Lund University Humanities Lab

A SELECTION OF USER PROJECTS 2019–2023

Welcome!

This little book gives a few examples of the many exciting and innovative research projects being conducted in Lund University Humanities Lab. The Lab is a research infrastructure open to anyone interested in human behaviour, cognition, communication, and culture. The projects in this book illustrate some of the many disciplines, questions, methods and approaches you can find in the Lab.

Enjoy this smorgasbord. Bon appétit.

Marianne Gullberg,
Director Lund University Humanities Lab

Effect of hunger on visual attention and choice

Kerstin Gidlöf & Tobias Otterbring, Department of Management, School of Business and Social Sciences, Aarhus University, Denmark | Annika Wallin, Cognitive Science, Lund University

This study investigates the effect of hunger on visual attention and choice. It uses eye-tracking to monitor the decision making process, and examines differences between hungry and satiated individuals. The study also investigates whether these effects are moderated by the complexity of the decision environment, if the choice is between hedonistic and utilitarian options, and if the choice is within a food or a non-food category.
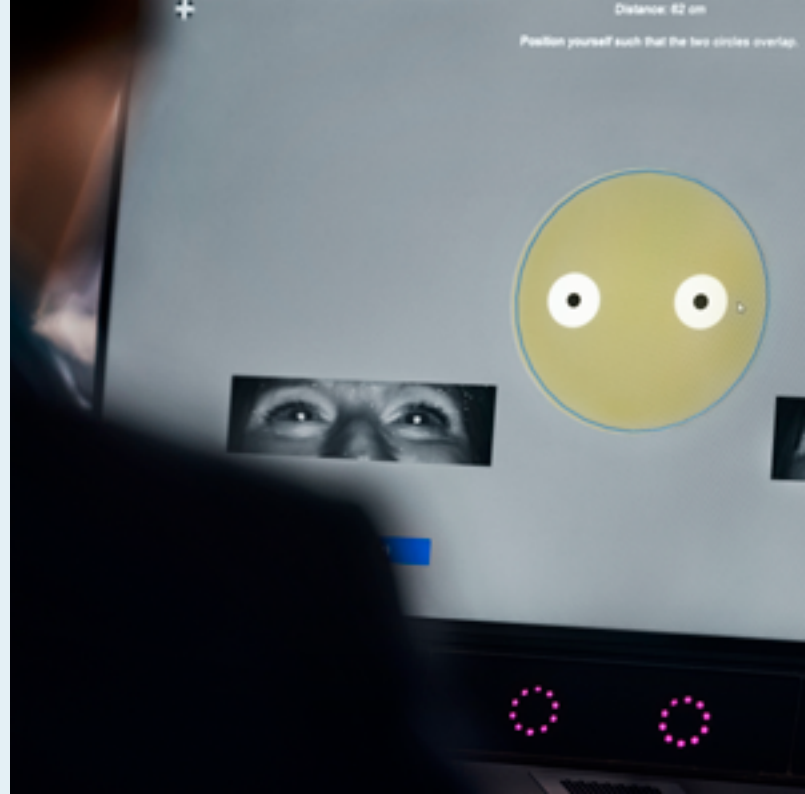
Signing avatars on stage

Crea (Sweden's National Touring Theatre and their group for dramatic art in Swedish Sign Language)

In a pilot study the Lab's Mocap/3D team collaborated with Riksteatern Crea to create a signing avatar to act on stage with living actors in real-time. This project combined three different mocap systems capturing different parts of the body: (i) the optical mocap system capturing the main body (torso, head, legs and arms), (ii) Stretchsense gloves capturing the movement of the hands and fingers, and (iii) a mobile phone system capturing the face (where many grammatical features are signaled in sign language). The data from the three systems were synchronously mapped onto a 3D avatar, creating a live 3D rendering of the signer producing fully comprehensible sign language.

References to Environs are Coordinated to be Heard and Seen

Kate Mesh, Marie Skłodowska-Curie Postdoctoral Fellow, Lund University Humanities Lab

The project investigates how people describe their surroundings when they are on the move, and while they are performing navigational activities. In a first study we used action cameras to record speakers of Chatino (an indigenous Zapotecan language of Mexico) using speech and gestures while wayfinding on mountainous trails. In a second study we used the video material to study how Chatino speakers point to landmarks in the environment with their chins while also avoiding mutual gaze with their conversational partners. The project sheds light on the complexity of pointing and indicating in culturally appropriate ways.

Establishing a city scan procedure for sustainable virtual tourism in order to save built cultural heritage

Ingela Pålsson Skarin, Dept. of Architecture and Built Environment, Lund University | Giacomo Landeschi, Dept. of Archaeology and Ancient History, Lund University Humanities Lab, Lund University | Carolina Larsson and Stefan Lindgren, Lund University Humanities Lab, Lund University

This project uses laser scanning to explore the potentials of introducing Virtual Tourism by means of Augmented Reality to mitigate effects of tourism and today's CO_2 emissions.


Virtual Tourism could be a necessary paradigm shift for the tourism industry since its work pipeline, the City Scan Procedure (CSP), is constructed with the intention of giving local stakeholders better control of their tourist destination. The project is based on laser scanning field work in three countries. This pilot study took place at Fredriksdal Open Air Museum, Helsingborg.

Kurze Schatten III– from sound to movement

Bertrand Chavarria-Aldrete, Malmö Academy of Music, Lund University

This project aims to create an archive of hand movements from music performance on the guitar. The material is extracted from motion capture recordings of the manual movements on the guitar during a performance of Kurze Schatten II. The motion capture data will form the basis of 'impossible avatars' that will serve as a choreographic score/guide for six dancers. They in turn will perform the impossible movements of the hands reconfigured onto their bodies. In this extension, the dancers' bodies are taken as a pure plastic performance of a music that will not be heard, creating a link between living elastic bodies and the mechanics that produce the sound; an extension of the body and thought of the performer in space, unveiled through motion capture technology.
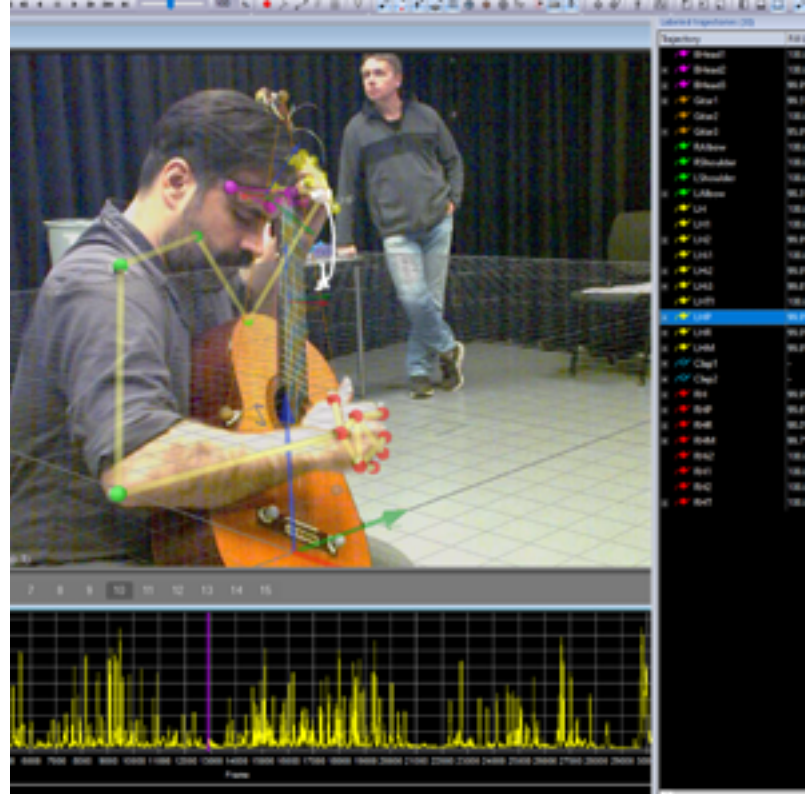
Effect of eye movements on trauma memory

Sabine Schönfeld, Evangelische Hochschule Dresden, Dept. of Psychology, Lund University | Roger Johansson, Dept. of Psychology, Lund University | Marcus Nyström, Lund University Humanities Lab, Lund University

This project investigates the role of an individual's eye movements when forming and remembering distressing memories. Since previous research has highlighted the importance of eye movement behavior in the treatment of Posttraumatic Stress Disorder (PTSD), it is important to understand the underlying mechanisms and how they interact with other potential risk factors for PTSD. Preliminary results support the validity of using eye-tracking to investigate these phenomena and indicate interesting interactions between eye movements, memory experiences and individual differences in risk factors for PTSD.

Language training with conversational AI

NordAxon, Malmö

The Malmö-based company NordAxon is developing a system for conversational AI (or a 'chatbot') to support language training. Using state-of-the-art language technology, it is possible to construct a system that allows users to interact and talk with different artificial interlocutors, such as a job interviewer or a 'fikakompis' (friend you meet for coffee). This gives users an opportunity to practice language skills by themselves. Lab members participate in a reference group for this project, reviewing the systems, and providing advice on language resources and dialogue management.

Cat–human communication: vocal, visual and tactile signals

Susanne Schötz, Joost van de Weijer, Elin Hirsch

Little is known about how cats, one of our most popular pets, and humans communicate with each other. Yet, well-functioning communication is crucial for a meaningful relationship with our pets to avoid eutheanasia or abandonment due to unwanted behaviours. The project will record and analyse vocal, visual and tactile signals in cat–human interactions and relate them to measures of welfare. The goal is to improve cat–human communication by developing an online guide with descriptions and examples.

Incidental reactivation of trauma-analogue memory

Linn Petersdotter & Lindsey Miller, Dep. of Psychology, Lund University

This study investigates incidental responses to trauma-analogue material and fear overgeneralization. It uses two components of the BioPac: the galvanic skin response (which measures sweat reactions) and the heart rate variation (HRV). Participants will first watch negative and neutral video scenes. They will then do an emotional Stroop task featuring video-relevant or -irrelevant distractors. Through both tasks the BioPac will be measuring the participant's physiological response.

Rapid neural processing of grammatical tone in second language learners

Sabine Gosselke Berthelsen, Centre for Languages and Literature, Lund University

This PhD project investigated how quickly people can acquire words and grammar from a previously unknown language. Using behavioural measures and EEG recordings, it demonstrated that overt learning happens within minutes but that learners rely on different neural processes depending on their language background. The more familiar they are with the novel words' form and function, the more automatically and effortlessly they assess them. Thus, while language learning may overtly seem unaffected by the learners' background, previous language history seems to dictate how well the new language can initially be integrated into the learners' neural systems.