CS-486

Interaction design

Pu Pearl

Cursus	Sem.	Type
Computer science	MA2, MA4	Opt.
Cybersecurity	MA2, MA4	Opt.
Data Science	MA2, MA4	Opt.
Digital Humanities	MA2, MA4	Opt.
Robotics, Control and Intelligent Systems		Opt.
SC master EPFL	MA2, MA4	Opt.

Language of teaching	English
Credits	6
Session	Summer
Semester	Spring
Exam	During the semester
Workload	180h
Weeks	14
Hours	**4 weekly**
Lecture	2 weekly
Exercises	1 weekly
Project	1 weekly
Number of positions	

Summary

This course focuses on goal-directed design and interaction design, two subjects treated in depth in the Cooper book (see reference below). To practice these two methods, we propose a design challenge, which is further divided into mini-projects evenly spaced throughout the semester.

Content

Design methods for HCI
What is HCI: its aims and goals
Design thinking
Goal-directed Design
Mental model and different types of users
Qualitative research and user interviews
User modeling: persona and empathy diagram
Scenarios, requirements and framework design
Visual design
Information Visualization design
Basic prototyping methods for HCI
Storyboarding
Context scenario
Interactive prototype
Video prototype
Human computer interaction evaluation methods
Cognitive walkthrough
Heuristic evaluation
Evaluation with users

Keywords

Interaction design, design thinking, user interviews, ideation, storyboard, context scenarios, digital mockup, user evaluation, video prototyping.

Learning Prerequisites

Required courses

Interaction personne-système

Recommended courses

Open to students enrolled in the Master and PhD programs in IC.

Important concepts to start the course

Goal-directed design, design thinking, user needs assessment, user interviews & observation, ideation, prototyping, evaluation

Learning Outcomes

By the end of the course, the student must be able to:

- Interview users and elicit their needs using the goal-directed design method
- Design and implement interfaces and intearctions
- Project management: set objectives and device a plan to achieve them
- Group work skills: discuss and identify roles, and assume those roles including leadership
- Communication: writing and presentation skills
- Interview users and elicit their needs using the goal-directed design method
- Design and implement interfaces and interactions
- Project management : set objectives and device a plan to achieve them
- Group work skills : discuss and identify roles, and assume those roles including leadership
- Communication : writing and presentation skills

Teaching methods

Lectures, flipped classroom lectures, exercises, hands-on practice, case studies

Expected student activities

Participation in lectures, exercises, user interviews, ideation sessions, readings, design project, project presentation

Assessment methods

The assessments consist of five in-class open-book exercises, each lasting one hour. Three of these exercises will be randomly selected for grading. Additionally, there will be two mini-projects that will be graded based on group performance. Furthermore, students' individual engagement in group activities, including user interviews, ideation, prototyping, and peer evaluation, will also be evaluated to determine individual performance.
30% open-book exercises (done in class, open notes, open book) - individual performance
20% individual engagement in group activities such as user interviews - individual performance
50% project - group performance

Resources

Bibliography

About Face 3: The Essentials of Interaction Design by Alan Cooper et al. (available as e-book at NEBIS)

Ressources en bibliothèque

- About Face 3 / Cooper

Moodle Link

- https://go.epfl.ch/CS-486

Videos

- https://mediaspace.epfl.ch/channel/CS-486%2BInteraction%2BDesign/29793?&&