Sharing innovative teaching experience in higher education on the Web

An interdisciplinary study on a contextualized Web 2.0 application for community building and teacher training

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WEB SCIENCE

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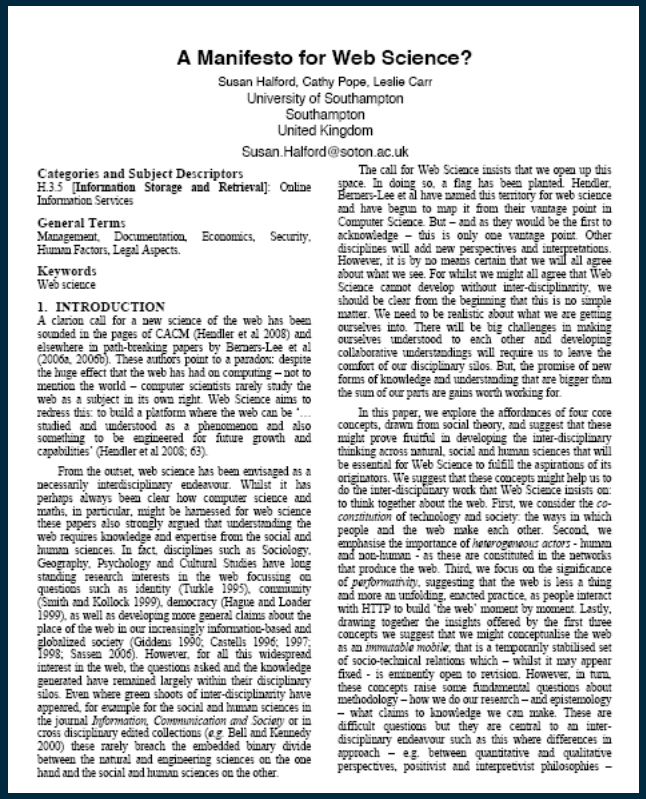
Web Science 2011 Conference - 16/6/2011 - Koblenz, Germany



A Manifesto for Web Science?

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Categories and Subject Descriptors
H.3.5 [**Information Storage and Retrieval**]: Online Information Services

General Terms
Management, Documentation, Economics, Security, Human Factors, Legal Aspects.

Keywords
Web science

1. INTRODUCTION

A clarion call for a new science of the web has been sounded in the pages of CACM (Hendler et al 2008) and elsewhere in path-breaking papers by Berners-Lee et al (2006a, 2006b). These authors point to a paradox: despite the huge effect that the web has had on computing – not to mention the world – computer scientists rarely study the web as a subject in its own right. Web Science aims to redress this: to build a platform where the web can be '… studied and understood as a phenomenon and also something to be engineered for future growth and capabilities' (Hendler et al 2008; 63).

From the outset, web science has been envisaged as a necessarily interdisciplinary endeavour. Whilst it has perhaps always been clear how computer science and maths, in particular, might be harnessed for web science these papers also strongly argued that understanding the web requires knowledge and expertise from the social and human sciences. In fact, disciplines such as Sociology, Geography, Psychology and Cultural Studies have long standing research interests in the web focussing on questions such as identity (Turkle 1995), community (Smith and Kollock 1999), democracy (Hague and Loader 1999), as well as developing more general claims about the place of the web in our increasingly information-based and globalized society (Giddens 1990; Castells 1996; 1997; 1998; Sassen 2006). However, for all this widespread interest in the web, the questions asked and the knowledge generated have remained largely within their disciplinary silos. Even where green shoots of inter-disciplinarity have appeared, for example for the social and human sciences in the journal *Information, Communication and Society* or in cross disciplinary edited collections (*e.g.* Bell and Kennedy 2000) these rarely breach the embedded binary divide between the natural and engineering sciences on the one hand and the social and human sciences on the other.

The call for Web Science insists that we open up this space. In doing so, a flag has been planted. Hendler, Berners-Lee et al have named this territory for web science and have begun to map it from their vantage point in Computer Science. But – and as they would be the first to acknowledge – this is only one vantage point. Other disciplines will add new perspectives and interpretations. However, it is by no means certain that we will all agree about what we see. For whilst we might all agree that Web Science cannot develop without inter-disciplinarity, we should be clear from the beginning that this is no simple matter. We need to be realistic about what we are getting ourselves into. There will be big challenges in making ourselves understood to each other and developing collaborative understandings will require us to leave the comfort of our disciplinary silos. But, the promise of new forms of knowledge and understanding that are bigger than the sum of our parts are gains worth working for.

In this paper, we explore the affordances of four core concepts, drawn from social theory, and suggest that these might prove fruitful in developing the inter-disciplinary thinking across natural, social and human sciences that will be essential for Web Science to fulfill the aspirations of its originators. We suggest that these concepts might help us to do the inter-disciplinary work that Web Science insists on: to think together about the web. First, we consider the *co-constitution* of technology and society: the ways in which people and the web make each other. Second, we emphasise the importance of *heterogeneous actors* - human and non-human - as these are constituted in the networks that produce the web. Third, we focus on the significance of *performativity*, suggesting that the web is less a thing and more an unfolding, enacted practice, as people interact with HTTP to build 'the web' moment by moment. Lastly, drawing together the insights offered by the first three concepts we suggest that we might conceptualise the web as an *immutable mobile*; that is a temporarily stabilised set of socio-technical relations which – whilst it may appear fixed - is eminently open to revision. However, in turn, these concepts raise some fundamental questions about methodology – how we do our research – and epistemology – what claims to knowledge we can make. These are difficult questions but they are central to an inter-disciplinary endeavour such as this where differences in approach – e.g. between quantitative and qualitative perspectives, positivist and interpretivist philosophies –

Raleigh, May 2010
Halford, Pope, Carr
The *Manifesto* for Web Science

“if Computer science was needed to harness Web Science, understanding the web requires knowledge and expertise from the social and human sciences”.

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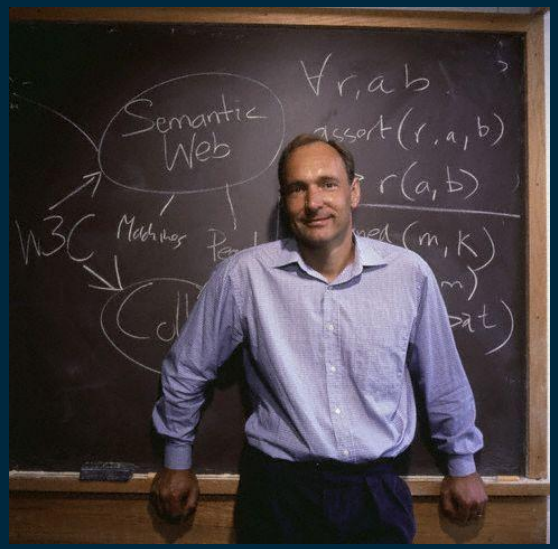

Raleigh, May 2010
Tim Berners-Lee

“if understanding the impact of the Web definitely required the expertise of social and human sciences, Web Science was also about engineering and inventing new solutions to build a better future for the Web”.

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- 2 complementary visions
  - Interdisciplinary analysis and mixed methods
  - Understand the context and the “people”
  - Collide users strategies and web design
- CONCEPT OF CO-CONSTITUTION
  - how the web impacts on what people do
  - How people impact on what the web becomes

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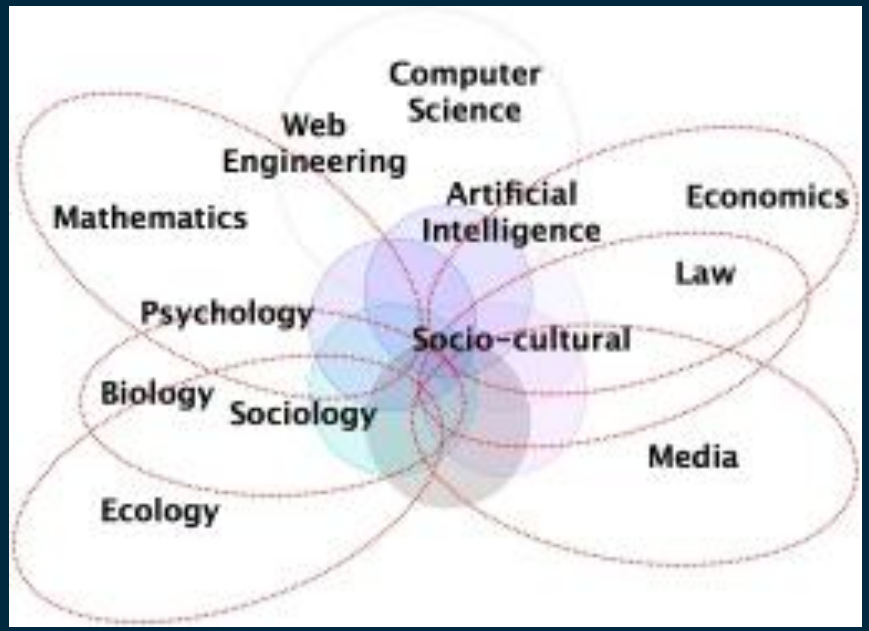
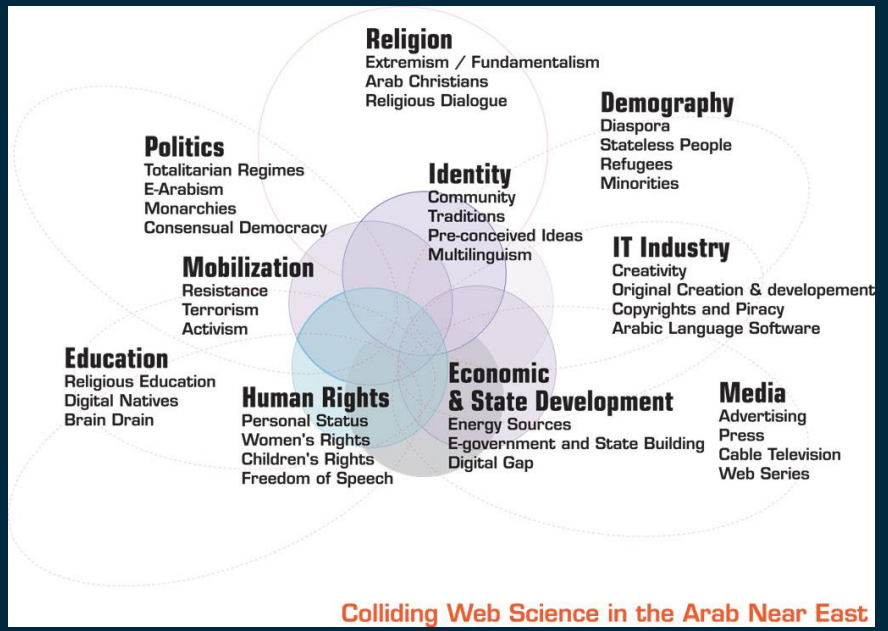


Web Science



Web Science in a context

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- The INNOV project

A case study in Web design for Education

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- The INNOV project: Objectives

- Share innovative teaching methods
- Foster collaboration among teachers
- Create a community of practice
- Provide informal pedagogic training
- Improve quality of education

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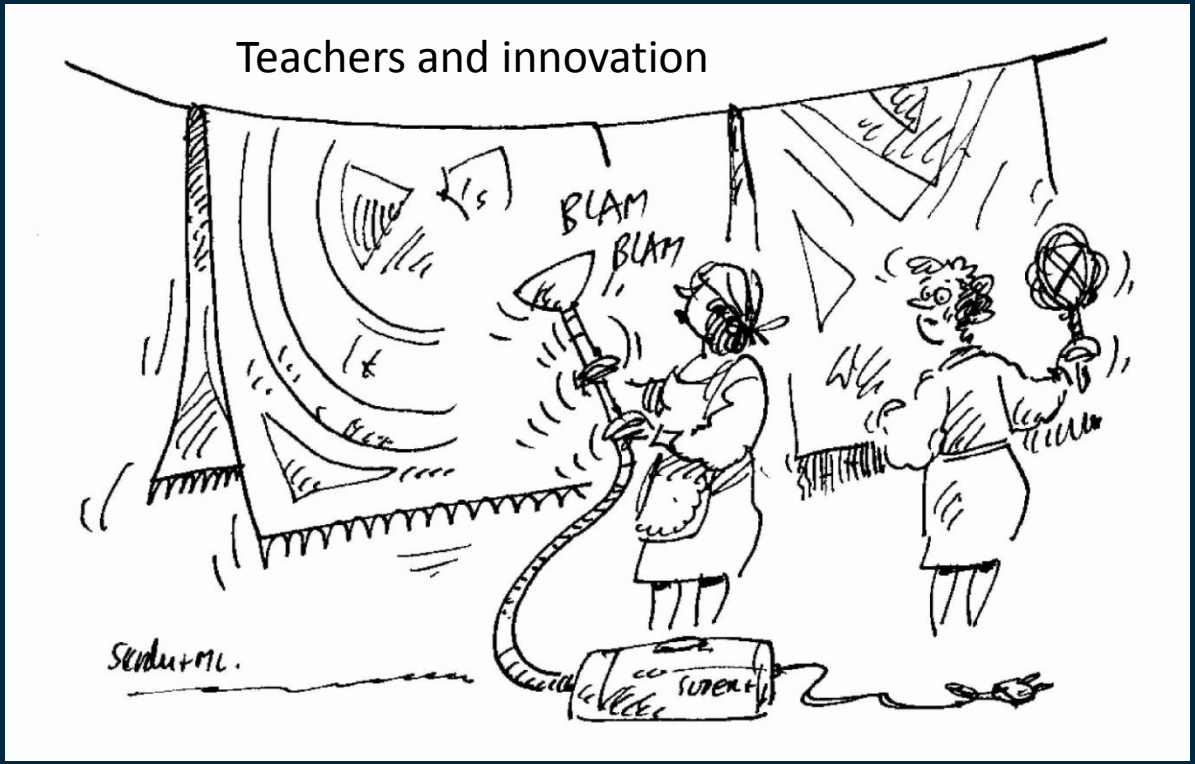
- The INNOV project



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- The INNOV project: Possibilities

- Formal training in a classroom
- E-training (Blended or distance)
- Outsourcing (Experts from abroad)

= Doesn't work!

– Time consuming, expensive, out of context

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- The INNOV project: Power to the people

- A pedagogic approach
- Online survey to identify needs and interests
- Direct interviews with some teachers
- Creation of a project design committee
  - We need an online sharing community!

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- The INNOV project: Design in context

- Requirements
  - Web access limitations (yes, we still have that…)
  - No pre-defined format for contributions
  - Basic “comments” functionalities (fear!)
  - Intuitive use of the platform
  - Open to the World

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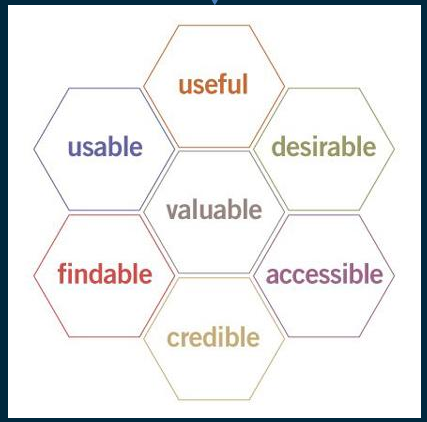
- The INNOV project: The design strategy

- User Experience Web Design
  - User, Content, Context (Peter Morville)
  - Storytelling (Stephen Denning)
  - Experience strategies (JJ. Garret)
  - Scenarios (Shawn Henry)



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- The INNOV project: The design strategy (2)

- Web 2.0 models core competencies
  - Architecture of participation
  - Wirearchy (Husband)
  - Crowdsourcing
  - Long tail
  - Granular addressability of content

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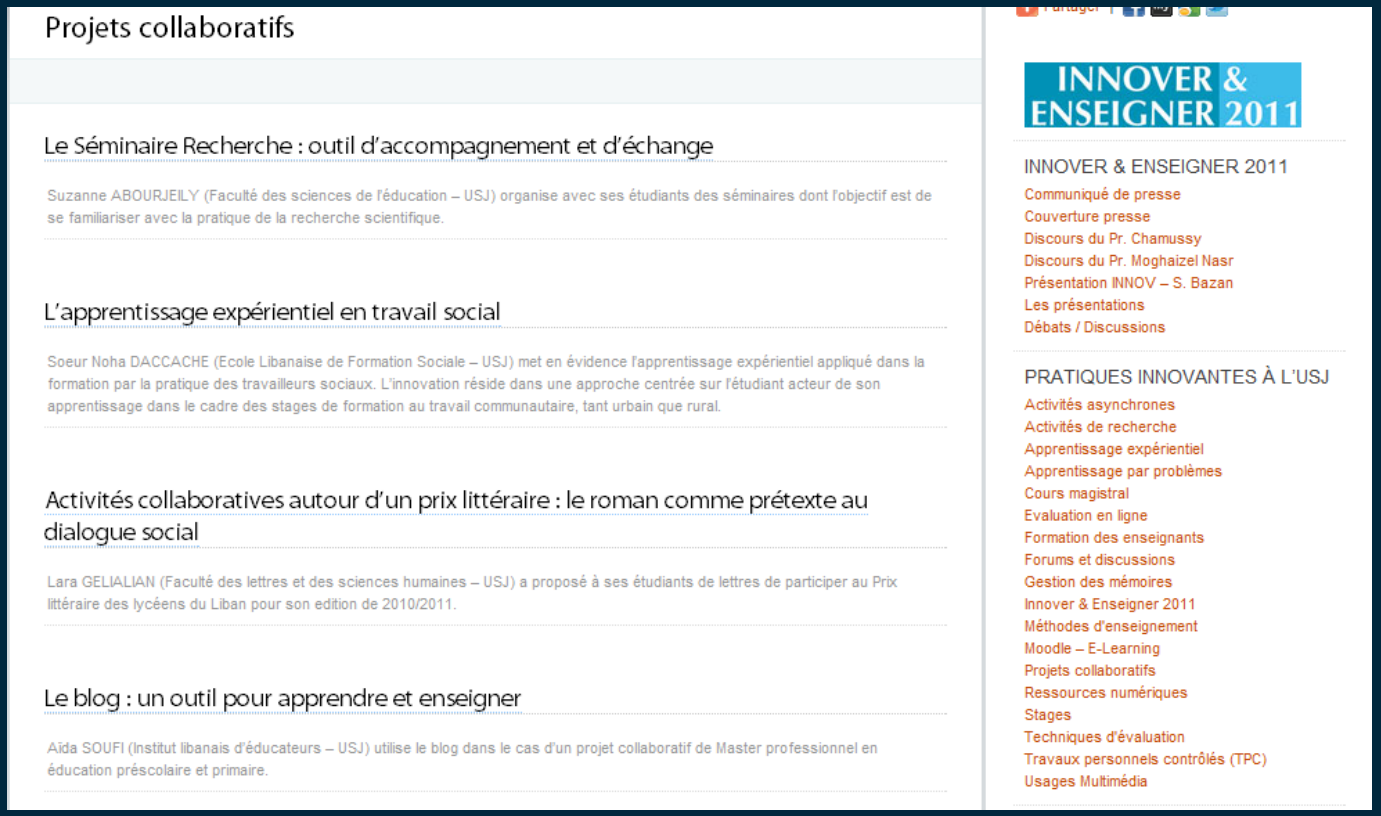
- The INNOV project: Final design



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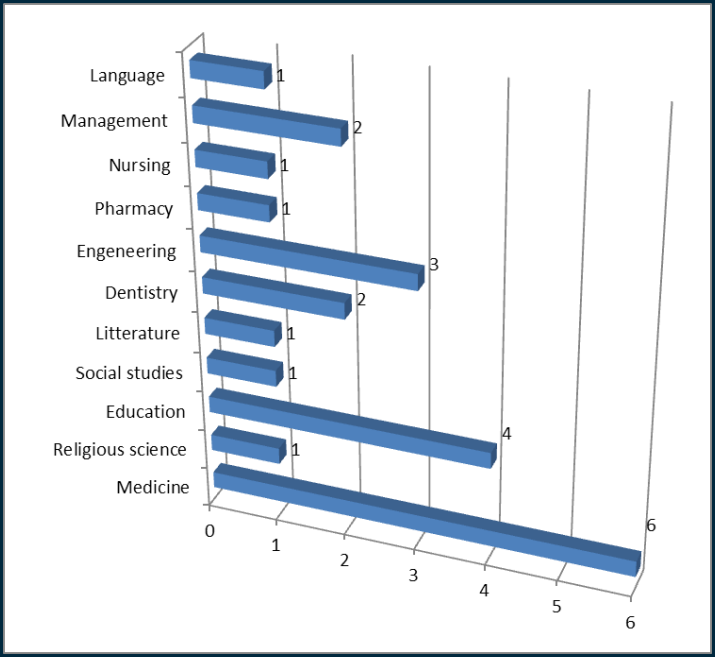
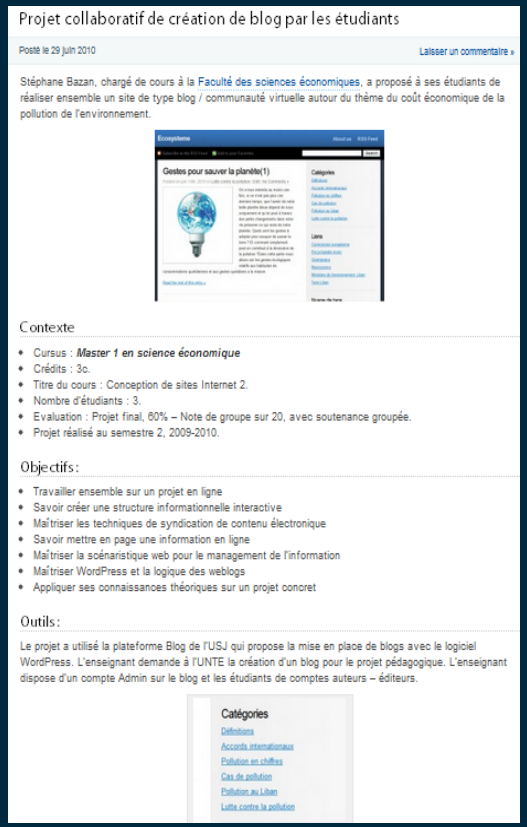
- The INNOV project: Outcome after 1 month



25 contributions
300 comments



Projet collaboratif de création de blog par les étudiants

Posté le 29 juin 2010 — Laisser un commentaire »

Stéphane Bazan, chargé de cours à la Faculté des sciences économiques, a proposé à ses étudiants de réaliser ensemble un site de type blog / communauté virtuelle autour du thème du coût économique de la pollution de l'environnement.

Contexte

- Cursus : ***Master 1 en science économique***
- Crédits : 3c.
- Titre du cours : Conception de sites Internet 2.
- Nombre d'étudiants : 3.
- Evaluation : Projet final, 80% – Note de groupe sur 20, avec soutenance groupée.
- Projet réalisé au semestre 2, 2009-2010.

Objectifs :

- Travailler ensemble sur un projet en ligne
- Savoir créer une structure informationnelle interactive
- Maîtriser les techniques de syndication de contenu électronique
- Savoir mettre en page une information en ligne
- Maîtriser la scénaristique web pour le management de l'information
- Maîtriser WordPress et la logique des weblogs
- Appliquer ses connaissances théoriques sur un projet concret

Outils :

Le projet a utilisé la plateforme Blog de l'USJ qui propose la mise en place de blogs avec le logiciel WordPress. L'enseignant demande à l'UNTE la création d'un blog pour le projet pédagogique. L'enseignant dispose d'un compte Admin sur le blog et les étudiants de comptes auteurs – éditeurs.

Catégories
Définitions
Accords internationaux
Pollution en chiffres
Cas de pollution
Pollution au Liban
Lutte contre la pollution

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- The point: The Web changes everything

1. A complex community with needs
2. A contextualized design based on user requirements + Web 2.0 ingredients
3. A concerns-based adoption Model
4. … a future paper on usability?

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- The INNOV project: Final word

"While a suitable, appropriate, and usable technical infrastructure is an important component of success, it is widely acknowledged that major barriers to further progress are human rather than technical as factors".

Hugh Davies & Al. 2010

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