Course syllabus

Augmented Reality - interaktion
Augmented Reality - Interaction

MAMN60, 7,5 credits, A (Second Cycle)

Valid for: 2023/24
Faculty: Faculty of Engineering, LTH
Decided by: PLED C/D
Date of Decision: 2023-04-18

General Information

Main field: Virtual Reality and Augmented Reality.
Compulsory for: MVAR2
Elective for: C5-da, D5
Language of instruction: The course will be given in English

Aim

The course aims to support students to gain in-depth knowledge of AR interaction by using techniques from different areas such as computer vision techniques, tracking techniques, and rendering methods. These techniques will be applied for interaction with different modalities. The aim of the course is to get a broader perspective on the challenges related to UN sustainable goals.

Learning outcomes

Knowledge and understanding
For a passing grade the student must

- show in-depth knowledge of how different techniques can be applied when designing AR interaction
- demonstrate knowledge about the specific possibilities and limitations of AR interaction
- show awareness of how to design AR interaction based on the needs, wishes, limitation, and abilities of a particular set of users and for a particular set of contexts and tasks.

Competences and skills
For a passing grade the student must

- be able to develop a prototype that demonstrates a specific type of AR interaction using best practices from the field of interaction design
- demonstrate the ability to critically and independently review research articles and reports in the field of AR interaction
- be able to evaluate AR interaction concepts and prototypes using tools and methods from the field of usability testing
- be able to write a scientific or technical report, about the AR interaction project.

Judgement and approach
For a passing grade the student must

- show readiness to deal with the challenges and unpredictability that occur when designing AR interaction
- show awareness of the ethical aspects that will arise due to the unique characteristics of AR technology.

Contents

The course is highly project-oriented and the students get in-depth knowledge about AR interaction by working hands-on with different types of AR technology. A programming project is carried out in groups. The project trains students' ability to understand the state of the art and apply this in a research or industry-related project. The project is supported by lectures and seminars.

The complexity of the project assignments may vary but all include technical development and in-depth learning in how to design AR interaction. The course is a project course based on the challenges related to UN sustainable goals.

Examination details

Grading scale: UG - (U,G) - (Fail, Pass)
Assessment: For a pass on the course, the participant must have attended the compulsory elements. In addition, the student must also have completed and passed the project work including a written report.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Admission

Admission requirements:

- MAMA15 Interaction Design, Basic Course or MAMN25 Interaction Design
- MAMF45 Virtual Reality in Theory and Practice

The number of participants is limited to: 40
Selection: Admission guaranteed for students for whom the course is mandatory. Selection rules for the remaining places: Completed university credits within the programme. Priority is given to students enrolled on programmes that include the course in their curriculum.

Reading list

- Compendiums, and articles from the EAT department.

Contact and other information

Course coordinator: Günter Alce, gunter.alce@design.lth.se
Examinator: Mattias Wallergård, mattias.wallergard@design.lth.se