The MindSee Project
## Symbiotic Mind Computer Interaction for Information Seeking

General Objective

The MindSee project aims to develop an information seeking application that exemplifies the fruitful symbiosis of modern Brain Computer Interface technology with real-world Human Computer Interaction.

The result will be a cutting-edge information retrieval system that outperforms state-of-the-art tools by more than doubling the performance of information seeking in realistic tasks.
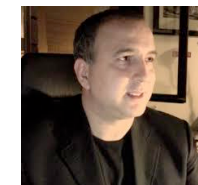
Consortium
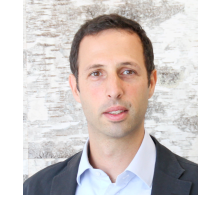
Prof Giulio Jacucci, University of Helsinki
HCI, surface computing, exploratory search, peripheral physiology

Prof Samuel Kaski, Aalto University
Probabilistic modeling, machine learning, reinforcement learning

Prof Luciano Gamberini, University of Padova
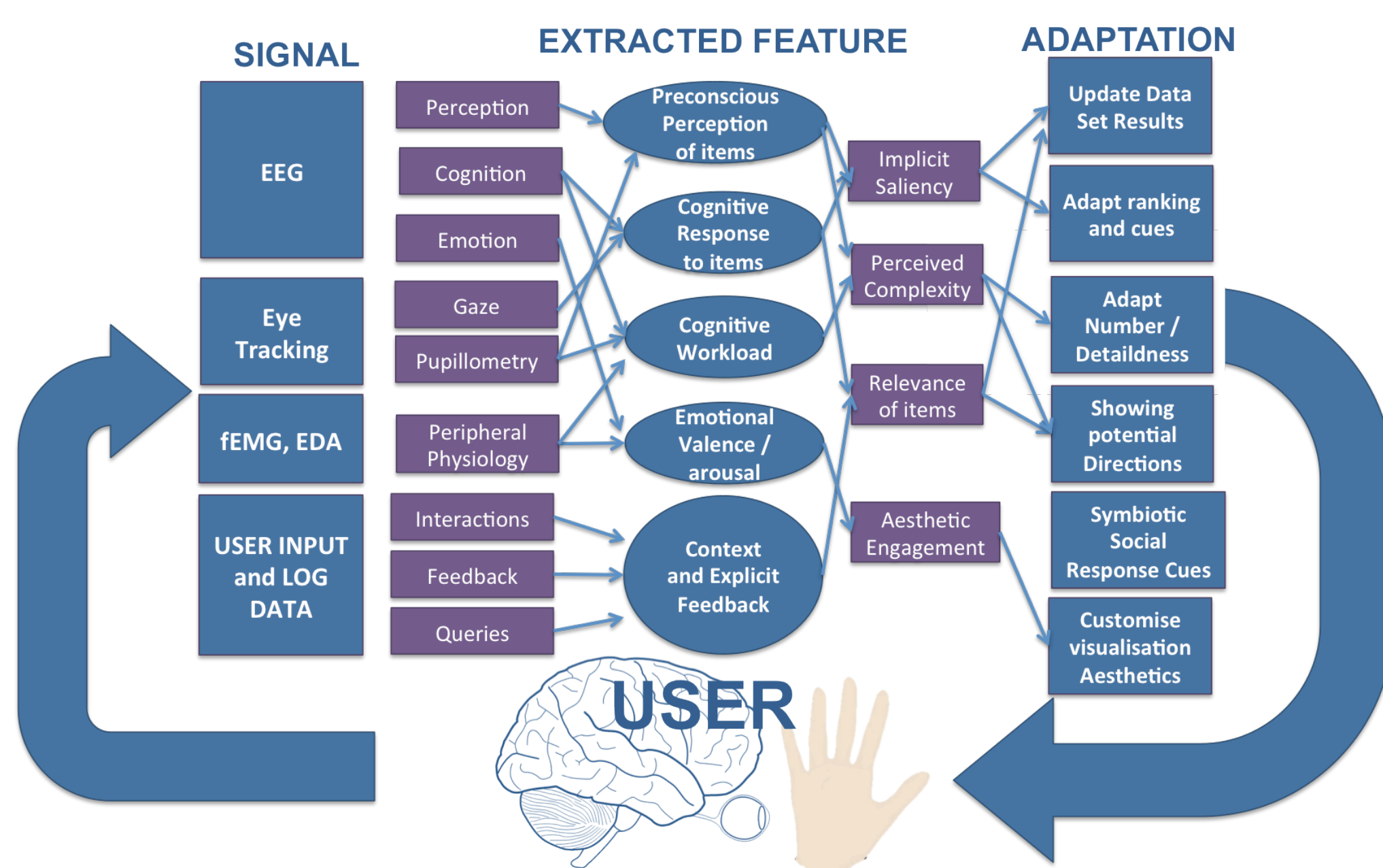Cognitive ergonomics, user evaluation, eye tracking

Prof Benjamin Blankertz, TU Berlin
Brain-Computer Interfaces, EEG, machine learning

Dr Jonathan Freeman, i2 media
Digital consumer research, media and user experience

Concept

Key parts

1. **Brain-Computer Interfaces**
   EEG for real-time detection of perception, cognition and emotions

2. **Physiological data for user modeling in adaptive systems**
   Other sensors beyond EEG from physiology to model the user and adapt the system

3. **Probabilistic Machine Learning for Multisource Data**
   Modeling techniques that allow fusion of multi-source data for the different signals

4. **Interactive Retrieval, relevance feedback and visualization in information exploration**
   Application view of relevance feedback in information retrieval

Summary

> *"MindSee is Information retrieval, BCI, machine learning, neuroscience, affective computing and more..."*
>
> —**from the MindSee Blog**

As a novel solution, MindSee proposes to fuse Electro-encephalography (EEG), as the main sensor, with peripheral physiological sensors (EDA, fEMG, eye gaze, and pupillometry) and contextual information for unobtrusive acquisition of implicit measures of perception, cognition and emotion.

Contact

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