Course description (topics)

Title of the course:
Expressive Interactions

Tutors of the course , contact details:
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Code:	Related curriculum (programme/level):	Recommended semester within the curriculum:	Credit:	Number of class hours: 44 Student working hours: 109
M-KF-301-DI-202302-08 M-KF-E-301-DI-202302-08 ER-ID-MA-202302-06	Interaction Design MA	2nd	5	
Related codes:	Type: Class work, seminar	Can it be an elective course? yes	In case of elective what are the specific prerequisites: -	

Course connections (prerequisites, parallels):
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Aim and principles of the course:

Hand-based, expressive interactions refer to the use of hand gestures, movements, and expressions to convey meaning and emotions. These interactions can take many forms, such as using hand gestures to communicate with others, using hands to create art or music, or using hand movements to express emotions. In general, hand-based, expressive interactions involve using the hands as a tool for communication and self-expression. These interactions can be an important part of many different activities, including social interactions, artistic endeavors, and sports and physical activities.

In general, expressive interaction is a branch of human interaction that focuses on expressive communication between actors performing in a particular context (e.g., culture, environment). Expression thereby refers to a quality of communication that is capable of evoking responses in return. By analyzing example research-through-design cases and a literature survey on the use of expressivity in interaction, we discuss how different perspectives and concepts contribute to understand expressivity in interaction. We integrate these perspectives and make them operational for interaction design by creating a framework including design considerations such as freedom of interaction, action-perception loops, multimodality, subtlety, ambiguity, skill development and temporal form. The framework is a result of a mixed-method approach including a review of existing definitions and scholarly artefacts, and a systematic literature review to identify design cases including an analysis of these design cases.

Learning outcomes (professional and general competences to be developed):

- Overall understanding of interactive systems and cognition
- Understanding realtime feedback loops
- Hands-on experience working with computer vision, hand tracking, conductive materials
- Generative methodologies and overall machine learning workflow
- Improved critical thinking and problem-solving skills

Topics and themes to be covered in the course:

- The role of hand gestures and movements in communication and nonverbal expression
- The use of hand gestures and movements in various cultural contexts and traditions
- The relationship between hand gestures and emotions, such as anger, happiness, and fear
- The use of hands in art and creativity, such as painting, sculpture, and music
- The role of hand movements and gestures in sports and physical activities
- The impact of technology on the use of hands, such as in virtual and augmented reality.

Specificities of process organisation / organisation of learning:
Most classes will be structured as the following:
0. recap
1. theoretical introduction to the actual topic
2. Q/A
3. hands-on session (workshop setup, group work using modern web technologies)
4. wrap-up

Students will share their impressions, insights and giving feedback to each other

Students' tasks and responsibilities:
presence and active participation in offline discussion and online channels

Learning environment: classroom & online

Assessment:
active participation on the classes
aesthetic qualities of the practical work

Requirements to be met:
presentation (visual introduction of the class work)

Method of assessment:
practical demonstration

Recommended Literature:
"The Handbook of Touch: Neuroscience, Behavioral, and Health Perspectives" edited by Matthew J. Cruccu, Olaf Blanke, and Jan Gruell
"Designing Gestural Interfaces: Touchscreens and Interactive Devices" by Dan Saffer
"The Invisible Computer: Why Good Products Can Fail, the Personal Computer is So Complex, and Information Appliances are the Solution" by Donald A. Norman
"The Nonverbal Dictionary of Gestures, Signs & Body Language Cues" by David B. Givens

Other information: On Fridays, 1.40pm-4.30pm in room B_004
Recognition of knowledge acquired elsewhere/previously/validation principle: -
Out-of-class consultation times and location -