

Tobii Eye Tracking Workshop

Du digital au réel, comment mesurer l'engagement du consommateur avec l'eye tracking

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Cet atelier a pour but de balayer les différentes possibilités de la méthodologie Eye-tracking pour mesurer le comportement du consommateur à travers les différents points de vente : de la perception d'une publicité dans un magazine, devant la télé, sur un support digital, en passant par le centre commercial, dans le magasin jusqu'aux instants ultimes de l'achat et de l'utilisation.

L'atelier vous permettra de tester plusieurs technologies pour évaluer les appareils mobiles (smartphone, tablettes), les usages sur plusieurs supports (magazines, affiches, mobile).



AGENDA

En partenariat avec



Avec l'aimable aide de **Loïc Balouzat**, Ergonome et
Diplômé en Management de Projets Innovants

3 ateliers

- Test sur un site web sur PC



- Test sur une tablette



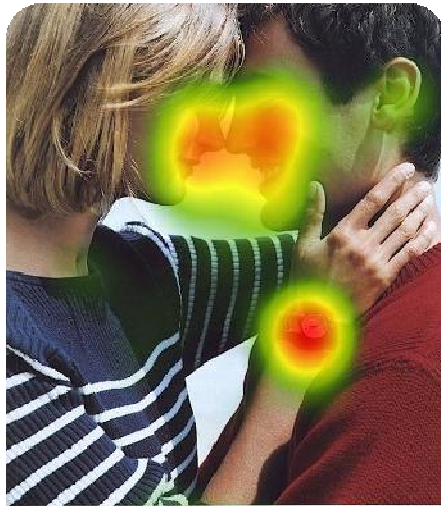
- Test Mobile + Publicité imprimée dans un « magasin »





WHAT IS « EYE TRACKING » APPLIED FOR?

Eye tracking



TOMMY HILFIGER
WATERLOO



- With *Eye tracking*, the sensors measure where a participant is looking at
- It is used:

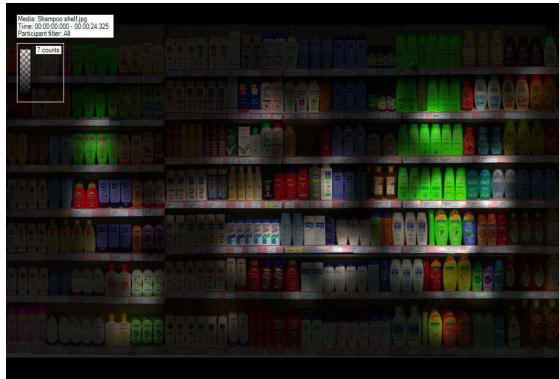
To understand human behavior and thinking

- Eyes reveal what the user is thinking
- For research, design testing and diagnostics

To interact with computers and machines

- Control machines when hands and voice are not an option
- As a vital element in multi-modal user interfaces of the future

Analysis markets and applications



Market research

Tobii products are used to measure consumer responses to:

- Print ads
- TV commercials
- Web advertising
- Package design
- Shelf placement

11/14/2014



User experience testing

Tobii products are used to evaluate usability of:

- Websites
- Software
- Computer games
- Mobile devices
- Other physical products

Copyright Tobii Technology AB



Psychology & vision research

Tobii products provide insights into human behavior & vision in:

- Cognitive psychology
- Developmental psychology
- Psycholinguistics
- Media psychology & HCI
- Neuropsychology
- Mental health disorders
- Ophthalmology

7

Eye Tracking in the Lab

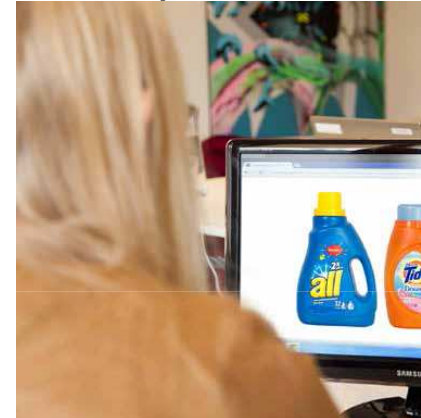
Laptop



TV set



Desktop / Monitor



Ticket machine



Tablet / Smartphone



Video projector

Eye Tracking in Real Life



Academic References

- >700 scientific articles, tagged by keywords and research domains
 - https://www.zotero.org/groups/tobii_eye_tracking_references/items/
- Masterclass in October 29+30 2014 in Sweden :
<http://bit.ly/1ms90Xu>
- EyeTrack Behavior conference (Sept 11) in the US
- Tobii has been the fastest growing Eye Tracking company in the Academic field (based on the number of publications populated from 2005 to 2012) – please ask us for references or visit <http://www.tobii.com/en/eye-tracking-research/global/research/>





WHO IS TOBII ?

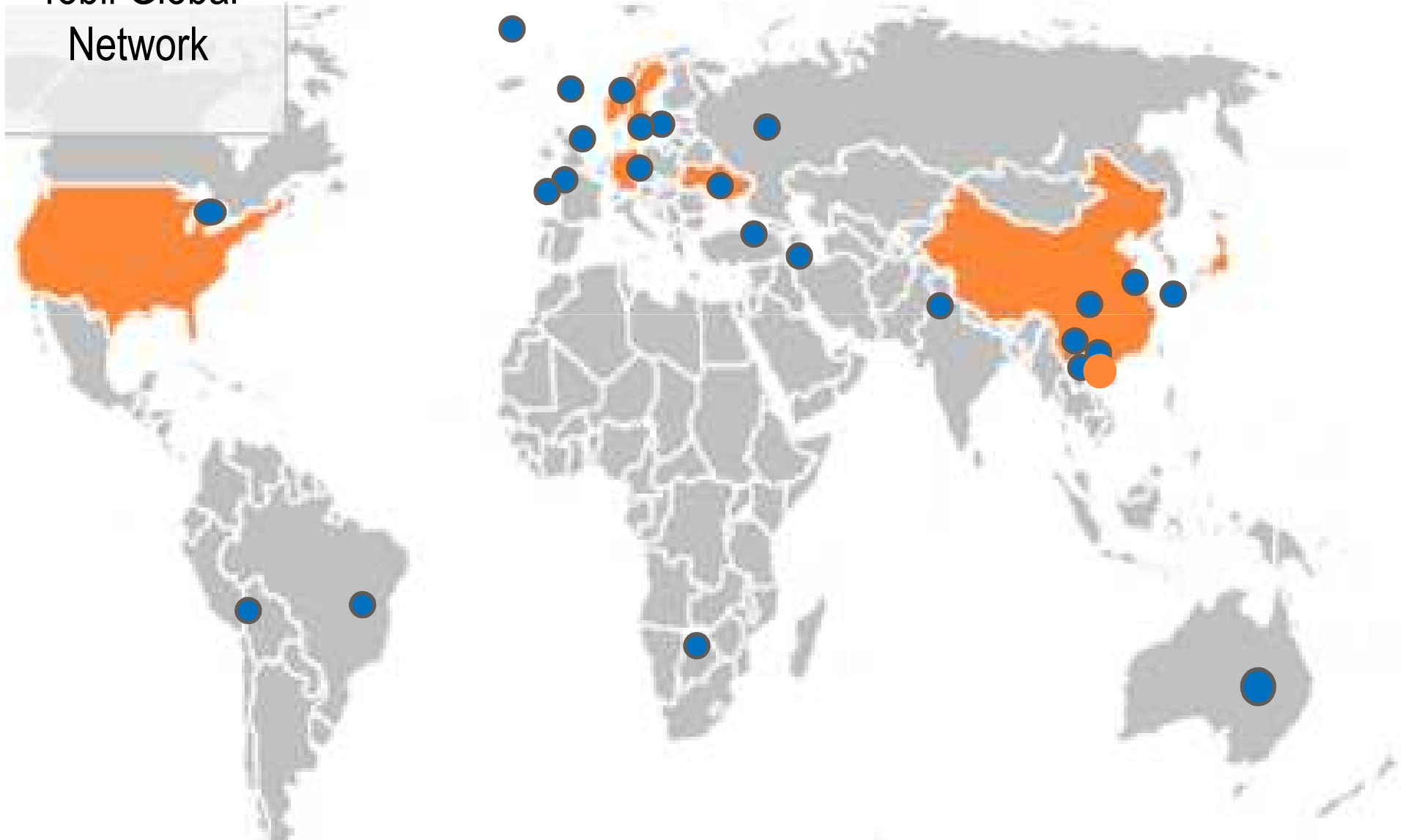
Tobii The Global Leader in Eye Tracking

- Swedish
- Founded, 2001
- Organization >650p
 - >100p in R&D
- Business units
 - Analysis – Research, Marketing, Usability
 - Healthcare AAC
 - Consumer Electronics – Interaction
- Worldwide presence.
- Technical contact in All major languages



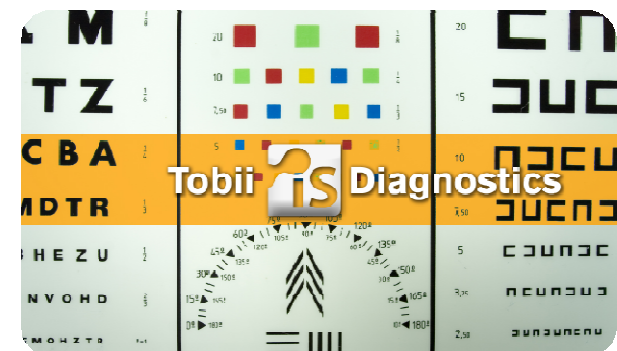
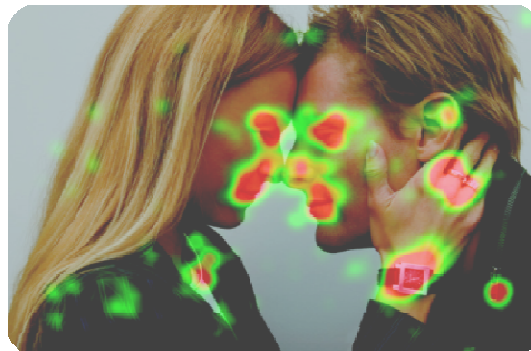
Our network, Your strength

Tobii Global
Network



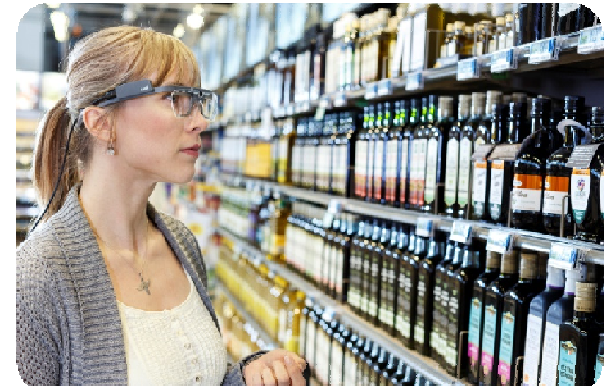
3 business areas

- Tobii is a high-tech product company with three focus areas
 - **Behavior Analysis**
 - **Assistive Technology for handicapped people**
 - **Future Technologies** for Integrated Systems applications (Automotive, Medical, Gaming, ...)



Tobii Mission Statement at the Analysis division

Add **Values** to your **Research** by bringing **solutions** centered on **eye-tracking** at every step of the **process**



Eye Tracking is not only a technology

- Hardware, Software...
- ... but it is above all a **methodology based on human behavior**
- It is also a solution **to Assist in Communication**
- It **will be** in our everyday life for Computing, Gaming, Driving





A BIT OF TECHNOLOGY...

Application specific eye tracking device

AAC



Analysis



MOBILE



VERSATILE

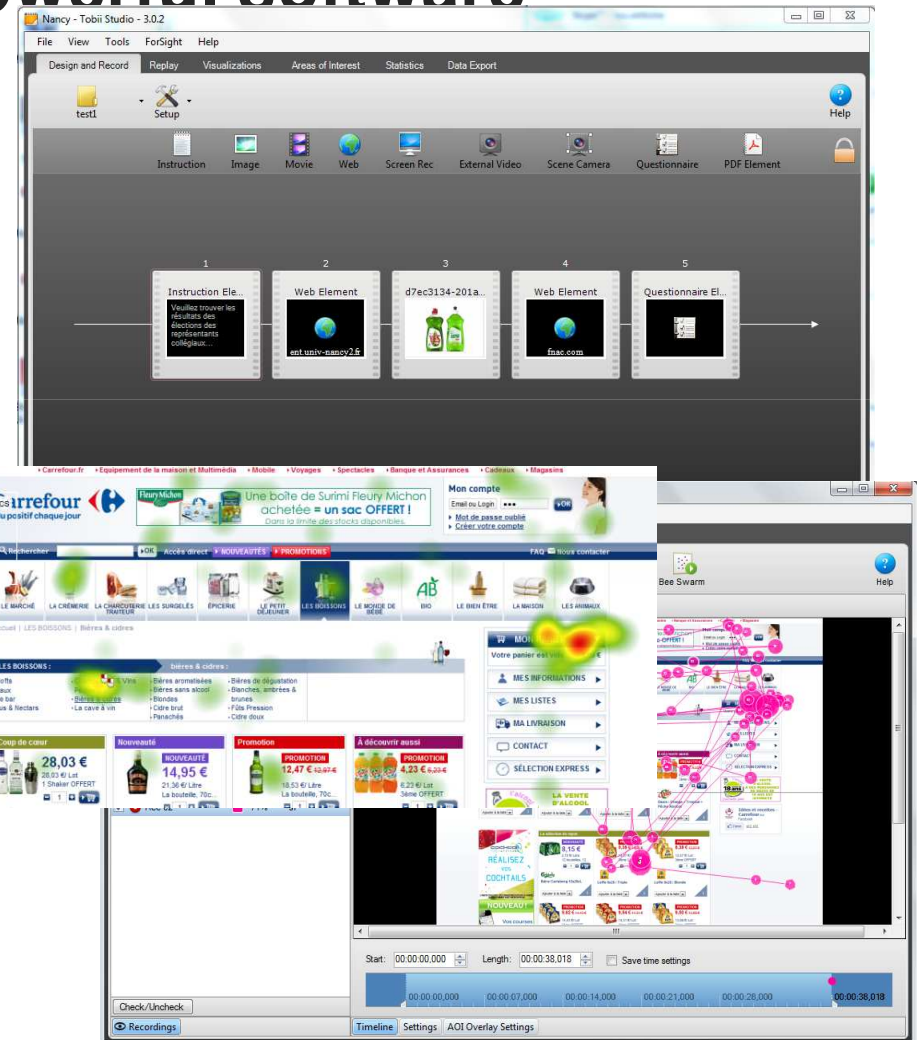


OEM

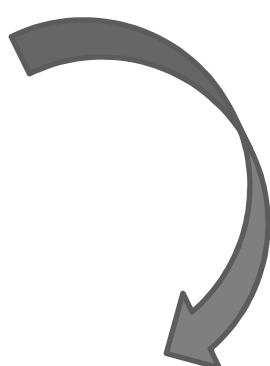
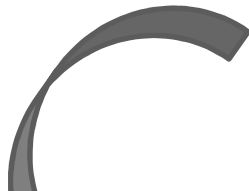


Tobii Studio, intuitive & powerful software

- From scenario to data analysis
- Various types of objects
 - Questionnaires & segmentation
 - Retrospective think-aloud
- Qualitative visualisation tools
 - Video replay
 - Heatmaps
 - Scan path
- Quantitative reporting
 - Statistics over Areas of Interest
 - Data export



Eye tracking & Biometric

- **ECG** (the electrical activity of the heart)
 - **GSR** (sweat production of the skin due to emotions or stress)
 - **EMG** (commonly all muscle activities > also ECG, EOG, EGG)
 - **EEG** (the electrical signal representing the brain activity)
 - **EOG** (the movement of the eyeball)
 - **EGG** (the contraction of the digestive system)
- 
- **Heart Rate** (the pulse frequency in "beats per minute")
 - **HRV** (the heart rate variability)
 - **EMGint** (integrated EMG, the envelope of an EMG signal)
 - **Sleep stages** (phases of sleep, computed from EEG frequency bands)
- 

Attention, Emotion, Cognitive Workload...

Software Development Kits

- SDK types
 - For Analytics
 - For Eye Interaction/control
- **Analytics SDK** : for Human Factor analysis projects
- **Interaction EyeX Engine** : for Interaction (Gaze Controlled) applications

Usability Research

Tobii X2, versatile, portable, robust & accurate

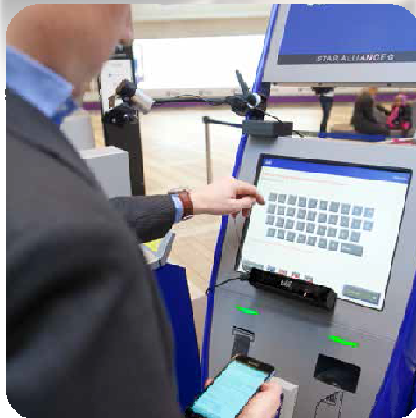
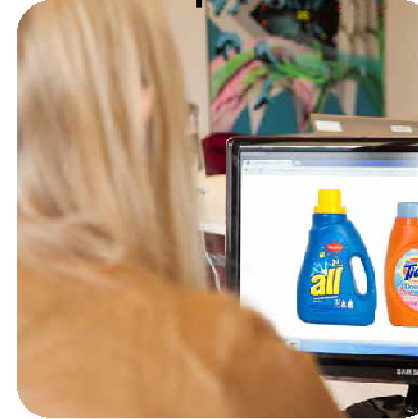
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TV set



Desktop / Monitor

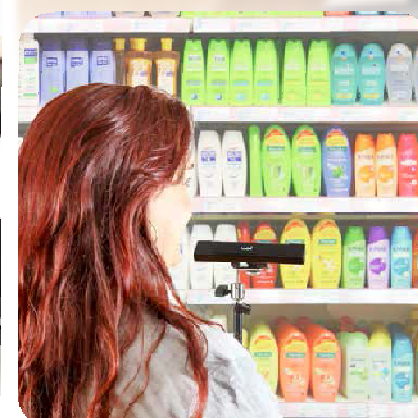


ATM

Ticket machine



Tablet / Smartphone



Video projector

Tobii X2 : solution for Mobile Device Testing



Video here :

<http://www.tobii.com/fr/eye-tracking-research/global/products/hardware-accessories/mobile-device-stand-X2/>



KLM Royal Dutch Airlines

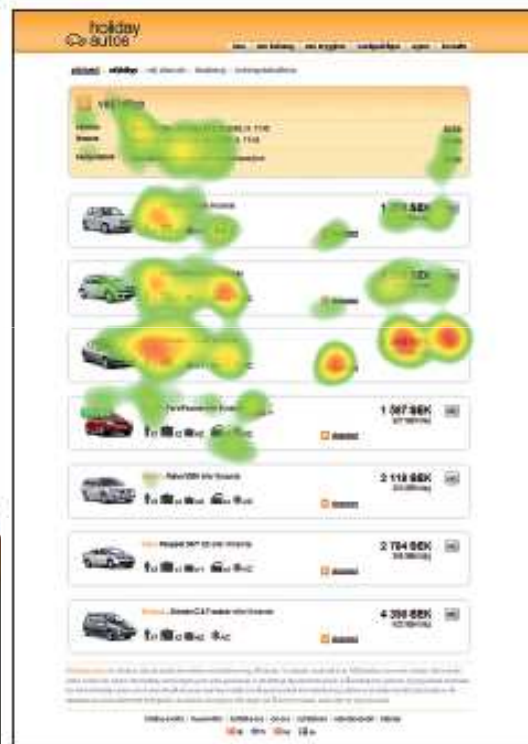
Departure Wednesday 11 August 2010

Price	Departure	Arrival	Travel time	Operated by	Flight number	
EUR 204	07:05 Amsterdam	09:05 Stockholm	2:00	KLM	KL1127	+ Details
EUR 171	10:10 Amsterdam	12:10 Stockholm	2:00	KLM	KL1129	+ Details
EUR 149	13:25 Amsterdam	15:35 Stockholm	2:10	KLM	KL1123	+ Details
EUR 149	17:00 Amsterdam	19:00 Stockholm	2:00	KLM	KL1127	+ Details
EUR 170	19:10 Amsterdam	21:10 Stockholm	2:00	KLM	KL1129	+ Details



- Using a Tobii T60 + Retrospective Think Aloud (RTA)
- **Saccades between price and schedule**, eye tracking illustrated the inefficiency
- Online reservations increased dramatically after eye tracking tests. **30% more users proceeded from searching to actually booking flights** in the new version.

Holiday Autos



- **Objectives:** understand high bounce rate, too long time to complete order, complaints

Learnings

- **Unnoticed promotions**
- Use of colors confused

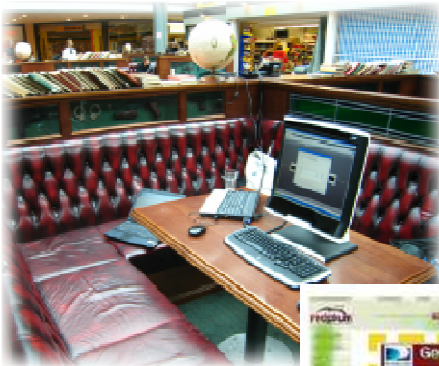
Actions

- Color change
- Progression box
- Underline 2nd & 3rd upgrade options

- Immediate results

- **+20% conversion rate**
- **-66% Time to order**

Online Banner



Banners	Top	Bottom
Attention deployment		
Time to first eye fixation (s)	2,8	11,5
Information processing		
Observation length (s)	1,0	0,5
Attention quality		
Average fixation duration	96%	117%
Visibility		
% people noticing the area	69%	55%
% of total visual value	60%	26%

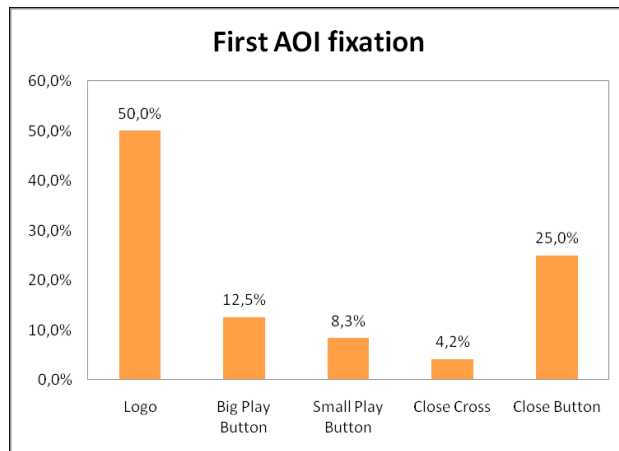
- Evaluate Online banner & positionning
- Eye tracker located in a pub/bar to collect more data/recruit more respondents
- Results
 - Red Version performs better than blue on the top
 - (x2.3 more observation for the top, 22% for the red)
 - Use the Blue to contrast in the bottom part

Ginza – online payment of Media online store



- Objectives:
 - understand the check-out & payment process complaints
 - How users buy multiple items
- Learnings
- Results
 - **+18%** in bill payment
 - Users **purchased more items**

Spotify



Objectives

- Evaluate HP & Application
- 1st time user, payment process

Learnings

- Terminology used confused users
- Different subscriptions offer were unclear
- 30% of user were confused between App et Web HP



EYE TRACKING METHODOLOGY, CONCLUSION

From eye **trackers**...

How to decide which device to use?

- Type?
- Brand?
- Accuracy/Precision?
- Sampling rate?
- Weight?
- Budget?



...to eye **tracking**



- Eye tracking is above all a method for **behaviour (and vision)** studies
- A structured approach
 - knowledge in **psychology**.
 - Hypothesis, protocol, analysis
 - Iterative
- It is not just a set of sensors

How to design an Eye Tracking Project?

- Populate the main **questions?** (**objectives**)
 - Emit assumptions (**hypothesis**)
- Determine the **metrics** to qualify / quantify them
 - (and their **values**)
- Design possible **scenario** to confirm/infirm our hypothesis
 - **Which** Eye tracker?
 - **Who** and **how many** people, **where**?
- Conduct the data **collection**
- Extract and **consolidate** the data
- **Analyse**
- **...Iterate**

References, Articles

- ZOTERO Tobii database :
>700 scientific articles,
tagged by keywords and
research domains

- https://www.zotero.org/groups/tobii_eye_tracking_references/items/



- Free webinars on
 - Introductive
 - Usage Specific (Web UX testing, Autism, Smartphone/tablet)
 - Advanced topics (biometric measure, fixation filters, synchro, SDK)

Looking Forward...

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Tobii Eye Tracking France



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Tobii Eye Tracking
Chaîne Tobii Eye
Tracking

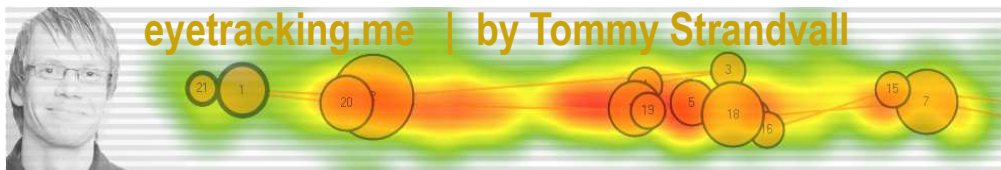
twitter



@EyeTrackFrance



600 références / publications
sur les recherches
avec l'Eye-Tracking



Thank you for your attention

Looking Forward



www.tobii.com