UCLouvain

linfo2382

2023

Computer supported collaborative work

5.00 credits	30.0 h + 15.0 h	Q1

Teacher(s)	Vanderdonckt Jean ;
Language :	English > French-friendly
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. Students will be distributed in groups of three or four members and will be instructed to realize the assignment for this course, based on the report template available on Moodle. This template will be filled out with the results of the case study and will be submitted by the date of the last course. 2. Each group will select a case study related to a problem occurring in the area of collaborative work. For this case study, a workflow will be modeled and designed according to the method taught during the course. 3. Each group will submit via the on-line system a preliminary version of their report containing the actual state of their assignment. A formative evaluation may occur to provide each group with some feedback. 4. For the last course, each group will submit via the on-line system the final version of the report, which will be subject to a summative evaluation (20 points).

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").
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://moodle.uclouvain.be/course/view.php?id=4662
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		