HALMSTAD UNIVERSITY

Phone +46 35 16 71 00 - www.hh.se
School of Information Technology

SYLLABUS

-translated from Swedish
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Course Code: IK8026 / 1

User Experience Design for AI, 3 credits

Design av användarupplevelser för AI, 3 hp

Second cycle
Main field: Informatics, Second cycle, has only first-cycle course/s as entry requirements (A1N)

Syllabus is adopted by the Research and Education Board (2021-08-23) and is valid for students admitted for the spring semester 2022.

Placement in the Academic System

The course is given as a singel subject course.

Prerequisites and Conditions of Admission

Degree of Bachelor or Degree of Bachelor of Science in Engineering or the equivalent of 180 Swedish credit points or 180 ECTS credits at an accredited university. Applicants must have written and verbal command of the English language equivalent to English course 6 in Swedish Upper-Secondary School.

Course Objectives

The aim for the course is to introduce students to the diverse challenges and opportunities that emerge in user experience design when a product, service, or experience includes artificial intelligence components in either a structural, agentive, or evaluative role. At the end of the course, the student will gain a practical and theoretical understanding of what processes, methods, and techniques should be considered when designing human-centered AI-augmented experiences.

Following successful completion of the course the student should be able to:

Knowledge and understanding

- describe the opportunities and challenges that artificial intelligence brings to user experience design

- identify whether AI plays a structural, agentive, or evaluative role in an experience

Skills and ability

- demonstrate ability to critically identify which approaches, methods and techniques are relevant to frame and solve issues of human-AI interaction in AI-augmented experiences

- demonstrate ability to apply user experience methods and techniques that impact on all aspects, structural, agentive, and evaluative, of how AI contributes to the experience

Judgement and approach

- describe the contributions that user experience design can bring to the design of human-centered experiences where artificial intelligence is a key component

Primary Contents

The course consists of three parts that introduce the structural, agentive, and evaluative aspects of artificial intelligence and their meaning and impact on user experience design. Each part provides a general framing of the specific topic, and discusses what implications the topic has for the design of AI-augmented or AI-supported experiences in terms of identification, use, or modification of appropriate processes, methods, tools and techniques from user experience theory and practice.

1. Information architecture and structural AI (1 credits)
Part one deals with the conceptual and structural issues that need to be considered when designing AI-enhanced experiences and with the systemic role of AI as an environment-shaping agent and as a new design material.

2. Interaction design and agentive AI (1 credits)
Part two deals with artificial intelligence as an agentive part of the environment. It introduces basic design principles for human-AI interaction and human-AI collaboration, and product- and interface-level issues for AI-enhanced experiences using textual, gestural, voice, and other digiphysical interfaces.

3. Algorithmic experiences and evaluative AI (1 credits)
Part three introduces the concept of algorithmic experiences and the evaluative role of AI in large-scale processes where AI provides human actors with information for subsequent action. It discusses issues of cognitive and algorithmic bias, the building and maintaining of trust, and ways to prevent or fix the potential misalignment between human and software actors.

Each part consists of lectures and of an assignment broadly centered on the topic discussed in the part of the course and to be carried out by students individually. Assignments will be peer-reviewed first and then discussed with the teachers and class using a design critique approach.

Teaching Formats

The course will consist of scheduled online lectures, audio / video materials, guest lectures providing hands-on insights on the relationship between user experience and artificial intelligence, and individual assignments supported by supervision.

Examination

The overall grades of Fail or Pass will be awarded for the course.

The course is examined through written assignments that are performed individually.

Name of the test		Grading
Written Assignment 1	1 credits	U/G
Written Assignment 2	1 credits	U/G
Written Assignment 3	1 credits	U/G

If a disabled student has been granted learning support through a decision by Halmstad University, the examiner may decide on an adapted or alternative form of assessment for this student.

Course Evaluation

Course evaluation is part of the course. This evaluation should offer guidance in the future development and planning of the course. Course evaluations should be documented and made available to the students.

Course Literature

Covert, A. *How to Make Sense of Any Mess*. 2015 `https://howtomakesenseofanymess.com/`.

Noessel, C. *Designing Agentive Technology: AI that works for people*. Rosenfeld Media. 2017

Referenslitteratur

Alvarado, O., & Waern, A. (2018). Towards Algorithmic Experience. Proceedings of the 2018 CHI Conference on Human Factors in Computing Systems - CHI '18. doi:10.1145/3173574.3173860.

Lew, G. and Schumacher, R. M. (2020) AI and UX: Why Artificial Intelligence Needs User Experience. Apress.

Pagliaccio, S. (2020). Understanding Gender and Racial Bias in AI (Part I). UX Matters.

`https://www.uxmatters.com/mt/archives/2020/11/understanding-gender-and-racial-bias-in-ai.php`.

Shin, D., Zhong, B., & Biocca, F. A. (2020). Beyond user experience: What constitutes algorithmic experiences? International Journal of Information Management, 102061.doi:10.1016/j.ijinfomgt.2019.102061.

Smith, C. J. (2019) Designing Trustworthy AI: A Human-Machine Teaming Framework to Guide Development. AAAI FSS-19: Artificial Intelligence in Government and Public Sector Conference. doi:10.1184/R1/12119847.v1.

Wärnestål, P. (2021) Design av AI-drivna tjänster. Lund: Studentlitteratur. (in Swedish).