DT2140 Multimodal Interaction and Interfaces 7.5 credits

Multimodala interaktioner och gränssnitt

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

On 04/21/2020, the Head of the EECS School has decided to establish this official course syllabus to apply from autumn semester 2020, registration number: J-2020-0677.

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Computer Science and Engineering

Specific prerequisites

Completed courses in all of the following fields.

- Programming, equivalent to DD1310/DD1311/DD1312/DD1314/DD1315/DD1316/DD1318/DD1331/DD1337/DD100N/ID1018.
- Human-Computer Interaction, equivalent to DH1620/DH1622/DH2624.

Active participation in a course offering where the final examination is not yet reported in LADOK is considered equivalent to completion of the course. This applies only to students

who are first-time registered for the prerequisite course offering or have both that and the applied for course offering in their individual study plan.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After passing the course, the student should be able to:

- describe how alternative or multi-modal HCI interfaces work, that utilise the latest technology
- evaluate strengths and weaknesses of multi-modal interfaces
- implement HCI interfaces that use new interaction technologies, for limited tasks
- suggest efficient design solutions for new interfaces that use different modalities

in order to be able to

- deepen her/his knowledge of new modalities of interaction in advanced courses
- exploit multimodality in applied projects
- choose an appropriate interface for a given task, from HCI and technical perspectives.

Course contents

The course gives the students theoretical and practical introductions to multi-modal communication and different HCI techniques.

The main focus of the course is on technologies for the transfer of information

- from the user, such as speech recognition, touch screens or tracking of eyes and gestures, and

- from the computer, such as unconventional visual representations, speech synthesis, rendered sounds and haptic feedback.

Particularly, the effects of combining different modalities are considered.

Examination

- INLA - Assignments, 1.5 credits, grading scale: A, B, C, D, E, FX, F
- PROA - Project, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- LABA - Laboratory Assignments, 1.5 credits, grading scale: P, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.