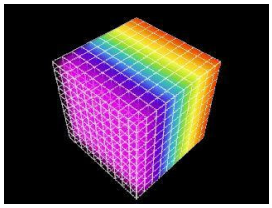
The Web 2.0 Community

Maarten Visser in 2005



This document describes the basic concepts for the next 'Web Community Architecture' based on the adoption of new technologies like RSS and webservices. The goal is to start a discussion on which aspects related to such an architecture are the most important and to realise a common understanding.

The Vision

All information in the world like facts, knowledge, concepts, ideas and stories should be available to everybody. Only the information that can bring harm to others, like certain government (medial records) and organisational information should be locked away. All other information should be shared so that it can be used to push innovation.

When all information is stored in a structured way based on international standards, it can then be automatically organised in unlimited ways, again using open standards. When this is done correctly, we can realize an open platform, on which applications and tools can be built to support all possible ways we want to view and respond to this information. There should be all kinds of (visual) interfaces, and these interfaces should automatically adapt based on current knowledge (a different interface for children), disabilities (a different interface for blind people), type of work, culture, environment, device, or current goals.

If all information becomes available to everybody, we will need new systems for patents, payment in research projects and international laws on copyright. These systems could also result in new ways to look at how local or worldwide decisions are made.

The realisation

In the last decade we have learned that a successful internet applications need to be open, have usable results, and most importantly, it needs has to have an easy to use GUI (Graphical User Interface).

We need Graphical User interfaces to do the following:

- Structure ideas, discussions, goals, projects, stories, questions and answers in a logically and easily comprehensible manner;
- Get control over incoming information streams (news, ideas and thoughts from other people and organisations) that are related to your daily activities . This could be done by building multiple connections and intuitive tools that realise personal and organisational information filters;
- Have easy to use and powerful ways to contribute and interact in other information streams. Adding text, voice or video should be just as easy as responding to a person in a real world situation.

Benefits of the new architecture

A worldwide open and standardised community will have the following benefits :

- No login (just one profile for everything you do)
- No boundaries to access information
- No boundaries to realize seamless collaboration
- No expensive parallel development projects
- Unlimited ways to structure information
- Unlimited automatically connected sources
- Unlimited Interfaces to consume and respond to information
- Unlimited collaboration on research, projects and knowledge.

What is already in place and what's not?

To fully realize this open community and knowledge network there should be an open and agreed model that can be used to line up all developments towards this common goal. The most important technological building blocks for building such a flexible and scalable network are already here, to name a few: XML, RSS, SOAP and Webservices. The latter are good examples for widely adopted standards. By using these technological standards and by agreeing on a common '*web community architecture*', we can start building our connected future. This architecture should result in a loosely coupled network to access and interact with all available knowledge and creative energy. This architecture should be designed in a way so that it will not bring any limitations for future developments. Other matters of concern are finding new ways to index, filter and route large amounts of data in real-time (the information streams).

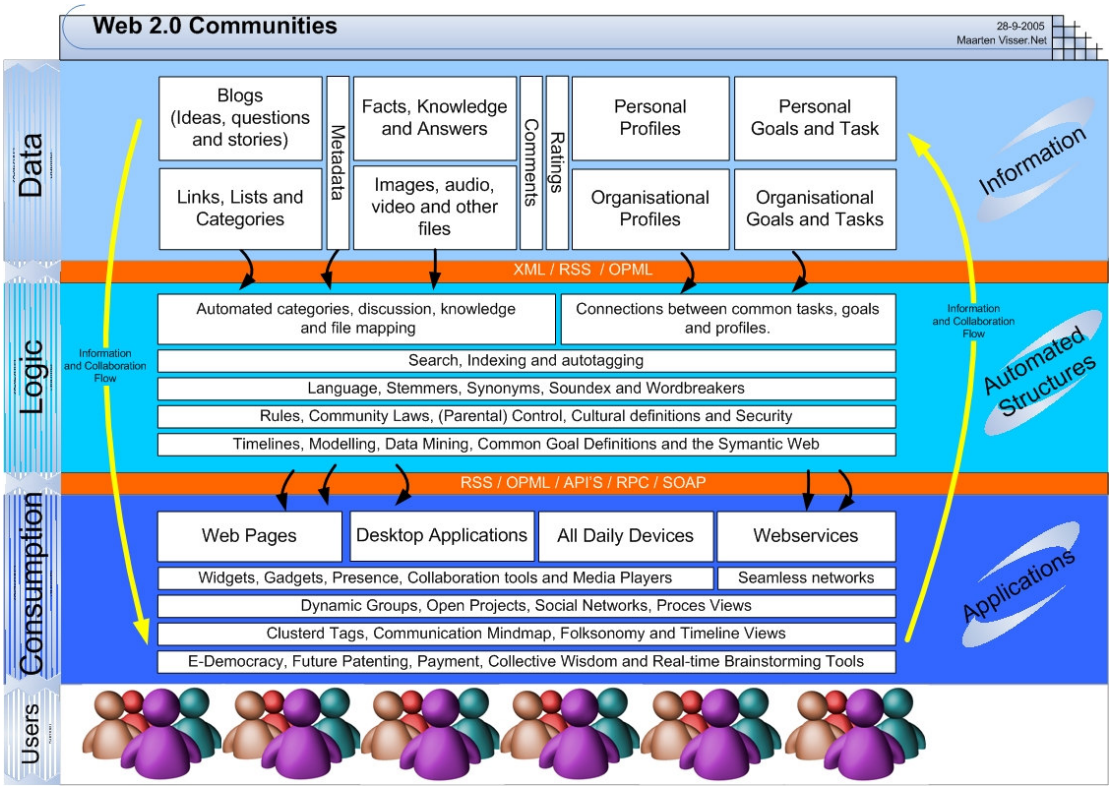
Next to the technological aspect, much of the international discussions need to take place to agree on new rules and specifications concerning social, democratic and intellectual systems.

Goals for the Web Community 2.0

It would be great if facts, knowledge and answers could be presented to you at the moment that you need them. This could be on a certain day, week, month or phase in your life. Conversely, if you have key information on a particular subject, you should know that an important project could use your input so that you can participate in it, like voting for an alternative.
For this to work, your daily computer applications need to know a lot about you. The application engine should be able to (partly) access your 'life profile' and it should 'understand' the type of life you live (like location, study, history, family, friends, work and hobbies). Next to this, it should 'understand' your day-to-day priorities and what you do related to the organisations and communities you participate in. Most importantly, however, it has to be aware of what you want to achieve in life, based on the objects and activities you like and do. These applications could help you find all the information you need on a daily basis and by doing this, it could help you find and realise your personal goals.

The Architecture

This document shortly describes a proposal for an international 'Web Community Architecture'.



Summary of the 'Communities 2.0' Architecture

The Communities 2.0 Architecture is based on the concept of Service Oriented Architectures (SOA). Because not everyone can image the possibilities of this architecture, I have based this concept on a three layers architecture.

Data Layer

This layer holds all textual information and files (PDF, audio, video, office and other formats). This data can be published on web pages, FTP sites, Wiki's and Blogs, but information on the internet is gradually moving to more 'self describing' mark-up languages like XML and RSS. The data layer also holds metadata related to a specific text or file. The metadata can be put there by the author, like categories or tags, but it can also be added by others like ratings.

During the last years the amount of people who share information on the internet using web logs (blogs) and RSS (web feeds) has grown rapidly. Blogs and RSS have become an imported information source on the internet to many people. The positive aspect of RSS is that multiple information sources can easily be aggregated, which results in streams of information on certain topics. The developments concerning blogs have resulted in new ways of how people share their knowledge and experience. People can read blogs and add comments to a publication, and these comments can result in discussions that hold a lot of valuable information. Another new way to have interaction between people is by publishing an article concerning a specific topic on your own blog, instead of posting it at the source and adding a link (or referrer). This way or by using tools like PubSub, Feedster and Technorati publications get connected automatically by the search and grouping algorithms used by these services. In this way, articles, ideas and comments on a topic are automatically pulled together and sorted in different ways, like the time of publication. This results in a type of 'decentralized forum' where there is no direct communication between one or more people, but there is only this 'parallel interaction' where people post thoughts and reactions based on the thoughts of others.

The tools described in the 'logical layer' will do all the linking, sorting, grouping, clustering, matching and translating of information. The 'consumption layer' holds all applications to make this automatically structured information accessible in different ways, like normal hierarchies of topics and subtopics, but also 3D visualisations or the presentation of linked videos (if people begin discussions that include short video files).

It would be valuable if there existed a universal standard to describe *personal and organisational profiles* in XML. This way all people and organisations can be queried and sorted in the same way. This information could then be used to measure the history, frame of reference, credibility, knowledge and skills of a person or organisation in relation to the information that was posted. These profiles should be built in a way so that they are well protected and so that there can be only one profile for each person or organisation.

Another interesting XML standard could be a way to describe *personal and organisation goals and tasks*, using a universal language. This way, the possibilities for collaboration and helping other people would be unlimited. By a push of a button you could find all people having to realise some of the same tasks or goals as you (within a circle of X kilometres) and you could make it a combined effort … Why not publish your current tasks in RSS to your colleges or family, so that they can see what your working on or organising this weekend? What is better than unexpected help from others?…

Logical Layer

This layer will consist of standard filters and algorithms to sort and structure information. This layer is built using open webservices, so that everyone and every application can use them. The Logical layer houses services that can automatically read, search, index, tag, categorise or translate information from the data layer. A service can be used to analyse 'all information on the internet' or simply, for example, only a specific set of sources, contexts, topics of authors. Information can be found and structured

This layer can also be used to automatically change the information, such as when it comes across an acronym, and will automatically add links to a wiki's that describes the definition.

This Logical layer also holds an unlimited set of logical (business) rules and laws that can be used to filter, connect or structure information according to specified standards. The possibilities are again immense — you could think of language or country specific rules, taxonomy set, only showing items with an 'article or user rating' above 'average', the use of cursing, adult content, the automated deletion of 'flame wars' in discussions or the use of certain ISO standards. This open set of webservices could take care of every thinkable way of collecting, filtering, changing and structuring of information. Every person or organisation can add their own webservice to the logical layer. This is done by adding it to the 'yellow pages' of webservices (in the 'Logical Layer for Communities' directory;)

Consumption Layer

The third and last layer is the consumption or otherwise known as the presentation or interaction layer. This layer consists of applications for every imaginable platform; this can be your computer desktop, mobile device, fridge or alarm clock. These applications will use the webservices in the Logical Layer to get a specific set of structured information and present it to you, at the moment that you need it most. These applications will also help you find, navigate, visualise, dig, and map the information that you need in your daily life. It can bring you interesting facts or news based on your personal profile automatically (only at the times you wish to receive them). This layer can visualise all available documents related to your hobby, categorised by topic and sorted by the rating given to people who like the same things as you do. This layer will exist out of the next generation social networks tools, which will find like-minded people and organisations that share the same interests as you do.

On this level there can be tools to agree or disagree with a new patent on a drug (if you are a medical doctor), or to let you vote for a new law on traffic signs (if you did a study related to transport and traffic). These tools can create new ways to realise 'collective intelligence' by using a tool to build mindmap based brainstorm sessions with thousands of people. One again, the possibilities are endless.

End note

All information that is recorded in the world should be automatically gathered, ordered and stored for reuse. This information should help everybody to make the daily decisions and to find and interact with people who share common interest or goals. This way, you will never have to search for options or answers anymore, they will be presented automatically based on software algorithms that know your profile, follow your activities or by other people who are in the same situation as you are.

This short proposal is written because of my believe that we need to start realizing more useful and effective ways to collaborate, share and reflect our ideas. I'm convinced that it will help us solve more of the real important problems in our world. Small groups of people are working on projects, where large groups can benefit from. Open World Wide Communities can stop this from happening by helping us focus, get the information that is already available and realise innovation and results by the use of global collaboration tools.

Communities 1.0 (1993-2005) HTML based forums viewed through a webbrowser		Communities 2.0 (2005 - beyond) Three layers of (XML) Data, webservices and applications that realize the daily information flows between people and organizations.
"Asynchronous Post and Read"	**Type**	Real time Collaboration and Brainstorming
"Web pages"	**Interface**	"Unlimited rich (desktop) Interfaces"
"Limited connections within a specific forum"	**Connections**	"Unlimited connections to every possible source of information"
"One topic based view'	**Viewed through...**	"Unlimited ways for sorting, clustering and filtering"
"Client Server"	**Architecture**	Web Services (SOA) and "peer to peer"
Forum members	**Content Created by...**	Everyone
"Geeks and early adaptors"	**Domain of...**	"Mass adoption"