




Web 2.0 as Platform for Inclusive Universal Access in Cooperative Learning and Knowledge Sharing

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A decorative graphic in the bottom right corner consisting of a 2x2 grid of squares. The top-left square is orange, the top-right is blue, and the bottom-right is green. The bottom-left square is gray.

Goal of the Paper

- Identify and analyze
 - **Web 2.0 services** and
 - **usage models** appropriate for
- assisting the realization of **Inclusive Universal Access**
 - in **cooperative learning** and
 - **knowledge sharing** environments

What will be Presented?

- **Reference** of a broad spectrum of
 - **Inclusive Universal Access scenarios** with
 - **Web 2.0 support**

- **Help the Educators and Learners to**
 - reveal the potential of **Inclusive Universal Access**
 - recognize typical **IA Learning Scenarios**
 - **apply** them in **Web 2.0** environment
- **Help the Stakeholders to**
 - be aware of important:
 - **user-**
 - **technical-**
 - **business-** and
 - **legal issues**

Web 2.0 Environment

- **Web 2.0**
 - term coined by Tim O'Reilly
 - sometimes criticized as hyped and overestimated
- **It brings**
 - **no** specific **new technology** but
 - **new ways of interaction** on the web

How we see Web 2.0?

- As next generation of **computer supported cooperative work** (CSCW)
- It requires **interdisciplinary** approach:
 - computer science
 - media science
 - sociology
 - psychology
 - pedagogy
 - ...

Web 2.0 as New CSCW - Why?

- **Universal Access (UA)**
 - involve **all users** in **all aspects** of participation
 - traditionally more focus on **technology** and **design** aspects of accessibility
 - many principles **similar to Web 2.0** reality
- **Low Entrance-Barrier**
 - **In Web 2.0, people can communicate and contribute online, express their views** without any specialized skills - for the first time!

Our Extension to UA

- **UA concept** extended and integrated with
 - **non-technological**, human aspects facilitating **social and personal growth** of students in **learning** and knowledge sharing settings
- **=> Inclusive Universal Access**
[Derntl & Motschnig-Pitrik, 2007]
 - **actively** involve learners in **all aspects** of **learning** and **assessment**;
 - to primarily address them on **all levels** of learning including **intellect**, **skills**, and **personality**;
 - and to employ **universally accessible tools** to support the educational activities.

IA Scenarios: Guiding Principles/1

- **Levels of learning**
 - all levels of learning, i.e. **intellect**, **skills**, and **personality**
- **Responsibility, empowerment**
 - students take **responsibility** by involving in
 - setting **learning goals**,
 - **evaluation** of their **own** and their **peers'** learning, and
 - in **assessment** of **course quality**.

IA Scenarios: Guiding Principles/2

- **Active participation**

- practical **exercises**
- **collaboration** with co-learners
- **presentations** of results and projects
- solving problems of **personal relevance**
- **evaluating** own and peers' contributions

- **Interpersonal sharing**

- Engage in interpersonal sharing and communication with co-learners and instructor

- **Considering goals and expectations**
 - "What do I want to achieve in the course?"
- **Web 2.0 Support**
 - **Groups** (like *MySpace*, *Google Groups*)
 - **Blogs** (like *Blogger*)
 - **Wiki** (like *Wikidot*)



- **Teamwork**

- foster **application** and **hands-on** experience

- **Web 2.0 Support**

- **Communication Services**

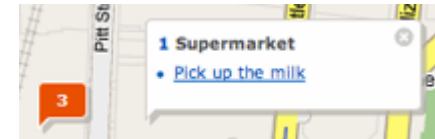
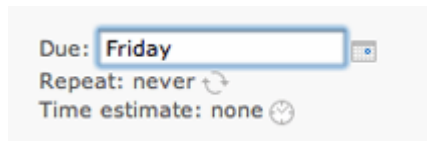
- ... but not for a general discussion
 - **e-mail** (many Web 2.0 services...)
 - **instant messaging** ... or even an integrated solution

- **Online Workspaces**

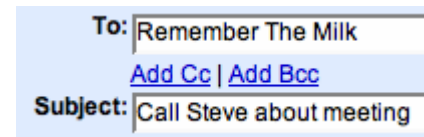
- **online office** app suites (Zoho, Docs & Spreadsheets...)
 - online **storage** and **sharing** (MediaMax)



• Teamwork (contd.)



bill birthday call
homework inbox mail
personal sent study work



- **Project-based learning**

- tackle **complex problems** in an
- **iterative** and **incremental** approach
- usually combined with **Teamwork** and
- **Peer evaluation**

- **Web 2.0 Support**

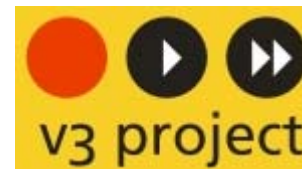
- fully-fledged project & team management services or
- event planning & scheduling with sharing facilities
 - CalendarHub, Google Calendar, Eventful
- reporting
 - blogs, Docs & Spreadsheets – “post and share”

- **Sharing and presentation of contributions**

- Purpose: get to know what peers are doing
- Instead of one-way *define-elaborate-present*:
 - foster sharing and discussion of contributions and by
 - providing space for periodical presentations
 - students learn and benefit from each other

- **Web 2.0 Support**

- Simple **blogs** & **wikis** or
- specialized presentation services & SW:
 - Zoho Show
 - Slideshare.net
 - CamStudio (V3 Recording Tool)



- **Peer teaching**

- Purpose: students become more involved, “greater confidence, more motivation to work”
- How? presentations, tutorials, even moderated course units

- **Web 2.0 Support**

- **Presentation** tools & services, or content creation by
- **Wiki** (installed or a Web 2.0 service)
- **Link** (Delicious, Digg) or **clip** collections (Clipmarks)

RPL claims - an ePortfolio

We have been spending quite a bit of time on this service and have found it to be the JIS  Pitner's private note (provide of app 'ePort that co

= Recognised Prior Learning by pitner less than a minute ago [

• Interactive elements

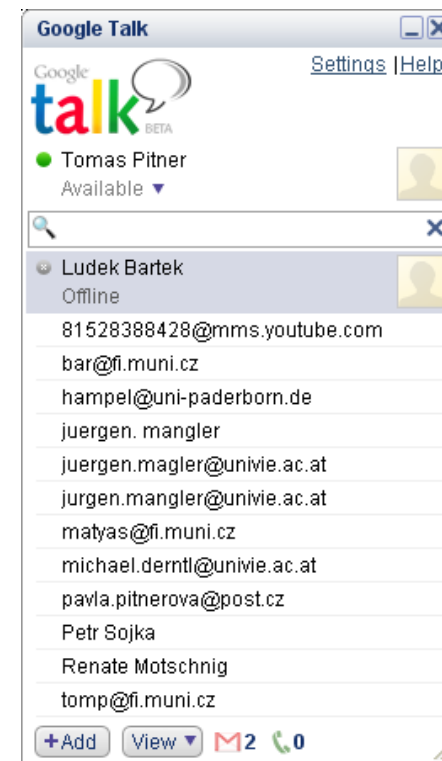
- interactivity among **students, instructor, tutors, and experts**
- Forms: **brainstorming**, collective **elaboration** of theories, topic **workshops**, (online) **consultation hours** at regular intervals

• Web 2.0 Support

- **mind-mapping** SW (FreeMind) or
- services (bubble.us)
- **annotation** services (Diigo)
- **LiveOnline** Rooms



- **Computer-mediated communication**
 - online communication facilities (synchronous, asynchronous)
- **Web 2.0 Support**
 - e-mail, IM, VoIP
 - discussion fora
 - chat rooms
 - LiveOnline Rooms



- **Problem proposals**

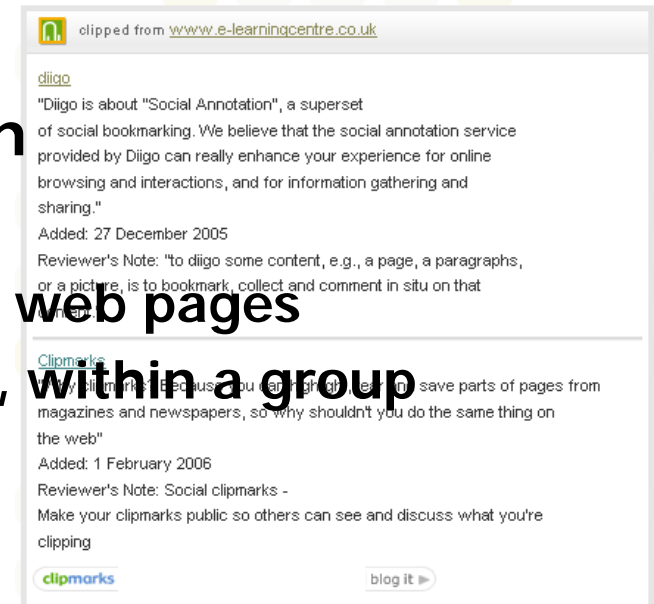
- Problems to be **elaborated, presented, or considered**

- **Web 2.0 Support**

- **collaborative content creation**
- **annotation -> Diigo service**
 - **bookmark, highlight, annotate web pages**
 - **share the annotations publicly, within a group**

Two great Web 2.0 Services - Diigo, Clipmarks

Social annotations - annotate any web page with a simple Firefox plugin and a web 2.0 service
Do not save links to whole pages, just clip the interesting part of the page!



clipped from www.e-learningcentre.co.uk

diigo
"Diigo is about "Social Annotation", a superset of social bookmarking. We believe that the social annotation service provided by Diigo can really enhance your experience for online browsing and interactions, and for information gathering and sharing."
Added: 27 December 2005
Reviewer's Note: "to diigo some content, e.g., a page, a paragraphs, or a picture, is to bookmark, collect and comment in situ on that content."

Clipmarks
"Clipmarks is a new way to bookmark. Because you can highlight and save parts of pages from magazines and newspapers, so why shouldn't you do the same thing on the web"
Added: 1 February 2006
Reviewer's Note: Social clipmarks -
Make your clipmarks public so others can see and discuss what you're clipping

[clipmarks](#) [blog it](#)

Posted by Tomas Pitner at 1:45 PM

[0 comments](#)

Labels: [web2.0](#)

- **Learning contracts**

- instructor sets **basic** task requirements and a topic **frame**, students may **select specific topic**
- then, the **contract** is set

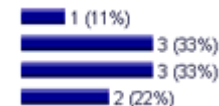
- **Web 2.0 Support**

- like in *Considering goals and expectations* and *Problem proposals but on a personal level*
- ! E-portfolia !

• Collecting feedback and opinions

– Structured or unstructured:

- questionnaires or
- open feedback in class,
- in online reaction sheets, surveys, and
- feedback forums



• Web 2.0 Support

- Unstructured: Blogs, wikis
- Structured: Surveys, Quizzes
 - *Free Online Surveys* service



- **Blended evaluation**

- involve students in the **evaluation**
 - of their **own** and their **peers'** contributions
- **reviewed** by the instructor

- **Web 2.0 Support**

- generic tools for qualitative/narrative evaluation
 - discussion forum, blog, wiki
- “digging or burying” – Digg (privacy!!!)
- surveys



- Web 2.0 Support for IA – The Advantages
 - **real collaborative system**
 - learning and knowledge sharing communities benefit from **network effects** – not possible in closed LMS
 - border between **learning** and the **real**, personal **world** disappears
 - a feeling of comfort and security

- Web 2.0 Support for IA – The Issues
 - **Copyright issues**
 - open/shared content initiatives (e.g. *Creative Commons*)
 - **Non-English** speaking users
 - **Manifold identities**
 - vs. online (open) identity management – *OpenID*
 - Keeping **track/trace** of the activities
 - **syndication** and **aggregation** feeds – *RSS/Atom*
 - Requirements (**hardware, connection**) on the client-side to be satisfied by all potential users

- **Web 2.0 Support for IA**
 - ... does not add value *per se* but only with
 - sound **pedagogical approach** (Delgado, 2007)
- **We tried to show scenarios based on proven principles of Inclusive Universal Access.**

- **Questions?**
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