Wikimaps = mind maps + wikis

How Rails improves our capacity of reasoning visually

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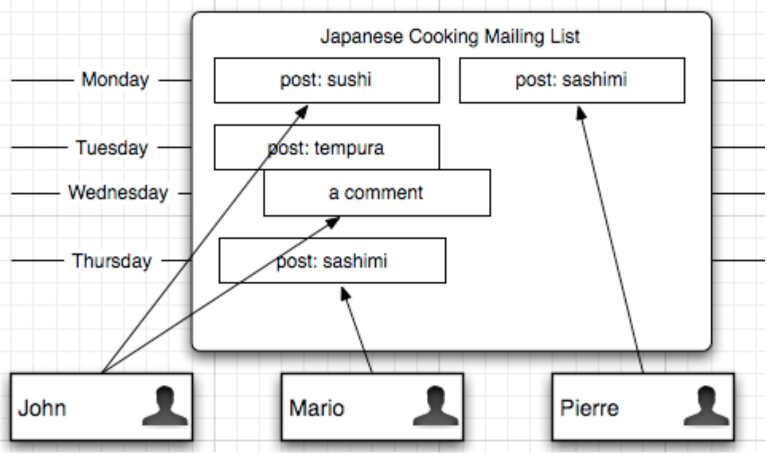
The main limits of traditional collaboration models

Leuf and Cunningham (2002) put themselves the following question:

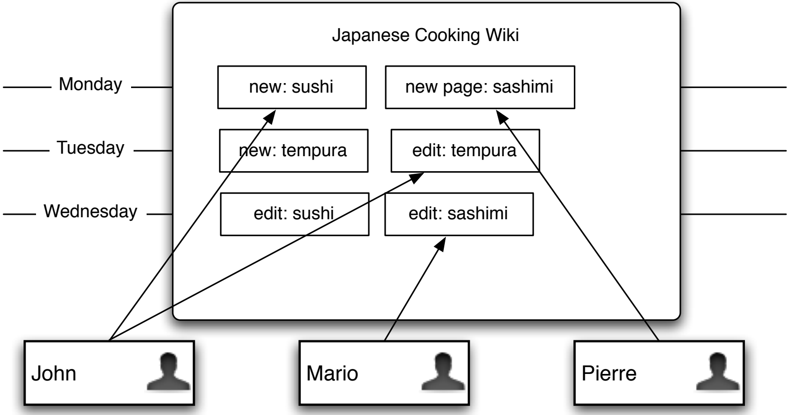
- What is the main limit of current network-based collaboration models?

They were unsatisfied by current models, i.e. e-mail exchange and mailing lists, shared repositories and interactive content update technologies. The main reason were the high degree of **redudancy** (mailing lists) and the **uneasiness** of writing in collaboration on a fair basis.

An example of mailing list...



...and its corrispondent wiki



Wikis as an alternative collaboration model

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- It is very, very easy to add content by means of their markup languages.
- The underlying hypertext is unstructured or semi-structured, so that people can decide collectively how to organize their content.
- Last, not least, blogs and wikis allow and favour active collaboration.

The limits of the wiki model: lack of structure

The *starting phase* of a wiki is crucial in determining its success. In fact, there is no taxonomy previously decided by the wiki community members: when information grows, there is a moment by which it becomes necessary to put everything in order, and this is often not an easy task.

The limits of the wiki model: where am I?

The *risk of disorientation* is high, as it is not always easy to understand the relevance and importance of every single information unit – 'lexia' in Landow's terms. My question is:

- how to overcome this limit in advance?

How to overcome the limits of wikis: cognitive mapping?

Cognitive mapping considers thinking as a self-organizing information system, i.e. informations grow and change, while it maintains accuracy and relevance.

Cognitive maps can give the necessary lightweight structure to a wiki in order to avoid this risk, as free graphs that make the relations between wiki lexias (i.e. semantically consitent text chunks) explicit.

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Knowledge elicitation. Information visualization doesn't merely communicate ideas but it actively, organizes, concises, and clarifies info chunks (Dawkins' memes) revealing hidden patterns, gaining insights and discovering new ideas and relations.

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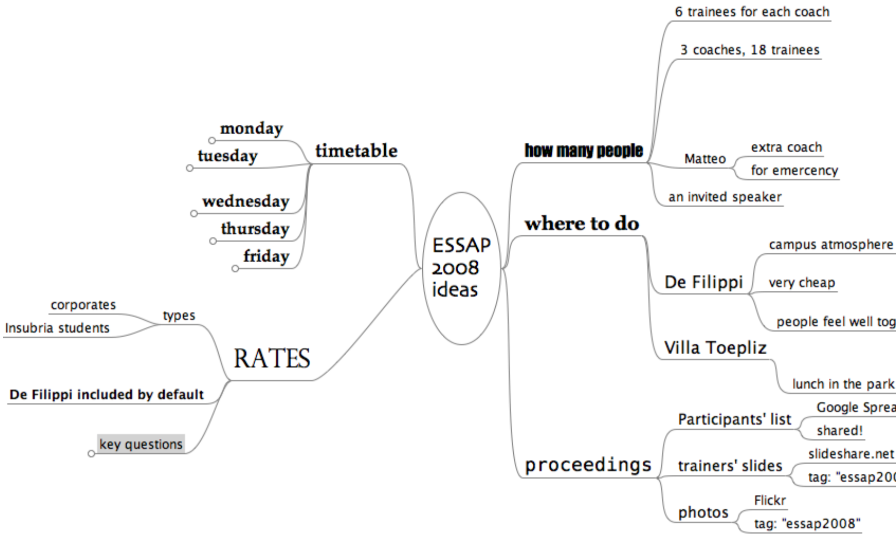
Our choice: mind mapping, as it is fast and easy

A mind map is a graph structure of keywords and they relations. It has a radiant shape and is much more rich in colours, pictures, and drawings compared with concept or dialogue maps.

Human brains recognize shapes and drawings better than words and numbers, so if you want to remember ideas give them a good look.

An example: a mind map about the summer school ESSAP



Presenting wikimaps

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- It is the second step of Novelle, a prototypical collaborative writing tool written in Rails more than one year ago (Gobbo & Chinosi & Pepe, 2006).

Mind maps in wikimaps

As already said, a mind map is a graph structure of keywords and they relations. In wikimaps:

- **keywords** are the current node and the lexia title;
- **relations** are the explicit links between nodes;
- **lexias** are the attached data to the mind map.

What we gain, what we lose

Each keyword is a link, so you can navigate in by clicking as usual; the add-on is that you can see *how far your click put you from the current context*.

What we lose, in comparison with mind maps, is the richness of colours and shapes. In fact, keywords can become whole phrases (this violates the mind map principle A Node is Never a Phrase).

How we developed it? In an agile paradigm

XP can be seen as a natural evolution of the object-oriented paradigm, so Ruby on Rails is an ideal platform for developing web applications under that approach.

Wikimaps is a side project of the Varese XP-UG, established after the ESSAP 2006. In brief, we used the following eXtreme Programming (XP) methodologies:

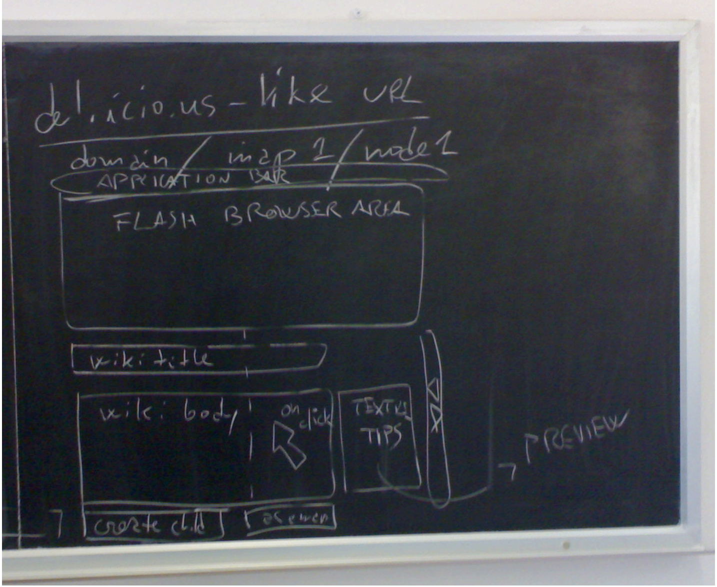
Which agile methodologies?

- **role-playing**: me as the Customer, Max Pepe as the Developer;
- **DDD**: we used the Ubiquitous Language metaphor for talking;
- **lexias** are the attached data to the mind map;
- **User Stories**: for writing the release steps;
- **TDD**: coding starting from tests.

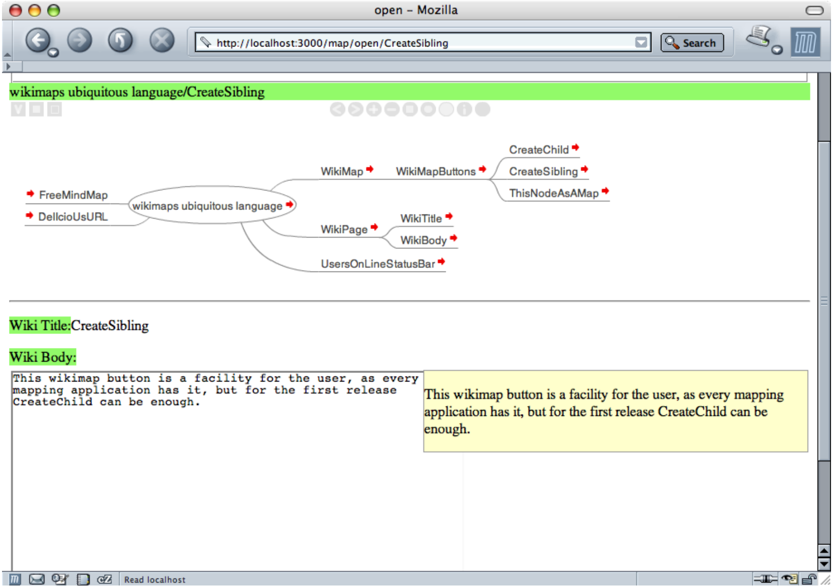
A ubiquitous language fragment of Wikimaps

- **WikiMapButtons**. There are three possible buttons in WikiMap: create child node, create sibling node (these are the standard buttons of every cognitive mapping application) and a special Button, called ThisNodeAsAMap.
- **ThisNodeAsAMap**. When pushed, the current node becomes the root node of a new free mind map, and at the same time a hyperlink to the new map. This feature is taken from the option 'Transclude To New Map' of Compendium.
- **DelIcioUsURL**. An URL like del.icio.us shows, in this order: the owner; the current map; the current node. A standard list page of the maps owned by the current users are given.
- **UsersOnLineStatusBar**. A status bar shows if there is someone who is currently editing the map. This feature is taken by MindMeister and Google Docs alike.

Our advanced technology of GUI design...



A screenshot about its own Ubiquitous Language



wikimaps ubiquitous language/CreateSibling

Wiki Title:CreateSibling

Wiki Body:

```
This wikimap button is a facility for the user, as every
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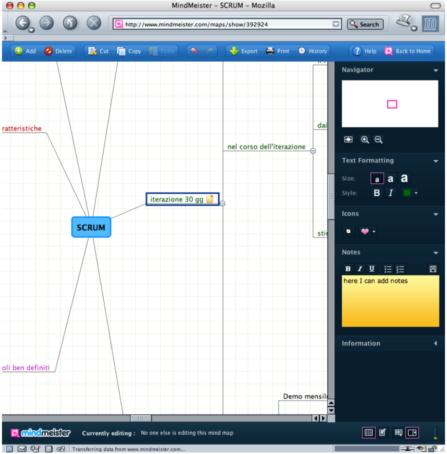
A free software clone of MindMeister?



http://www.mindmeister.com/maps/show/392924

here I can add notes

Currently editing : No one else is editing this mind map

Transferring data from www.mindmeister.com...

Advantages and dis- of using the FreeMind format

Freemind is a GPL-ed sourceforge project which essentially clones MindJet for mind mapping:

- It is written in Java (how to write portable desktop apps in Ruby?!?);
- its mind map file format is a dialect of XML;
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- What to do by now?

Next steps

The most important User Stories for the next release are:

- dig wikimaps by query and build on-the-fly wikimaps of results;
- users' management as GoogleDocs: ownership, sharing, etc;
- import/export of generated FreeMind maps;

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1. adapt wikimaps to the new FreeMind format;
2. change the underlying technology of visualization.

1^{st} choice: Adapt wikimaps to the new FreeMind format

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- **Pro** it seems to be a minor change to the actual code;
- **Con** wikimaps is still depending on a foreign software, i.e. the FreeMind browser in Flash.

2^{nd} choice: Change the technology of visualization

Unfortunately it seems not to be a ruby-native method to write graphs in the browser (if you know any, please inform us!). For instance, DOT language is designed for drawing directed graphs as hierarchies, and it has a robust shell implementation (Gansner & Koutsofios & North, 2002).

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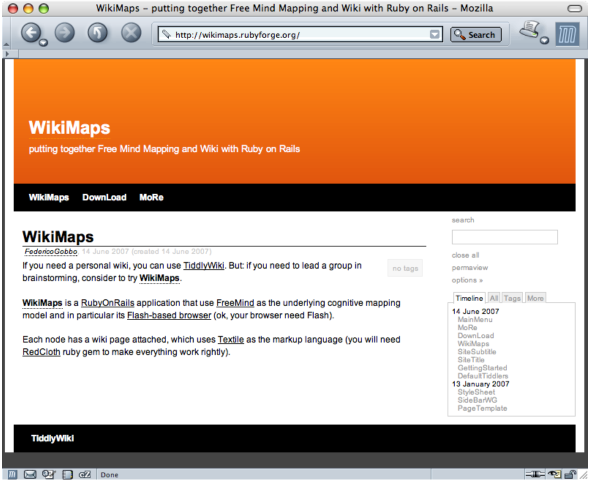
- **Con** it is a major refactoring of the actual code;
- **Con** the server should have dot language installed in the OS maybe this will reduce portability of the wikimaps application.

We want you, we need you (as developers)!

hoping to use a wikimap instead fo a tiddlywiki in the future...


WikiMaps – putting together Free Mind Mapping and Wiki with Ruby on Rails – Mozilla
http://wikimaps.rubyforge.org/
Search
Done

WikiMaps

putting together Free Mind Mapping and Wiki with Ruby on Rails

WikiMaps DownLoad MoRe

WikiMaps

FedericoGobbo, 14 June 2007 (created 14 June 2007)

no tags

If you need a personal wiki, you can use TiddlyWiki. But: if you need to lead a group in brainstorming, consider to try **WikiMaps**.

WikiMaps is a RubyOnRails application that use FreeMind as the underlying cognitive mapping model and in particular its Flash-based browser (ok, your browser need Flash).

Each node has a wiki page attached, which uses Textile as the markup language (you will need RedCloth ruby gem to make everything work rightly).

search

close all
permaview
options »

Timeline All Tags More

14 June 2007
MainMenu
MoRe
DownLoad
WikiMaps
SiteSubtitle
SiteTitle
GettingStarted
DefaultTiddlers
13 January 2007
StyleSheet
SideBarWG
PageTemplate

TiddlyWiki

`http://wikimaps.rubyforge.org`

Thank you. Any questions?

Download these slides at the following permalink:

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