IMT4309 Usability and Human Factors in Interaction Design - Study plans 2016-2017

Course code:
IMT4309

Course name:
Usability and Human Factors in Interaction Design

Course level:
Master (syklus 2)

ECTS Credits:
7.5

Duration:
Autumn

Language of instruction:
English

On the basis of:
IMT2072 - Ergonomics in digital media

Expected learning outcomes:

The student, upon completion of this course, will:

Knowledge

- Have comprehensive knowledge of Interaction Design
- Have advanced knowledge of the term usability and its critical importance, as well as cognitive issues related to user behavior, and have specialized knowledge on a limited topic within usability
- Be able to recognize, analyze, compare and apply various design guidelines (heuristics) and methods for expert evaluation and inspection of interface design
- Have in-depth knowledge of various techniques for prototyping, and be able to apply this knowledge to the development of interface design and interaction

Skills

- Be able to analyze, inspect and respond critically to usability with respect to end-users in the development and evaluation of interactive systems
- Be able to discuss requirements for the design of user interfaces in digital media with regards to human factors and end-users needs, including people with disabilities
- Be able to analyze and assess the appropriateness of various methods for expert evaluation and inspection of user interfaces
- Be able to perform independent practical work in interaction design and usability
- Be able to analyse and inspect interactive systems in development and evaluation phases based on research-based and best-practice based knowledge of usability and end-users needs

Overall competence

- Be able to develop an understanding of and reflect upon theory, definitions and concepts in the field of usability, and contribute to the improvement of existing designs and IT solutions and to innovations within technology and design

Topic(s):

- Definition of interaction design (including user experience, and experience design)
- Core concepts in usability (including definition of usability, mental models, affordances, constraints, mapping, metaphors, visibility and feedback)
- Gestalt theory, interaction styles and interaction patterns
- Human factors, human error, embodied knowledge, user behavior and strategies
- Cognitive dimensions, such as perception, memory and attention, and the implications for design
- Usability heuristics (e.g. Nielsen, Schneiderman and Norman)
- Multimodality and various forms of interaction
- Universal design, inclusive design and design for all: people with disabilites and the use of technology
- Web Content Accessibility Guidelines (WCAG 2.0) and accessible web
- Standards and guidelines for usability work
- Prototyping (hi-fi/lo-fi, vertical/horizontal, evolutionary/experimental) and different techniques for prototyping (including serial and parallel prototyping)
- Development of wireframes, paper prototypes, and interactive prototypes.
- Expert assessments of usability (including heuristic evaluation, discount evaluation, PACT analysis and cognitive walkthrough)

Teaching Methods:
Essay
Lectures
Group works
Mandatory assignments
Meeting(s)/Seminar(s)
Other

Teaching Methods (additional text):
Student presentations

Form(s) of Assessment:
Other

Form(s) of Assessment (additional text):
Home exam, 5 hours, to be handed in electronically (40 %)

Groupwork (60 %)

Both parts must be passed separately.

Grading Scale:
Alphabetical Scale, A(best) – F (fail)

External/internal examiner:
2 internal examiners. External examiner is used periodically, next time autumn 2018.

Re-sit examination:
No re-sit exam is offered, assessment form (s) must be retaken the next time the course is running.

Tillatte hjelpemidler:

Examination support:
Dictionary - English/first language

Coursework Requirements:

- Portfolio submitted with compulsory assignments and exercises (must be approved)
  - Part-time students may replace mandatory group sessions with individual project (must be approved)
- Active participation in group assignments or individual exercises

Academic responsibility:
Faculty of Computer Science and Media Technology

Emneansvarlig kobling:
Amalia Kallergi

Course responsibility:
Associate Professor Amalia Kallergi

Teaching Materials:

- Johnson, Jeff (2014) Designing with the Mind in Mind. 2nd ed., Elsevier Science. ISBN: 9780124079144
- Rogers, Yvonne, Helen Sharp, Jenny Preece (2015) Interaction Design: Beyond Human-Computer Interaction, 4rd ed., J. Wiley & Sons
- Selected articles in a compendium.

Replacement course for:
IMT4032 Usability and Human Factors in Interaction Design

Publish:
Yes