solution for these evaluations.

The Mangold MobileEye is particularly suited for studies in the field, e.g. consumer behavior in supermarkets. The head-mounted eye tracking system guarantees ultimate freedom of movement and is so light and robust that it can even be used in sports applications. Therefore, nothing can stop you from your studies.



What can Mangold International do for you?

Mangold International is a world leading provider for usability and behavioral research labs. They use the latest computer and multimedia technology and customized hardware and software products, e.g. remote control full HD cameras, eye tracking devices and physiology measurements for emotion or stress. Mangold enables researchers to conduct scientific studies efficiently without having to handle all the complex technical details. Universities and Research Institutes in more than forty countries worldwide already take advantage of these sophisticated solutions.



Mangold Labs include all services such as planning, installation of individual audio/video and scientific research equipment, on-site installation, training and long term support. This makes Mangold International your one-stop-shop for your individual research lab.

Some References:

MyBoom



MyBoom Internet GmbH
Thorsten Voß
Brilon, Germany

MyBoom is an experienced technology and service provider for the development of internet communication. The experts consult companies in optimizing their web strategy and in generating online business. On behalf of customers they analyze e.g. websites for the ease of use. In particular, a mobile usability lab used the MangoldVision eye tracking system. Due to the analysis of their websites, the customers of MyBoom obtain a detailed SWOT analysis and clear recommendations for optimization.

Pitotech



Pitotech Co. Ltd.
Daniel Chien
Chang Hua City, Taiwan



Pitotech is a Partner of Mangold International in Taiwan. The experts of Pitotech supported VOGUE, the world's leading fashion magazine, during the creation of VOGUE's new website. Pitotech provided Mangold eye tracking technologies for studying various design and usability aspects of the new VOGUE internet appearance. After a successful re-launch, the website was presented to a selected audience during the VOGUE Digital Day in Taipei.

National Center for Telehealth and Technology



Joint Base Lewis-McChord
Tacoma, Washington State, USA

The US Department of Defense established the "National Center for Telehealth and Technology" (www.t2.health.mil) to develop strategies and tools against post-traumatic stress disorder in the military community through applied research. The researchers develop mobile applications, websites, assessments and treatment tools, e.g. for stress management (e.g. deep-breathing techniques), for early identification of mental disorders or for suicide prevention. Mangold eye tracking technology is used to examine how participants perceive and use these tools. The aim is the evaluation of the effectiveness and the constant improvement of the tools.

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