

Thesis Meeting Content and Knowledge Engineering

26 September 2006



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Program

- 11.00 - Welcome
Thesis process and regulations
- 11.45 - Thesis process
 - Robbert-Jan Beun / Rogier van Eijk / Huub Prüst
 - Herre van Oostendorp
 - Mari Carmen Puerta Melguizo
 - Anita de Waard
 - Jörgen vd Berg
 - Eleonore ten Thije
 - Hans Voorbij / Leen Breure
 - Joske Houtkamp
 - Virginia Dignum
 - Frans Wiering
- 12.30: Lunch
Market: possibility to get more information



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Thesis process



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General setup

- Duration: 3 periods (45 ects) = 9 months
- Location: internal, external
- Supervision – Thesis committee:
 - 1st supervisor (always a lecturer CKE)
 - 2nd supervisor
 - External supervisor
 - Expert advisor



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Starting Thesis

- Admission
 - max 2 open optional courses (15 ects): not compulsory courses
 - subject to approval of proposal
- Approval Process
 - Informal contacts
 - Draft proposal discussed with supervisor
 - Submit proposal to Thesis Approval Committee (TAC)
 - Herre van Oostendorp, Frans Wiering
 - Upon approval by TAC
 - 'Official' appointment of Thesis Committee (TC)
 - Fill in registration form (Masoud)
- Start!



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Thesis Proposal

- Contents
 - Problem definition / research question (WHAT)
 - Scientific and social relevance of project (WHY)
 - Research method (HOW)
 - Host organization (WHERE)
 - Literature
 - Project plan (timeline) and deliverables
- Maximal 800 words
- Personal and supervisor information
- "Masoud's form" = start permit



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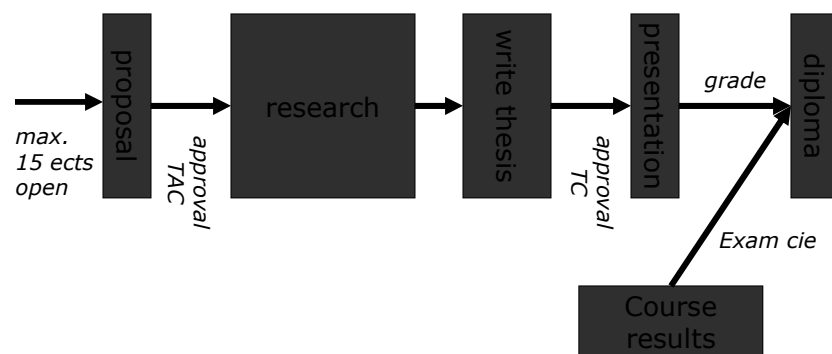
Thesis projects

- Suggested projects:
 - <http://www.cs.uu.nl/cke/thesis/openth.html>
 - <http://www.cs.uu.nl/education/vak/afst45>
 - Ask lecturers of courses that you find interesting
 - In all cases: also contact your student advisor (me!)
- Language: English
 - Unless otherwise demanded by host organization
- Content: check Thesis guidelines
- Scientific paper
 - eventually, always in collaboration with supervisors



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Thesis project process



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Thesis report (scriptie)

- Contents:
 - Title
 - Summary, (plus Dutch Summary)
 - Introduction/motivation
 - Problem definition
 - Related work/ literature study
 - Research methodology
 - Results
 - Discussion
 - Conclusions
 - Bibliography and references



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Examination meeting

- Public meeting
- Date: fixed upon agreement TC
 - Request date with student-administration
 - Reserve room, beamer, laptop at BBL balie
 - Mail abstract of thesis to student-administration
- Presentation
 - 45 minutes, followed by 15 minutes questions
- Evaluation
 - 1st and 2nd supervisors decide upon consultation of external supervisors
- After
 - Inform BOS grade (signed form by TC)
 - Hand in copy of thesis, also digitally (BOS, TC)



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Graduation

- Register for the final exam at Dean's Office
 - All info: <http://www.cs.uu.nl/education/advies/master.html>
- Public meeting in the Boothzaal, Library
- After completion of whole master program
 - Courses
 - Thesis
- Make sure your thesis presentation is at least 3 weeks before the planned graduation date
- Possible graduation dates 2005/2006:
 - Thursday December 14th 2006 (27 Nov)
 - March 2007
 - June 2007
 - End August 2007



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Do's and don'ts

By: Katharina Schwarz



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- Start writing ASAP
 - Make an abstract
 - Start by making a table of contents, even if it will change (and it will)
- Use often the feedback of your supervisors, even if you think you have nothing to ask
- Use 'old' thesis as example for form and layout
- Don't keep trying when it does not work
- Try to present your work often
- After graduation:
 - Don't forget to return your OV, end your student insurance, and if you are also finishing your bijbaantje check the consequences for the health insurance



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Questions?



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Thesis Project

Robbert-Jan Beun



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Embodied Conversational Agents

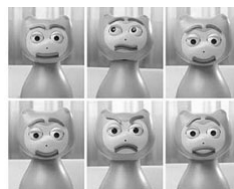
How can we give the interface human communicative characteristics?

Topics:

- Nonverbal communication
- Speech and language
- Dialogues

Methods:

- Literature research
- Implementation
- Modeling
- Experiments



Robbert-Jan Beun
Rogier van Eijk
Huub Prüst

Thesis Project

Herre van Oostendorp



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1. Animation

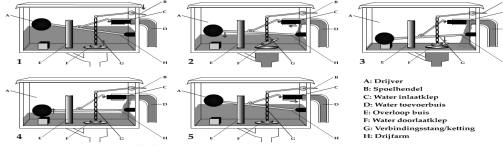
- Animated diagrams versus static pictures representing dynamic systems
- Empirical literature: often no benefit of animated diagrams over static pictures
- Why?
 - Attitude: overconfidence in understanding with animation
 - Information load: role of focus
 - Further experimentation:
 - adaptability of presentation
 - Role of **mental** animation



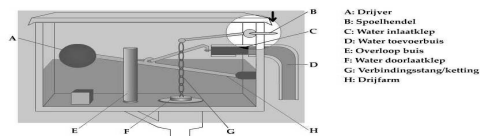
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Example of static versus focus animation of the 'toilet flush'

1. De speelhendel wordt naar beneden getrokken door de toiletgebruiker. De verbindingstang/ketting trekt de water doorslaakleip omlaag. Het water uit de speelbak loopt weg naar de toilet.
2. De drijver daakt met het water mee, de drijfrem zinkt er voor dat de water inlaatklep wordt opengetrokken.
3. Door de zwaarte van het weggelopen water, wordt de water doorslaakleip weer in de afvoer gezogen, er stroomt geen water meer naar het toilet.
4. De speelbak loopt langzaam vol door de toevvoer van water door de water inlaatklep.
5. De drijver stijgt met het water mee en bereikt het punt waarbij de drijfrem de water inlaatklep weer dicht doet.



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2. Making Sense of Evidence



- with Susan van den Braak, Henry Prakken & Gerard Vreeswijk
- Crime investigation: lot of errors, costs of mistakes high.
 - Problems: difficulties in achieving deep and complete analysis, lack of overview, lack of transparency for later, subsequent use
 - Improving existing software BRAINS by improving reasoning power, integration with sources, and usability
- Ongoing research PhD project (Susan); usability engineering study: development of AVER, argument visualization for evidential reasoning in crime investigations



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Thesis Projects

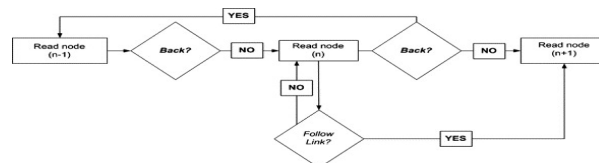
Mari Carmen Puerta Melguizo
puerta@cs.uu.nl



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1. Disorientation and Comprehension in Hypertext

□ Reading in Hypertext means to decide what links to follow



□ Consequences

- Increasing demands of decision making
- Affects comprehension and success in finding information
- **Lost in Hyperspace:** not knowing where you are and where to go

□ Effects of different links structures

- Depth: number of levels
- Breadth: number of choices at each level
- Topology: e.g. an increasing number of choices at each level as depth increases
- Types: semantic, hierarchical...



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2. Task Demands and Memory in Web Interaction

- q Memory for location of web elements (i.e. links) is worse than memory for finding information in a page of a web site (i.e. text)?
 - q The way information is processed and remembered depends on the task demands

- q Different web tasks have different impacts on memory
 - q Locating links
 - q Finding specific facts
 - q Finding dispersed information in a web site

- q Effects on
 - q Task performance and memory for location and content
 - q User's mental model
 - q Dual task paradigm to measure the levels of processing of the different web tasks
 - q The reaction time of a secondary task is affected by the level of processing of the web tasks



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Thesis Project

Anita de Waard



Jörgen vd Berg



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@ Elsevier

- The Life flow of a scientific article
 - Analyse and improve the format of the scientific article throughout the publishing process of Elsevier.
 - Differentiate between production goals, system requirements and user needs.
 - Normalize the DTD's between Science Direct and Scopus.
- DTD/Schema versioning
 - Compare the schema evolution and versioning between Science Direct and Scopus. What are the effects of a change in a schema on the production process?
- Normalizing Elsevier.com
 - 200 independent websites are used to advertise Elsevier's projects.
 - Can hosting, development, maintenance be centralized?



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Thesis Project

Jörgen vd Berg



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Subjects

- @ ThiemeMeulenhoff
- @Tedopress
- Structured Document Retrieval
- Your proposal...
 - In the area of content engineering, databases, WWW services, or information retrieval.



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Thesis Project

Eleonore ten Thij



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Evaluation Methods for Online Community Sites



Goal: what we all like to know about.....

a model for predicting relationships between the appreciation of different types of online community websites and specific website features.

Project 1: why we appreciate



- n refining, validating, improving current method for analysis and implementation of website features
- n performing survey research to collect appreciation data
- n measuring to what extent website features contribute to the appreciation of community sites

Project 2: in which context we appreciate

- n analyzing relationships, social network interactivity
- n performing survey research to collect (



Knowledge Management **SKF**

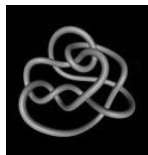


Leading global supplier of products, customer solutions, and services in the business of rolling bearings and seals
(Turnover '05: MSEK 49,285; Employees: 38,748; Organization: R&D, manufacturing sites, sales offices, distributors, etc.)



Evolving to a knowledge engineering company!

- Investigate and (re)design knowledge management infrastructure between SKF R&D and SKF product development
- Efficient use of technical catalogues, articles, handbooks, R&D reports in report archive, virtual library, intranets, external services



Construct and 'test' a model to assess design and use of KM-tools

- analyze the actual use of the tools;
- relate the (structural) collaborative work context to the knowledge infrastructure in which the tools are used, and to their functionality and presentation

Thesis Project: Cultural Landscape Explorer

Visualizing cultural landscapes

Hans Voorbij



Leen Breure



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Visualizing cultural landscapes

- Combination of
- Cultural heritage visualization
 - Geographic context of cultural objects
- Geovisualization
 - Conceptual modeling techniques
- Visual narrative
 - Interactive and explorative “reading” on different levels
 - Integrating visual summary
 - Facilitated by a hypermedia system



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Cultural Landscape Explorer

- Define an architecture that supports such a hypermedia system
 - Visual summary
- Develop semi-automated production methods for the accompanying multimedia content
 - Reusable content
 - Cost-effective, streamlined production methods

Pilot project: Vechtstreek



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Geovisualization

- Digital earth software
 - World Wind, Google Earth, ArcGIS, .
- Markup languages
 - GeoXML, KML, GeoVRML
- Animated and interactive maps
- Pictorial content management systems
 - Metadata



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3D-modeling

- Visualisation and representation
 - Terrain modeling
 - Water management
- Photo realistic or non-photo realistic
 - Objects
- Maps and plans
 - Reconstruction vs. realism



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Experience

- Information centered or experience centered website
 - Authoring narratives
 - Design patterns
- Serious games
 - User-centered design



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Thesis Projects

Joske Houtkamp



NB:
No projects available in 2006
Start in 2007



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Research theme virtual environments (3D models)

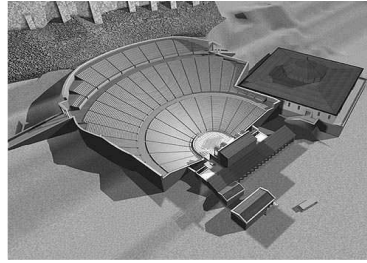
Affective Appraisal of 3D-models of the built environment on desktop computers

Models are designed to be geometrically accurate and "realistic" (convincing).



Questions

§ Are the judgments on the represented buildings or environments (for instance impressive, ugly, calming, stylish...) similar to those in reality?



§ What are the consequences of the differences with reality (no sound, restricted field-of-view, reduced resolution, navigation, etc.) ?



Example projects (1)



Manipulations
"Kop van Zuid" area
(Rotterdam)



§ Version A: clean
§ Version B: urban dilapidation

Example projects (2)

§ Manipulation of Carré Theater

§ Problems in measuring the appraisal of, and response to, a synthetic environment



Example projects (3)

§ Validation of a Driving Simulator, especially the role of the represented environment

§ Emotional response to virtual game environments



Thesis Projects

Virginia Dignum



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Topic: Influence of organizational environment on knowledge sharing

1. Development and analysis of a simulation/role-playing game to study the effect of environment and organizational characteristics on knowledge sharing behavior
 2. Case study: analyze the characteristics of different organizations' environments (market, domain,...), the organization model (strategy, structure, norms, informal networks,...) and choice for knowledge sharing solution.
- Part of NWO-project 'Supporting Effective Knowledge Sharing'



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Topic: Personality based reasoning

- Emotion and decision making
 - Damasio: no emotions lead to endless reasoning, no decision
 - Different personalities -> different decisions
 - E.g. Meyers-Briggs describes personality types
- Project
 - Design knowledge model for personality-based decision making characteristics
 - Develop simulation of interaction with different personalities



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External possibilities

- Companies in NL
 - CapGemini
 - Contact: Virginia Dignum
 - Exact: Expert system for dynamic workflows and normative compliance
 - Contact: Virginia Dignum
- Abroad
 - Several current contacts
- BYO J



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Thesis Project

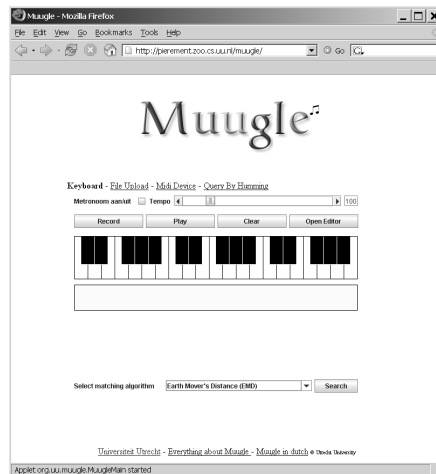
Frans Wiering



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Content-based music retrieval

- Verschillende projecten i.s.m. Multimedia and Geometry (Remco Veltkamp)
- Muugle framework
- Witchcraft: 4-jarig project rondom Nederlandse lied, i.s.m. Meertens Instituut
- Veel ruimte voor afstudeerprojecten, b.v:
 - doelgroepen en gebruikersbehoeften
 - query interfaces voor muziek
 - muzikale genres en features
 - presentatie output
 - evaluatie retrievalsystemen



give-lab.cs.uu.nl/muugle

Lunch!



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