Semantic Services for Personalised Learning and Formative Feedback

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From the vaults of contemporary chemistry, comes the ultimate connector between particles, new materials, electromagnetism, frequency absorption and the art of war. The spirit of block 30, strategic survivability, tactical speed, swift response and precision. Radiation hardened circuits, frequency absorbing leading edges, resting on titanium structures connected with carbon reinforced plastic, with minimal seams in skin, that still result in images on crosshairs of adversary radar systems. No access is the ultimate policy, no apertures of any kind. Closed systems. Conductive elastomer for uniform electrical conductivity. The endless tactile landscapes, airflow gliding above a rubber like structure, boundary layers to be disposed of, moisture to be avoided. Ultimate sensor and system integration, kearfott inertial management, astro inertial unit, 52.43 meters of wing, 490.05 square meters of surfaces, 181,400 kilograms of reality, 15,240 meters of sky, 11,675 kilometers of land, air blasts of crystallized starch, from 70 to 20.8 to 9.2 hours of restructuring per hour of flight. Surfaces covered by alternate high frequency material for 12 days. 4 robots. After this frequency material dance, quietly polishing the skin of the spirit, nurturing it layer after layer. Come the humans. 1000 microns of survivability. 1000 microns of silence.

-Marco Peljhan ("ahfm - alternate high frequency material - absorption, not scattering is the final goal")

Photo by bacteriasleep@Flickr
Semantic Aware Applications

• Purpose: Assessment & Feedback Service that support the traditional tutoring work

• Natural Language Processing: Let computers interpret what users write in their natural language
  – No use of ontologies or extensive “tagging” of content
  – Application of statistical & probabilistic methods
  – “Bottom-up”-methods without the need for metadata (should work with plain text)
3 Examples from projects

• Placement Support Service (Marco Kalz/TENCompetence)
• Tutor Locator (Peter van Rosmalen/LTfLL)
• CONSPECT (Fridolin Wild et al./LTfLL project)
Placement Support Service (1/2)

Similarity of documents as signal for prior knowledge
Placement Support Service (2/2)

- Domain Experts
- Validation
- Optimization
- Positioning Service
- Output Layer
  - Threshold Definition
- Similarity Measurement Layer
- Data Layer
- (e)Portfolio Data
- Individualized Curriculum
- Course Content

TENCompetence Foundation

Monday, December 7, 2009
Tutor Locator (1/2)

1. Tutor Locator
2. Uw vragen
3. Uw antwoorden
4. Vraag-Antwoord Module

Monday, December 7, 2009
CONSPECT (1/2)
CONSPECT (2/2)
What we have learned

• The placement web-service and the tutor locator have been evaluated successfully within PhD projects at CELSTEC, CONSPECT is currently evaluated within the LTfLL project

• Semantic Applications based on NLP need a steep learning and training phase at the beginning, but can work well after this initial phase

• Semantic webservice based on NLP rely very much on contextual factors (=they communities they are embedded in)

• After the training phase these services can improve their behaviour based on feedback by users (Future work)
Questions?

Please visit us at the booth of the Centre for Learning Sciences and Technologies (CELSTEC) at C99 (Wintergarten)

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http://celstec.org

http://www.tencompetence.org