UCLouvain

linfo1311

2019

In view of the health context linked to the spread of the coronavirus, the methods of organisation and evaluation of the learning units could be adapted in different situations; these possible new methods have been - or will be - communicated by the teachers to the students.

5 credits	30.0 h + 15.0 h	Q2

Teacher(s)	Vanderdonckt Jean ;
Language :	French
Place of the course	Louvain-la-Neuve
Main themes	**Introduction** • Major principles of human-machine interaction and user-centered design • Evolution of the HMI: from textual to graphic, from real to virtual, from static to dynamic, from interactive to highly interactive. **HMI technology** • Software and hardware devices for interaction with the user • Concrete and abstract interactive objects • Techniques (eg pull-leash), styles (eg, command language, direct manipulation) • Means of interaction (eg trackball) • HMI development environments (programming languages, toolboxes, libraries, demonstration programming, automatic generation, assisted design) • HMI standards, standards and development guides (eg IBM CUA, ISO 9241, CBN, etc.) **Contributions external to HMIs** • Contributions of cognitive psychology, prescriptive models • Theory of perception, of attention • Software ergonomics **HMI development methodology** • Life Cycles and Models (eg V, Spiral, ProdUser, Nabla) • Existing methods (eg Muse, Trident, Diane +, SOMA) • Preliminary design (including task model) • Detailed design (including operational specifications) • Prototyping (fast or not, iterative or not) • Evaluation: evaluation methods with / without users, with heuristics, by observation.
Aims	**Students who have successfully completed this course will be able to:** • Explain the challenges of human-machine interaction in order to design a human-machine interface (HMI) of an interactive application that is adapted to the user's task • Master the construction models of an HMI to use them wisely when designing an interactive application 1 **Students will have developed methodological and operational skills. In particular, they will have developed their ability to:** • Use interface development tools and appropriate technologies when developing the interface of an interactive application - - - - *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".*
Faculty or entity in charge	INFO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Aims
Master [120] in Linguistics	LING2M	5		🔍
Additional module in computer science	LSINF110P	5		🔍
Minor in Information and Communication Studies and Technologies	LSTIC100I	5		🔍