UCLouvain

mcomu2211

2024

Design et évaluation de prototypes web

5.00 credits	15.0 h	Q2

Teacher(s)	Kieffer Suzanne ;
Language :	French
Place of the course	Mons
Main themes	• Theoretical frameworks and disciplines for prototyping: (rapid) contextual design, rapid prototyping, cognitive engineering, usability engineering, agile method • Interrelation between the design and evaluation processes of systems, products, and Web services • Methodological principles used in prototyping: design and evaluation methods, prototyping techniques, user testing, validity of user tests, data collection • Specificities of user testing compared to other empirical research methods such as interviewing, observation, laboratory experimentation, A/B testing, etc.
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 Explain and make connections between the different concepts associated with prototyping. 2 Compare different prototyping techniques in terms of specific objectives, expected results, procedures, constraints (time, resources, budget). 3 Select and sequence several prototyping techniques to produce a web prototype iteratively and incrementally 4 Effectively conduct a series of user tests to improve the Web prototype. 5 Analyze the relevance of the data collected and reorganize if necessary the experimental protocol used in the user tests. 6 Justify and argue the choice of design (prototyping) and evaluation (user testing) methods.
Evaluation methods	Continuous assessment without examination in June, following two modes: individual assignments (50%) and group assignments (50%). In September, a custom-made individual assignment (i.e., based on failed modes) must be submitted on the first day of the session. The use of artificial intelligence (AI) tools must comply with the guidelines established by the ESPO faculty. It is permitted as a writing aid (e.g., text improvement, translation) and for information retrieval. For the submission of certain assignments, the instructor defines the other authorized uses (e.g., idea exploration, brainstorming, image or text generation).
Teaching methods	The pedagogical approach is blended teaching, which alternates face-to-face classroom teaching with online distance learning via Microsoft Teams. Teaching methods include flipped classroom and project-based learning: • Flipped classroom: students study or complete an assignment at home and then meet with teachers and peers in a classroom to ask questions, get extra help or work in groups; • Project-based learning: students develop a project by combining online learning (e.g. watching tutorials or completing assignments) and face-to-face meetings.
Content	What is prototyping? What is a prototype? Types of prototype (storyboard, paper prototype, wireframe, coded prototype...) The prototype in a test-and-refine approach (i.e., iterative and incremental) Formative user testing (improvement) versus summative user testing (validation) Data collection, data management and data processing
Inline resources	Moodle (asynchronous): course slides, bibliographic resources, calendar, models and rubrics, H5P exercises, tests, assignments, workshops with peer assessment, group choice, Q&A forum Microsoft Teams (live): calendar, meetings, documents, discussion, lecture notes

	Web links: how-to videos, websites, online software
Bibliography	Arnowitz, J., Arent, M., & Berger, N. (2010). *Effective prototyping for software makers*. Elsevier. Coyette, A., Kieffer, S., & Vanderdonckt, J. (2007, September). Multi-fidelity prototyping of user interfaces. In *IFIP Conference on Human-Computer Interaction* (pp. 150-164). Springer, Berlin, Heidelberg. Henreaux, E., Noutcha, M., Phan-Ngoc, T., & Suzanne, K. (2021, July). Design Sprints Integrating Agile and Design Thinking: A Case Study in the Automotive Industry. In *International Conference on Applied Human Factors and Ergonomics* (pp. 189-195). Springer, Cham. Kieffer, S., Lawson, J. Y. L., & Macq, B. (2009, April). User-centered design and fast prototyping of an ambient assisted living system for elderly people. In *2009 Sixth International Conference on Information Technology: New Generations* (pp. 1220-1225). IEEE. McCurdy, M., Connors, C., Pyrzak, G., Kanefsky, B., & Vera, A. (2006, April). Breaking the fidelity barrier: an examination of our current characterization of prototypes and an example of a mixed-fidelity success. In *Proceedings of the SIGCHI conference on Human Factors in computing systems* (pp. 1233-1242). Rukonic, L., Mwange, M. A. P., & Kieffer, S. (2021). UX Design and Evaluation of Warning Alerts for Semi-autonomous Cars with Elderly Drivers. In *VISIGRAPP (2: HUCAPP)* (pp. 25-36).
Other infos	All relevant information regarding these modalities and the progress of the activities (calendar, detailed instructions, evaluation criteria, etc.) are presented during the first session and are available on Moodle. Some resources (e.g. bibliographic resources, slides, explanatory videos) are in English.
Faculty or entity in charge	COMU

Programmes containing this learning unit (UE)

Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Communication	CORP2M	5		
Master [60] in Information and Communication	COMM2M1	5		
Master [120] in Communication	COMM2M	5		
Master [120] in Journalism	EJL2M	5		