




The version you're consulting is not final. This course description may change. The final version will be published on 1st June.

5.00 credits	15.0 h	Q2
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Language :	French
Place of the course	Mons
Main themes	<ul style="list-style-type: none"> <li>Theoretical frameworks and disciplines for prototyping: (rapid) contextual design, rapid prototyping, cognitive engineering, usability engineering, agile method</li> <li>Interrelation between the design and evaluation processes of systems, products, and Web services</li> <li>Methodological principles used in prototyping: design and evaluation methods, prototyping techniques, user testing, validity of user tests, data collection</li> <li>Specificities of user testing compared to other empirical research methods such as interviewing, observation, laboratory experimentation, A/B testing, etc.</li> </ul>
Learning outcomes	<p><b>At the end of this learning unit, the student is able to :</b></p> <ol style="list-style-type: none"> <li>1 Explain and make connections between the different concepts associated with prototyping.</li> <li>2 Compare different prototyping techniques in terms of specific objectives, expected results, procedures, constraints (time, resources, budget).</li> <li>3 Select and sequence several prototyping techniques to produce a web prototype iteratively and incrementally</li> <li>4 Effectively conduct a series of user tests to improve the Web prototype.</li> <li>5 Analyze the relevance of the data collected and reorganize if necessary the experimental protocol used in the user tests.</li> <li>6 Justify and argue the choice of design (prototyping) and evaluation (user testing) methods.</li> </ol>
Evaluation methods	<p>Assessment is based on <b>continuous evaluation</b>, with no examination in session.</p> <ul style="list-style-type: none"> <li>Regardless of cohort size, the weighting is set at 50% individual work (tests, data collection) and 50% group work (peer instruction, role-playing, data analysis, reporting).</li> <li>In the <b>September</b> session, an individual assignment tailored to the activities that were <b>failed</b> must be submitted on the first day of the session.</li> </ul> <p>The use of <b>artificial intelligence (AI) tools</b> must comply with the guidelines established by the ESPO faculty. Their use is authorized as support for writing (e.g., text improvement, translation) and for information retrieval. The instructor supervises other permitted uses in submitted work (e.g., idea exploration, brainstorming, generation of images or text).</p>
Teaching methods	<p>The course is organized in a <b>hybrid format</b>.</p> <ul style="list-style-type: none"> <li><b>Moodle/Teams articulation:</b> Moodle is the reference platform. All resources, official instructions, and assessments are centralized there. Teams complements this setup as a space for quick reminders, questions, and real-time communication. Documents and instructions are never duplicated on Teams.</li> <li><b>Flipped classroom:</b> At the beginning of the semester, students work independently on interactive H5P exercises on Moodle, complemented by a one-pager. The sessions (on campus or via Teams) are dedicated to Q&amp;A and consolidation activities (peer instruction, role-playing).</li> <li><b>Project:</b> From the middle of the semester onwards, the course focuses on the project, which includes both an individual administration of a questionnaire and a collective analysis of the corpus.</li> </ul>
Content	<p>What is prototyping? What is a prototype?</p> <p>Types of prototype (storyboard, paper prototype, wireframe, coded prototype...)</p> <p>The prototype in a test-and-refine approach (i.e., iterative and incremental)</p>

	Formative user testing (improvement) versus summative user testing (validation) Data collection, data management and data processing
Inline resources	Moodle: description of the learning setup, H5P exercises, slides, bibliographic resources, instructions/assessment rubrics, tests, assignments, workshops with peer evaluation Web links: explanatory videos, websites, online software
Bibliography	<p>Arnowitz, J., Arent, M., &amp; Berger, N. (2010). <i>Effective prototyping for software makers</i>. Elsevier.</p> <p>Coyette, A., Kieffer, S., &amp; Vanderdonckt, J. (2007, September). Multi-fidelity prototyping of user interfaces. In <i>IFIP Conference on Human-Computer Interaction</i> (pp. 150-164). Springer, Berlin, Heidelberg.</p> <p>Henreux, E., Noutcha, M., Phan-Ngoc, T., &amp; Suzanne, K. (2021, July). Design Sprints Integrating Agile and Design Thinking: A Case Study in the Automotive Industry. In <i>International Conference on Applied Human Factors and Ergonomics</i> (pp. 189-195). Springer, Cham.</p> <p>Kieffer, S., Lawson, J. Y. L., &amp; Macq, B. (2009, April). User-centered design and fast prototyping of an ambient assisted living system for elderly people. In <i>2009 Sixth International Conference on Information Technology: New Generations</i> (pp. 1220-1225). IEEE.</p> <p>McCurdy, M., Connors, C., Pyrzak, G., Kanefsky, B., &amp; 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 <i>Proceedings of the SIGCHI conference on Human Factors in computing systems</i> (pp. 1233-1242).</p> <p>Rukonic, L., Mwange, M. A. P., &amp; Kieffer, S. (2021). UX Design and Evaluation of Warning Alerts for Semi-autonomous Cars with Elderly Drivers. In <i>VISIGRAPP (2: HUCAPP)</i> (pp. 25-36).</p>
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 course and are available on Moodle. Some resources (e.g. bibliographic resources, slides, explanatory videos) are in English.
Faculty or entity in charge	COMU

<b>Programmes containing this learning unit (UE)</b>				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Communication	<a href="#">CORP2M</a>	5		
Master [60] in Information and Communication	<a href="#">COMM2M1</a>	5		
Master [120] in Communication	<a href="#">COMM2M</a>	5		
Master [120] in Journalism	<a href="#">EJL2M</a>	5		