

83 **Topic centric communities**
Sharing information by means of a VC Platform

- Users share a same topic of interest. They exchange on knowledge or experience (documents, data,...)
- Exchanges between peers (Horizontality)**
 - Share news and updates with everyone at the same time
 - Communicate in a private, ad-free place
 - Activate your community and coordinate help
 - Receive emotional strength and support (from Caring bridge)
- Platform of communities: creating, joining, reading-contributing, leaving. Example: Caring Bridge <https://www.caringbridge.org>, Losing weight together <https://www.wslt.com>
- Forum: discussions
- Wikis: communities around items: Wikipedia, Wikidata, Wikihow <https://www.wikihow.com>

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84 **Topic centric communities**
A wiki as a VC platform

- Examples: Wikipedia, Wikidata (from Wikimedia foundation), Wikihow, Stackoverflow (for programmers)
- Roles: owner, users
- Main functions: edit, search, display
- Other functions: register, mass import, export, validate content, observe behavior (editor as well as readers)

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85 **Topic centric communities**
VC platform

- Exchanges with a domain expert**
 - Questions/answer mode
 - "One to one" or "public" communication (group chatting + vertical)
 - Example: Following one's blog, Newspaper chatting room.

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86 **VC platform - Example**
Knowledge mobilization on the situation of people with disabilities

- Topic:** mobilization and dissemination of knowledge produced through monitoring processes.
- Application domain:** Situation of people with disabilities
- Participants: NPO, researchers (different fields: law, sociology, engineering...), policy makers, public
- Objectives:** Facilitate contributions, support collaboration and increase dissemination

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87 **VC platform**
Knowledge mobilization on the situation of people with disabilities

- General requirements**
 - Communities (represented by folders)
 - Communication (people from different disciplines), 1to1, 1toN
 - Knowledge creation
 - Files sharing (also across communities)
 - Various levels of granularity of information
 - Accessibility to people with visual disabilities
- Specific requirements**
 - Collaboration, co-edition
 - Search and discovery of knowledge
 - Dissemination tools

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88 **VC platform**
Knowledge mobilization on the situation of people with disabilities

- Role on the platform**
 - Administrator (creates communities, register members, provide tools)
 - Members: consumer and producer of content (levels of expertise)
 - Public
- Communities**
 - All members on the platform form a "global" community
 - A public community (for dissemination)
 - Topic specific communities: Policy and Law Monitoring, Individual Experiences Monitoring, Media Monitoring, Statistics Monitoring
- Main functions: upload, communication, push mechanism

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VC platform Social networking with Awareness

- Need for a filter...

Updates / Contacts

"Aware" user
and productive

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VC platform Social networking with Awareness

- Motivated goal:** Filter social network updates to enable awareness without information overload
- How to find the most relevant updates ?**
 - Popularity ? (most spread updates)
 - Response rate ? (most commented updates)
 - Content-based filtering ? (according to user's preferences)
 - Collaborative filtering ? (according to similar ratings)

Proposal by Joly (PhD thesis): Similarity of context

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VC platform Social networking with Awareness

- C_x is the context of a user U_x sharing a piece of information I_x .
- C_y is the context of a user U_y that is a potential recipient of this information.

Hypothesis:
 I_x is relevant to U_y
if C_A is similar to C_y

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VC platform Social networking with Awareness

- Generalized to all social notifications

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VC platform Social networking with Awareness

- Context extracted from **web browsing activity**
 - Web pages meta-data
 - Statistic content analysis (ex: key word extraction)
 - Semantic analysis (ex: entity linking)
 - Tags of the page (wisdom of crowds; Delicious)
- The context is represented as a **tag cloud**...

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VC platform Social networking with Awareness

- Context represented as a **tag cloud**: weighed terms
 - Vector space model and algebra

Terms $T = \{t_1; t_2; \dots; t_N\}$
 Weights: $w(t_1, T); w(t_2, T); \dots; w(t_N, T)$

- Terms are extracted from the browsing activity

Tag cloud (normalized)	Travel	Asia	Flight	Discount
	0,5	0,3	0,1	0,1

$W: w_i \in [0, 1]$
 $\sum_i w_i = 1$

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VC platform Social networking with Awareness

- Evaluation

Hypothesis: Relevance of contextually recommended social updates

- Method

- 1-Gather browsing logs and social updates from volunteers
- 2-Run the algorithms on these logs to generate contextual clouds
- 3-Ask the volunteers to rate the quality of the selection of social updates for their personal context (contextual clouds generated from their own web browsing data)

- Results

Average accuracy value = 72%
 Average relevance rating: 50.3% (71% for social bookmark notifications; 38% for tweets)

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VC platform Social networking with Awareness

- Goal: Increase awareness, reduce information overload
- Proposition: Use contextual information to rank relevance of social updates
- Approach: Tag-based context representation (instead of ontology-based)
- Findings (using web browsing activity as context):
 - Encouraging results: 72% accuracy
 - Half social updates are relevant to web browsing context, depending on nature

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Conclusion

- Many different examples
- Task centered
- User centered
- Topic centered

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