UCLouvain

linfo2382

2021

Computer supported collaborative work

5.00 credits	30.0 h + 15.0 h	Q1

Teacher(s)	Vanderdonckt Jean ;
Language :	English
Place of the course	Louvain-la-Neuve
Main themes	1. Support tools for collaborative work (computer - supported cooperative work) • types of tasks , model of 3 clovers • groupware : cooperative , collaborative , multi - user systems distributed or not in time and space • modeling tasks management group • contextual analysis (contextual inquiry) 1. M anagement systems intra -or inter - organizational (workflow systems) • major concepts and models of the workflow • workflow as a virtual machine • workflow as an organization, taking into account the context • workflow as the nervous center; normative , prescriptive models • workflow as cultural system , reconstruction of social reality • workflow as a political system , flow access and control • workflow as transformational system , change logic 1. S oftware tools for collaborative work , communication and resource sharing 2. Case Study • Planning and announcement of a working meeting • Recording shared response
Learning outcomes	**At the end of this learning unit, the student is able to :** 1 Given the learning outcomes of the "Master in Computer Science and Engineering" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes: • INFO1.1-3 • INFO2.1-3 • INFO5.1-3, INFO5.5 • INFO6.2 Given the learning outcomes of the "Master [120] in Computer Science" program, this course contributes to the development, acquisition and evaluation of the following learning outcomes: • SINF1.M3 • SINF2.1-3 • SINF5.1-3, SINF5.5 • SINF6.2 Students completing this course successfully will be able to • identify the main components of information systèmes and management systems to support tasks to be performed in groups as they occur in organizations and in their environment. • produce a detailed conceptual analysis for the design of such a system.
Evaluation methods	The continuous evaluation of this course is scheduled as follows: 1. An individual assessment on task modeling (2 hours during a course) via on-line software (4 points) 2. An individual assessment on workflow modeling (2 hours during a course) via on-line software (4 points) 3. A group assignment: each group of 2 students will define a one-page textual scenario for the beginning of the course that will be validated in order to apply the complete method of the course. Each group will submit by email to jean.vanderdonckt@uclouvain.be a report summarizing the results of the method on their textual scenario for the end of the course. This report will be summatively evaluated (12 points). A formative evaluation will take place before the final report is due: a first version of the report should be sent by email to jean.vanderdonckt@uclouvain.be to get feedback on the report. The feedback will be returned to each group in the following week. This formative evaluation is expected to give the opportunity to the students to improve their first version.

Teaching methods	The course first covers an overall introduction to concepts and models relates to CSCW, such as the time/place matrix. The teaching method consists of introducing, defining, illustrating, and applying a step-wise method for designing workflow management systems (WMF), as a particular instance of CSCW tools. The method is decomposed into the following steps, after defining a textual scenario of the global use case: 1. Identification of tasks based on identification criteria on time, space, and resources. 2. Task modeling: each task identified is subject to an individual task model. 3. Organization modeling: the organization which is responsible for the workflow is subject to a model. 4. Jobs and users modeling: the jobs and families of users identified in the scenario are subject to a definition of jobs. 5. Process modeling: the aforementioned tasks are gathered into a process model. 6. Workflow modeling: the entire workflow is represented as a Petri net, and decomposed into processes and tasks. 7. Prototype development: optional prototyping of the supporting workflow management software. 8. Workflow analysis: analysis of the existing workflow if any ("as-is") versus envisioned workflow ("to-be"). The course will be taught in a physical mode for the first course in order to give the guidelines and in virtual mode for the remaining courses (MS Teams) and evaluations (WiseFlow, email). Depending on conditions, an on-line course could be transformed into a physical course if there is a need for this purpose.
Content	This course covers Computer-Supported Collaborative Work (CSCW), which is defined as the field studying models, methods, and software tools and technology that support a group of individuals working on common tasks. Tasks can be carried out collaboratively in same/different places and/or same/different locations. The course particularly focuses on Workflow Management Systems (WMSs), as particular instance of CSCW.
Inline resources	All resources (slides, report template, examples, case studies, references) are available on-line at the Moodle corresponding course: https://moodleucl.uclouvain.be/course/view.php?id=10994
Bibliography	Wil van der Aalst and Kees van Hee, Workflow Management Models, Methods, and Systems, MIT Press, New York. Borghoff, Uwe M., Schlichter, Johann H., Computer-Supported Collaborative Work: Introduction to Distributed Applications, Springer, Berlin.
Other infos	The course LINGI2143 Concurrent Systems and Analysis is an asset as it covers Petri nets, but it is not mandatory.
Faculty or entity in charge	INFO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Master [120] in Computer Science and Engineering	INFO2M	5		
Master [120] in Computer Science	SINF2M	5		