



AALBORG UNIVERSITY
DENMARK

Studyboard for Humanistic Informatics
Fall 2014

Semester description

7th semester Human Centered Informatics

Semester details

School: School of Communication, Art and Technology (CAT)

Study board: Studyboard for Humanistic Informatics

Study regulation:

http://www.fak.hum.aau.dk/digitalAssets/90/90810_ma_human_centred_informatics_2014.pdf

Semester framework theme

Semester theme: *Analysis of ICT in Practice*

The semester consists of three modules and an elective course:

User Practice, User Analysis and Pilot Studies (project module, 15 ECTS)

ICT based Data Collection and Analysis (course module, 5 ECTS)

Professional inquiry (course module 5 ECTS)

Elective course (course module, 5 ECTS)

The overall purpose of studying Human Centered Informatics is to learn how to design and inform the design of well-reflected and useful ICT solutions in various contexts. The master's programme particularly emphasizes the importance of understanding what the use or introduction of ICT means to practice, as it always entails changes in organizational practices - changes which give cause to rethink, reformulate, or remediate practices in a given context. The domains relevant for this area of study are many, but the focus is on the use of ICT in practices relating to work, learning, and knowledge sharing processes within both public and private sectors.

The scope of the project work this semester is Analysis of ICT in Practice. The aim of the course, readings, and project activities within this framework is that you gain such a degree of theoretical, analytical and methodical knowledge and skills that you can complete a semester project and exam within the subject of User Practice, User Analysis and Pilot Studies (curriculum §9). You are free to choose your empirical case and methodological approach within this framework, but the central challenge of this semester's project work is to show that you can question, evaluate and argue for your empirical and methodological choices, analytical approaches, and conclusions.

Some of you may be new to problem based project (the Aalborg PBL model). You can read more about it and watch videos about this pedagogical model here. Also, in the course Professional Inquiry this model will be introduced and practised in more depth.

Recommended literature (something you could read - not should)

Dourish, P. (2004). Where the action is: the foundations of embodied interaction. The MIT Press.

Feldman, M. S., & Orlikowski, W. J. (2011). Theorizing practice and practicing theory. *Organization Science*, 22(5), 1240-1253.

Orlikowski, W. J., & Iacono, C. S. (2006). Desperately Seeking the 'IT' in IT Research: A Call to Theorizing the IT Artifact (pp. 19-42). Chichester, UK: John Wiley & Sons Ltd.

Rogers, Y., Sharp, H., & Preece, J. (2011). *Interaction Design: Beyond Human Computer Interaction*. Wiley.

Semester coordinator and secretarial assistance

Anchorperson: Thomas Ryberg

Secretariat assistance provider: Louise Mette Møller.

Module description: User Practice, User Analysis and Pilot Studies (15 ECTS)
Location 7 th semester <i>Study board</i> Humanistic Informatics
Module Teachers Thomas Ryberg, Helle Wentzer, Mette Skov, Malene Charlotte Larsen, Heilyn Camacho
Type and language Project module English
Objectives Knowledge of: <ul style="list-style-type: none"> • theory of science, theory and methods as regards the understanding of human practice and more specifically user practice in relation to technology use at the highest international level • digital culture and practice, cultural and social phenomena related to ICT use • cognitive, conative and emotive aspects of ICT use • the structuring of user analyses and pilot studies directed towards various domains and processes within work life, learning and knowledge sharing. Skills in: <ul style="list-style-type: none"> • assessing strategies and methods for user analyses and pilot studies on the basis of the needs of the study and knowledge of the disciplinary theories and methods. • choosing suitable strategies and methods for user analyses and pilot studies directed towards various domains • data collection and analysis as regards user analysis and pilot studies • communicating user analyses and pilot studies to peers and others. Competences in: <ul style="list-style-type: none"> • taking an analytical, reflective and critical approach to the preconditions for user analyses and pilot studies • taking an analytical, reflective and critical approach to user analyses and pilot studies • engaging in disciplinary and interdisciplinary collaboration on user analyses and pilot studies, with a professional approach • identifying own learning needs and structuring own learning in relation to the subject area of user analysis for pilot studies. Course description: This module introduces theories and methods relevant for analysis of user practice, user-system interaction, and for pilot studies related to ICT innovation, design and development. The course activities are planned as a series of lectures, casework and discussions, and will help the student in gaining knowledge about the theoretical and methodological issues of studying human practices especially in the context of technology use, with a focus on cultural and social phenomena related to the use of ICTs within different domains of everyday life. evaluating, choosing and reflecting on strategies and methods of user analysis, and collecting and analyzing data. There will be different tasks throughout the course activities, but the module as a whole is completed through an external, combined written and oral examination based on a project report prepared by one or more student(s). The project report requires a minimum of 15 pages per student and may not exceed 20 pages per student (max. 30 pages in individually prepared reports).

Reading guide

In some of the lessons, we will zoom in on articles for more thorough examination. The reading guide (see below) consists of a set of questions that you should use when reading those texts (and a good guide to reading all of them as well).

For articles via "AUB link" you need to be logged in through AUB and for others to access/be on AAUs network or VPN.

Recommended general literature (something you could read not should):

Rogers, Y., Sharp, H., & Preece, J. (2007). Interaction Design: Beyond Human Computer Interaction. (accessible online through Aalborg University Library and at the university bookstore (Strandgade))

Tracy, S. J. (2010). Qualitative quality: Eight "big-tent" criteria for excellent qualitative research. Qualitative inquiry(10), 837-851. (in the folder Course materials)

Klein, H. K., & Myers, M. D. (1999). A set of principles for conducting and evaluating interpretive field studies in information systems. (in the folder)

Dourish, P. (2004). Where the action is: the foundations of embodied interaction. The MIT Press.

Academic content and basis

Cf. semester description

Module activities (course sessions etc.)

Elements in the course

The Theory of practice

Lecturers: Thomas Ryberg & Helle Wentzer

This class introduces theoretical perspectives on the concept of practice within the humanities and social sciences, and discusses why a practice-based approach is valuable in relation to ICT innovation, design and development. Furthermore, it situates the programme Human Centered Informatics within these traditions.

Literature:

Reckwitz, A. (2002). Toward a Theory of Social Practices: A development in culturalist theorizing. European journal of social theory, 5(2), 243-263.

Orlikowski, W. J., & Iacono, C. S. (2006). Desperately Seeking the 'IT' in IT Research: A Call to Theorizing the IT Artifact (pp. 19-42). Chichester, UK: John Wiley & Sons Ltd.

Hirschheim, R., & Klein, H. K. (1989). Four paradigms of information systems development. Commun. ACM, 32(10), 1199-1216. doi:10.1145/67933.67937 - (available from here - requires AAU/AUB login/network)

Chapter 3 'Social Computing' in Dourish, P. (2004). Where the action is: the foundations of embodied interaction. The MIT Press. (will be made available in the materials folder below)

Chapter 1: 'Introduction - situated design' in. Greenbaum, J., & Kyng, M. (1991). Design at Work. New Jersey: Lawrence Erlbaum. (will be made available in the materials folder below)

Course materials:

ICT practices in everyday work life: Health

ICT practices in everyday work life: Health informatics (Helle Wentzer)

Health is fundamental to human's well-being. Health care is the biggest expenditure in the welfare state, but also one of the biggest area of investment and financial growth. Ehealth and welfare technologies are expected by politicians and central stakeholders to optimize health care production. But ict-development and implementation are a challenge to health care institutions, putting renewed attention to organizational innovation and user-creativity from ict-practice studies.

The course presents a three step model for evaluating user-practices. The model differentiates between different analytical levels of it-mediated communication and interaction:

1. The textual level

2. The level of user reception and usability

3. The cultural level of remediating meaning and identity in an ICT-infrastructure

Examples of each analytical level will be given from studies of: i. analysis of user-generated content in online patient communities, ii. analysis of reading and writing practices with electronic patient records, iii. Socio-technical studies of implementation.

Please choose one of the texts below for special focus with the reading guide.

Literature

Wentzer, H., Bygholm, A. (2013), Narratives of Compliance and Empowerment in Online Patient Communities. *International Journal of Medical Informatics*, Published March 2013. Attached below.

Wentzer, H., Böttger, U., Boye, N. Unintended Transformations of Clinical Relations with a Computerized Physician Order Entry System. *International Journal of Medical Informatics*. 2007;76:456–S461 (AUB link)

Wentzer, H., Bygholm A. Attending Unintended Transformations of Health Care Infrastructures *International Journal of Integrated Care*, 14 November 2007 - ISSN 1568-4156
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2092400/>

Wentzer, H. (2013), Opfølgende hjemmebesøg med video - Et telemedicinsk eksperiment til innovation af tværsektorielt samarbejde. KORA, http://www.kora.dk/media/173140/projekt3446_beskyttet.pdf

Ballegaard, SAA, Thorsen, MK, Bro, LL. Wentzer, H. (2012) Hjemmeteknologi til patienter med KOL. Patient, professionelle og organisatoriske perspektiver. KORA,
http://dsi.dk/udgivelser/?mode=product&id=360&type=book_whole&project_id=3331

ICT practices in everyday work life: Business organizations

Name of the topic: ICT practices in everyday work life: Business organizations/ Studying practice in relation to adoption and implementation of ICT with focus on Small and Medium sized Enterprises (SMEs)

Description

The aim of the session is to provide an overview about the usage and adoption of ICT in business organization, including methodologies for practice studies within the field. Furthermore, students will get to know the process of alignment of ICT and business strategy as a key element to take advantage of the use of ICT in organization. After this general overview, the session will focus on medium sized enterprises (SMEs). How SMEs are taking up the opportunities offered by ICT?. Students will be exposed to the characteristics of SMEs, their challenge to adopt ICT and their opportunities. Finally, the session will look at a case of development and implementation of an information system in a medium size company in Costa Rica (analysis of tensions between the organizational practice and the IS development process and implementation).

Type of teaching: Lectures in combination with online activities

Lecture: Tuesday September 16th, from 12:30-16:00, room 4.105, by Heilyn Camacho

Literature:

Obligatory

Wei Dai (2009) The Impact of Emerging Technologies on Small and Medium Enterprises (SMEs). *Journal of Business Systems, Governance and Ethics* Vol 4, No 4 (in the folder)

Alberghini, E., Cricelli, L. and Grimaldi, M. (2013). KM versus enterprise 2.0: a framework to tame the clash, *Int. J. Information Technology and Management*, Vol. 12, Nos. 3/4, pp.320–336. (in the folder)

Cataldo, A., McQueen, R. and Hardings J (2012) Comparing Strategic IT Alignment versus Process IT Alignment in SMEs. *Journal of Research and Practice in Information Technology*, Vol. 44. (in the folder)

Complementary

Stocker, A., Richter, A., Hoefler, P. & Tochtermann, K. (2012). Exploring appropriation of enterprise wikis: a multiple-case study. *Computer Supported Cooperative Work*, 21. 317 – 356

Paroutis, S. & Saleh, A. A. (2009). Determinants of knowledge sharing using Web 2.0 technologies. *Journal of Knowledge Management*, 13 (4). 52 -63. (in the folder)

Literature and Material Folder

ICT and user practice in a museum context

Lecturer: Mette Skov

From a user perspective this session addresses the growing importance of ICT in museum contexts. The focus of the session is to introduce theoretical and methodological approaches to study practices in both the physical and virtual museum. Accordingly three different case studies from the museum domain are presented and discussed.

Literature:

Kidd, J. (2011). Enacting engagement online: framing social media use for the museum. *Information Technology & People*, 24(1), 64-77. (In folder)

Lykke, M. & Jantzen, C. (2013). Walking around to grasp interaction. INTERACT, Walking for data workshop, September 2, 2013, Cape Town, South Africa. (In folder)

Skov, M. (2013). Hobby-related information-seeking behaviour of highly dedicated online museum visitors. *Information Research*, 18(4), 597. Link: <http://www.informationr.net/ir/18-4/paper597.html#.U-30g0jUuM0>

Literature and material Folder

ICT practices in everyday private life: Internet culture and social media I

Lecturer: Malene Charlotte Larsen

In these two lectures on ICT practices in everyday private life we focus on internet culture and how everyday practices on social media can be studied. Especially, we concentrate on virtual ethnography and nexus analysis as frameworks for studying online social practices.

The first lecture will focus on theoretical and methodological background.

Literature

Scollon, R., & Scollon, S. W. (2004). *Nexus Analysis: Discourse and the Emerging Internet*. London; New York: Routledge: Fieldguide.

Hine, Christine (2004): *Virtual Ethnography Revisited*. Paper summary prepared for session on Online Research Methods, Research Methods Festival, Oxford, July 1st 2004

Interview: Christine Hine on virtual ethnography's E3 Internet, *Ethnography Matters*, November 29, 2013

YouTube-video: Christine Hine on Online Research Methods, University of Surrey, Jul 2, 2013

ICT practices in everyday private life: Internet culture and social media II

Lecturer: Malene Charlotte Larsen

In the second lecture on ICT practices in everyday private life we will look at existing research on the uses of social network sites. Especially, we will focus on the concept of identity in relation to online social practices.

Literature

Larsen, M. C. (2007). Understanding Social Networking: On Young People's Construction and Co-construction of Identity Online. Paper presented at Internet Research 8.0: Let's play, Vancouver, Canada.

Wittkower, D. E. (2014). Facebook and dramauthentic identity: A post-Goffmanian theory of identity performance on SNS. First Monday; Volume 19, Number 4 - 7 April 2014.
ICT practices in everyday work life: Education - networked learning

Lecturer: Thomas Ryberg
ICT practices in everyday work life: Education - networked learning

Lecturer: Thomas Ryberg
ICT practices in everyday work life: Education - networked learning

Lecturer: Thomas Ryberg

Examination

The module as a whole is completed through an external, combined written and oral examination based on a project report prepared by one or more student(s). The project report requires a minimum of 15 pages per student and may not exceed 20 pages per student (max. 30 pages in individually prepared reports).

Module description

ICT based Data Collection and Analysis (5 ECTS)
Location 7 th semester Study board Humanistic Informatics
Module coordinator Tanja Svarre Jonassen, a.o.
Type and language Project module English
Objectives In this module students will acquire: Knowledge of: <ul style="list-style-type: none">theories and methods at the highest international level as regards qualitative and quantitative oriented data collection and analysis in relation to user analyses and pilot studiesICT systems for data collection and analysis in relation to user analyses and pilot studiesprinciples, including ethical principles, for managing ICT systems for data collection and analysis in relation to user analyses and pilot studies. Skills in: <ul style="list-style-type: none">assessing and selecting a method for qualitative and quantitative oriented data collection and analysis in relation to user analyses and pilot studiesselecting, configuring and adapting ICT systems for qualitative and quantitative oriented data collection and analysis in relation to user analyses and pilot studiescommunicating methods for ICT based data collection and analysis to peers and laymencommunicating results on ICT based data collection and analysis to peers and laymen. Competences in: <ul style="list-style-type: none">taking an analytical, reflective and critical approach to qualitative and quantitative oriented data collection and analysis in relation to user analyses and pilot studiesengaging in interdisciplinary collaboration on ICT based data collection and analysis in relation to user analyses and pilot studiesidentifying own learning needs and structuring own learning in relation to the subject area of ICT based data collection and analysis in relation to user analyses and pilot studies. <p>This module introduces theories, methods and tools within the area of ICT based Data Collection and Analysis, offering a range of possibilities of collecting large amounts of data regarding the use of e.g. web-based ICT solutions. These possibilities calls for more fundamental reflections on issues of e.g. ethical nature regarding the potentially extensive mappings of individual users' behaviour. The student is expected to carry out ICT based data collection and analysis for the support of ICT user studies and pilot studies.</p> <p>Examples of readings: Duval, E. & Verbert, K. (2012). Learning analytics. <i>E-learning and education</i>, 1(8). Available from: http://eleed.campussource.de/archive/8/3336 Greller & Drachsler (2012). Translating learning into numbers: A generic framework for learning analytics. <i>Educational Technology & Society</i>, 15(3), 42-57. Available online at: http://lnx-hrl-075v.web.pwo.ou.nl/bitstream/1820/4506/1/Translating%20Learning%20into%20Numbers%20-%20LA%20framework.pdf Minelli, Chambers & Dhiraj (2012). Big Data, Big Analytics : Emerging Business Intelligence and Analytic Trends for Today's Businesses. Somerset: Wiley. Tilgængelig online via AUB. Singh & Singh (2012) Slade & Prinsloo (2013). Learning analytics: ethical issues and dilemmas. <i>American Behavioral Scientist</i> (Online First). Available online at: http://oro.open.ac.uk/36594/2/ECE12B6B.pdf Trzaskowski, J. (ed.). (2012). <i>Internetretten</i>. Copenhagen: Ex Tuto. Chapter will be distributed in advance. Wigan, M.R. & Clarke, R. (2013). Big data's big unintended consequences. <i>Computer</i>, 46(6), 46-53. Available online via AUB.</p>

Academic content and basis Topic 1 Welcome and introduction Datacollection, tools (Tanja) <ul style="list-style-type: none"> · Learning analytics · Logdata · Sensordata · Big data Literature: Duval &Verbert (2012) Greller & Drachsler (2012) Minelli,Chambers & Dhiraj (2012), ch. 1 Topic 2 Topic 3 Topic 4 Ethics from a legal perspective (Søren Sandfeld Jakobsen, AAU, Dept. of Law) Literature: Trzaskowski(ed.) (2012), ch. 9
Scope and expectations The module equals 5 ECTS points corresponding to a student workload of app. 137,5 working hours.
Participants 7 th semester IA students
Examination The course module is completed with a set, individual internal written exam (max. 10 pages) graded according to the seven-point grading scale. The student is given 7 days to complete the assignment.

Module description

Module: Professional Inquiry (5 ECTS)
Location 7 th semester HCI Study board Humanistic Informatics
Module coordinator Ellen Christiansen ech@hum.aau.dk and Heilyn Camacho hcamacho@hum.aau.dk
Type and language Study module English
Objectives The module comprises the development and phrasing of empirical inquiry for the purpose of enabling students to formulate research questions and scientific problems within the field of informatics. This will form the basis of the problem based project work and inquiries to be carried out during the course of the informatics study programme. Knowledge of: <ul style="list-style-type: none"> • the connections and differences between empirical inquiry and research questions based on informatics • the connection between research questions and the theory of science in the organisation of scientific research • theory of science within the field of informatics Skills in:

- describing empirical inquiry
- translating empirical inquiry into a scientific research question within the field of informatics
- combining a scientific research question with the theoretical basis of its investigation

Competences in:

- preparing scientific research based on personal inquiry
- taking a reflective approach to the basis of scientific inquiry
- engaging in disciplinary collaboration on scientific problem formulation

Methodology

Problem Based Learning is the backbone of the didactics and pedagogy at Aalborg University.

The goal of this course "Professional Inquiry" is for the students to become articulate and hands on skilled in what PBL entails, how to study the PBL way, and how to assess the quality of outcomes of PBL studies, all by being exposed to a PBL practice – a practice which compasses a circle of steps from (a) identifying a self-chosen societally relevant problem – which in this case means competence in professional inquiry in and outside of Academia, (b) engage in search for literature and empirical facts, (c) problem delineation, (d) empirical and theoretical inquiry, (e) experiments, (f) production and (g) writing up a shared project report. By way of Action Learning the students will in seven consecutive workshops develop their knowledge and skill and sense of quality of PBL as an approach to Academic inquiry.

Course book: Schön, D. (1983). The reflective practitioner - how professionals think in action. London: Ashgate Publishing

Scope and expectations

The module equals 5 ECTS points corresponding to a student workload of app. 137,5 working hours.

What it takes:

Reading in preparation the course literature, and showing up to the seven sessions scheduled, and uploading the seminar assignments in Moodle

Participants

Students from 7th Semester HCI

Module activities (course sessions etc.)

Introduction to the Module + PBL

Date: 04-09-14 from 9:00- 12:00

Topic: Introduction to the module (objectives, schedule, examination), to the main course book: and to the concepts of Professional Inquiry, "Action learning", "knowing", "competence" and "Problem Based Learning", self-assessment and quality of assignments that will pass.

Lecturer: Ellen Christiansen and Heilyn Camacho

Literature:

Dreyfuss & Dreyfuss: Mind Over Machine – paperback edition from 1988 or later

Hannon, J., Riddle, M., & Ryberg, T. (2014). Assembling university learning technologies for an open world: connecting institutional and social networks. I S. Bayne, C. Jones, M. de Laat, T. Ryberg, & C. Sinclair (red.), Proceedings of the Ninth International Networked Learning Conference. (s. 443-452)

Yeo, R and Marquard, M. (2010) Problems as Building Blocks for Organizational Learning: A Roadmap for Experiential Inquiry Group & Organization Management 2010 35: 243 (online in AUB)

Marquardt, Michael. Breakthrough Problem Solving with Action Learning : Concepts and Cases. Stanford Business Books. From Page 30-60 (online in AUB)

Engage in search for literature and empirical facts

Date: 11-09-14 from 9:00- 12:00

Topic: Engage in search for literature and empirical facts

Lecturer: Ellen Christiansen and Heilyn Camacho

Literature: The course book and additional readings to be assigned later

Problem Formulation

Date: 18-09-14 from 9:00- 12:00

Topic: Problem delimitation

Lecturer: Ellen Christiansen and Heilyn Camacho

Literature: The course book and additional readings to be assigned later

Empirical and theoretical inquiry

Date: 25-09-14 from 9:00- 12:00

Topic: Empirical and theoretical inquiry

Lecturer: Ellen Christiansen and Heilyn Camacho

Literature: The course book and additional readings to be assigned later

Experiments

Date: 02-10-14 from 9:00- 12:00

Topic: Experiments

Lecturer: Ellen Christiansen and Heilyn Camacho

Literature: The course book and additional readings to be assigned later

Production

Date: 07-10-14 from 12:30 – 15:00

Topic: Production

Lecturer: Ellen Christiansen and Heilyn Camacho

Literature: The course book and additional readings to be assigned later

Writing up a shared project report including critical reflection upon action

Date: 09-10-14 from 9:00- 12:00

Topic: Writing up a shared project report including critical reflection upon action

Lecturer: Ellen Christiansen and Heilyn Camacho

Literature: The course book

Examination

Examination may be completed by satisfactory and active participation in the module, i.e. a minimum of 80% attendance and completion of set tasks in a portfolio posted in Moodle.

Alternatively: An internal written examination in English in "Professional Inquiry"

The examination is a seven-day take-home assignment on a set topic.

Evaluation: pass/fail.