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ABSTRACT: *This article aims at proposing a new version of the Web, called The Web 2.2. This version tries to resolve the problem of the actual Web, such as the non-participation of the internet users on the production of the on line content, the huge mass of information, the poor quality of information, the non-respect of the copyrights and the commercial goal of the Web 2.0. Its objective is to add concepts related to the management of users by introducing a validation board and the management of information by offering 5 levels of quality of information. It focuses on the validation of information produced or proposed by users, and a control board of the diffusion of the content, in charge of the diffusion of the information, from its conception to its elimination or archiving. It encourages the users to participate actively in the production of the content of high quality and adds also the notion of the Web dollars, a virtual currency, which will allow users to take benefit from payable services available on this version of the Web.*

Keywords: Web 2.2, Information of quality, Validation, Large participation.

Received: 26 January 2009; Revised 29 March 2009. Accepted 12 April 2009.

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1. Introduction

Since 2005, the Web 2.0 or the collaborative web, conceived by Tim O'Reilly, has presented a new vision of the Web [13]. In fact, the user is no longer a simple consumer of the information available online; he rather participates in the production of the online content. This trend constitutes a real evolution of the Web, which contains more information and organizes users into communities that participate in the production, communication, sharing and diffusion of the information. In this context, each user will improve the value of his communities and participate in the creation of collective intelligence. In this context, many online services become possible specifically those which are freely accessible. The acquirement and installation of software is not necessary.

Otherwise, the Web 2.0 doesn't have a precise definition, it's defined as a marketing concept, to other people it may mean a phenomenon, a social revolution of users, a philosophy, a technological evolution of the Web, a new trend of the net or a simple version of the Web that hasn't known any evolution and so will decline. Our vision sustains that we talk about the same phenomenon with various dimensions. Some people insist on the technical dimension, others on the editorial practices and others on the sociological dimension. Considering this, the divergence of ideas will offer a great value to the Web 2.0 and will open many debates. We should notice that the divergence of ideas constitutes a problem. In fact, the variety of ideas is justified by the so many definitions of the Web 2.0 arriving to the Web 8.0[18]. According to Frederic Cavazza [3], the Web 2.0 is a marketing concept for some people, a vague concept to others. The Web 2.0 suffers from a deficit of explications given to what it offers to users. Richard MacManus considers the Web 2.0 as a social and open Web, which offers new interfaces and manners to search and have access to it. It's a platform which offers a personalized content to professors, media, politicians and communities. Hubert Guillaud assimilates the Web 2.0 to a real phenomenon and a quantitative evolution of the use and appropriation of the online services. Thus, we notice the apparition of new forms of interaction, which place the

user and his relation with other members of the net' communities at the center of the internet. In fact, placing the user at the center of the Internet [10], the Web 2.0 isn't a revolution nor a technological rupture. The Web 2.0 is more interactive than the Web 1.0, the Web 2.0 offers new methods of production, sharing and dissemination of information. The user can choose the language, the color of the interfaces, the size of the text when consulting and producing an online content. The Web 2.0 has many limits, such as the non-participation of the internet users in the production of the on line content, the grand mass of information, the poor quality of information, the non-respect of the copyrights and the commercial goal of the Web 2.0. Our team proposed the version web 2+ which adds the concept of validation of information with two levels [15].

The objective of this article is to propose a new version of the Web, called the Web 2.2, which tries to resolve the problem of the actual Web. It proposes to add concepts related to the management of users by introducing a validation board and the management of information by offering 5 levels of quality of information.

It encourages the users to participate actively in the production of a high quality content and adds also the notion of the Web dollars which will allow users to take benefit from payable services available on this version of the Web. In the following paragraph, we will define the seven principles of the Web 2.0, and then we will present these tools such as blogs, wikis, RSS feeds and social networks. We will also describe the limits of the Web 2.0 in the fourth paragraph; then, in the last paragraph, we propose some principles and concepts to integrate to the Web in order to overcome these problems. The conclusion will present a set of perspectives.

2. The Principles of the Web 2.0

Web 2.0 is not a standard but rather a series of principles for the use of existing technologies. The Web 2.0's users can all the time modify and update the online contents; this opportunity makes the storage area of information flexible and in a continuous evolution. With the advent of collaborative applications and platforms of blogs and wikis, the dissemination of information becomes more and more important. According to Tim O'Reilly [10], this evolution consists of seven concepts, which are:

- The Web is a platform of services
- Users become producers and co-developers of applications
- On-line services improvement and the increase in the number of users
- The development of data
- The collective intelligence created by collaboration
- Creating flexible interfaces based on the Web's standards and protocols
- The possibility of using Web 2.0 under many devices (PDA, GSM, etc.)

The Web 2.0 is multiplatform and can be used through any device, specifically those who are mobile and using wireless network. Through blogs and wikis, users can create and comment, easily and rapidly, any type of content including video cast [13][9] and podcast [1]. They can also collaborate, by using wikis, sharing ideas with people who have the same field of interest, being aware of news by using RSS fields. Concerning research, marking, sharing and structuring information become possible with tags. Among the advantages of the Web 2.0, we can cite simplicity, flexibility, user involvement, the easiness when publishing, the large amount of tools and finally the possibility to be informed about news through RSS feeds.

3. Tools of Web 2.0

The four tools of Web 2.0, which are blogs, wikis, social networks and RSS feeds, are presented as follows:

(1) Blogs

A blog or a Web log (Web log) is an online journal that allows the user to publish regular information or comments on a specific topic. Described as a tool of communication [7], the blog is the space where authors, journalists, consultants or members of a company, retired experts, and enthusiasts can exchange their individual and collective contributions. Some people consider the blog as a diary on the Web that permits to publish news (articles or notes) on a particular subject easily, to illustrate it via multimedia tools and share ideas by gathering comments about articles [11].

(2) Wikis

Wikis is part of the Web 2.0, which provide users with great possibilities to collaborate and capitalize their individual intelligence in order to build a collective intelligence. The origin of Wiki comes from Wiki Wiki in Hawaiian, which means rapid/

quick. The Wiki is a content management system of Websites making its Web pages freely editable by all visitors who are allowed [8]. As a tool of collaboration, the wiki is a space of discussion that offers the possibility of constructing by proposing a structured and organized content [5]. Wikis are used to facilitate collaborative writing of documents with a minimum of constraints. Access's rights can be imposed.

(3) Social networks

Used by teenagers, social networks have known a great evolution. They are sites, which offer the possibility to create communities in a way upward. Each user creates its own page containing personal data available publicly or only to individuals predefined. These communities may have common goals or common interests. We talk about a social network (or human network) when people or organizations have relations with each other; they linked together by links called social interactions (professional or friendly relations) [4].

(4) RSS feeds

To follow the news on a Website or blog, the Really Simple Syndication feeds (RSS) permit to users to be informed of the news of Websites, through one place by the hyperlink allowing the reader to read the following news online without being obliged to consult them[6]. It is a simple tool, which saves time and effort when doing continuous documentary research. Technically, it is a file which contains information disseminated on a Website developed in XML format and must be updated. To take benefits from RSS feeds, you will need a tool called RSS reader or RSS aggregator [2]. Among the advantages of this tool figure the possibility to follow up easily the news and being all the time informed. But the RSS feeds have some drawbacks, such as the uncontrollable redundancies of information. Note that many problems may arise due to an improper use of the RSS feed or to the lack of compatibility with the aggregator or the copyright management.

4. Limits of Web 2.0

Web 2.0 offers many advantages that can be used in several areas, such as education, business or libraries, but it also presents several limits. Thus, some authors foresee its decline. The most important question, which we will try to answer, is: who produces what, when and how? In the following paragraph, we classify the boundaries of Web 2.0 in two categories: the first one related to users and the second one to the information.

4.1 Limits related to users

The current Web considers as equal a productive person and a non productive one. Moreover, people who produce right/good information and those who produce wrong information are equal. Finally, people who produce regularly and those who produce rarely are at the same level. This problem is the most flagrant limit of the current Web, which is characterized by low participation.

- **Few numbers of participants**

Except a few numbers of internauts who participate in content production, the rest consume only the information available online. According to Charles Arthur, the trend of the participation in the development of content in the Web 2.0 was following this idea: for a group of 100 people, if just one person creates content, 10 people will interact and exchange information and 89 % are going to use it. This rule, called 1/10/89 %, isn't respected [6]. In fact, among the Web 2.0's users figure a minority who participate in the creation of online content [10]. The participation rate is very low, 1% [12]. Approximately 2/3 of the content is produced by just 1% of internauts [12]. For example, 68.682 internauts use Wikipedia, 50% of the modification on Wikipedia are done by 0,7 % of users and 1,8 % of the users have produced more than 72 of the articles available online[18]. Moreover, Web 2.0 tends to decline. Note that the causes of the non-implication of the internauts in the creation of Web 2.0 content are various.

- **Low rate of participants**

The number of the producers of the content, who participate in the development of the Web 2.0, is very limited. We can classify producers into two groups: permanent producers and casual ones [10]. For example, just 0,16 % of visitors of YouTube publish videos and just 0,2% post pictures under Flickr. Contrary to YouTube and Flickr, the participants on the alimentation of the Wikipedia's content is 4,6% [14] The users of Web 2.0's services are isolated and non-representative. Young people and specialists compose the population, who participate in a heterogeneous and non-balanced way.

- **Heterogeneous Participation**

A little number of active users do not participate in the same manner and with the same frequency. There are many on the simple actions (read, save a bookmark and comment articles) but less active on complicated participations (create content

and collaborate). The occasional contributors write long texts without any intervention, while active editors correct, update, verify and delete content without giving much text.

- **The lack of the motivation participation**

Considering those who produce and those who use as being equal, the Web 2.0 does not motivate users to participate actively in content creation. Thus, we have a low rate of participation. Moreover, it is an amateur's participation because it trusts them and allows them a great responsibility, which conditions the future Web 2.0. Trying to attract more inter-nauts, several companies have invested in this new scourge to build their business models, which are based on the earnings of traffic and advertising in an attempt to attract Internet users to consult and then make them see their advertisements.

4.2 Limits related to the information

Web 2.0 is a mixture of content produced by various types of users. No classification is yet made. We should note that the manner by which we use information technology could lead to loss of quality of content.

- **Poor quality of information**

Thanks to Web 2.0, everyone can create, publish, share, connect, influence, collaborate; but what is the quality of published content? The problem of Web 2.0 is like a classroom where there are always brilliant, medium and bad students. So participation will never be the same. Then there are those who want to participate and others who do not want to do it. To participate, one should have a minimum of knowledge and skills or even training before tackling a relevant topic. What's applied for the Web 2.0; people do not have the same training, the same experiments, the same ideas, the same experiences, the same age and the same level of maturity. Everyone writes his opinion and his vision and ideas are sometimes contradictory and we do not have a consensus on a definition of Web 2.0. Information is often of very poor quality and sometimes it may be wrong. So, among the limits of Web 2.0 is the non-verification of the user's identity, which gives an opportunity to lie, misuse, or use wrong or anonymous.

- **The grand quantity of information**

The current Web 2.0 gives a lot of redundant and not interesting information. Everyone writes what he wants without any structure and convergence. It is a mixture of content produced by different types of users. No classification is made. We find the same information on several sites and blogs and we do not know who the real author of this information is. Moreover, the lifetime of the information is very short with the publication of millions of videos, images and texts every day, and the information produced is not sorted by degree of importance, eliminated nor archived. New rating systems have emerged, but we notice that the information that we can get can be wrong by displaying the same website on several machines and one can ask his friends, of our community, to do the same in order to be classified in the first place. So, the scoring of this method has no reliability and we must think of other more relevant tools.

- **Lack of security and copyrights**

Web 2.0 poses the problem of copyright, in particular the problem of reproduction of content. Many users, especially bloggers use just existing information on an article or on a comment for elsewhere. The content written by some authors are published on several sites under different names, some of which are fictive. Furthermore, it is possible that a user, who had posted a comment, be against the reproduction without his permission or at least requires that his name as author should be mentioned. In many cases, we don't know who the real author is because we do not even cite the original reference. In addition, virtual people are created without limit. They publish a lot of content on the web, which does not respect copyrights. The problem of copyright does not must be resolved in court of justice. We take as example the problem of YouTube and the copyright of certain videos that compose it. This company had given details of collaborators to the courts in the USA.

- **Lack of semantics**

Before Web 2.0, the Semantic Web was proposed by the inventor of the World Wide Web, Tim Berners. His goal was to make the web intelligent, which includes the aspect of information semantics. The network of the Web 2.0 is not a semantic network and the information in this context has no meaning or interpretation, it is reflected by the inability of users to do a relevant search, which can interest specialists.

In fact, the content can be enriched in order to give a meaning and personalize the research results. To increase the relevance of content, it must be accompanied by the conception of a database in order to ensure the security and accuracy of results.

5. Web 2.0's Concepts

The collaborative Web is based on user participation, as actors, in the production and dissemination of information by forming communities. While the size and mass of information will increase the quantitative aspect of the content, the qualitative component presents some limits. Similarly, the quality of information is missing in this type of philosophy and no strategy to overcome this problem is made. The quality of information from these different types of users is the same, which is not abnormal. Teamwork is a vital key to evaluate successfully and take advantage of collective intelligence. However, note that we must classify users depending on their degree of participation and give more privileges to active participants contrary to simple users. Moreover, it is not enough to communicate, publish and share any type of information but the most important is to have the right and valuable information, which is the basis of the approach proposed in this article and the proposed solution has four axes, which are the Web2.0 users, the information, the funding and finally the technical implementation of this new version of the web.

5.1 Proposed solutions to users

- **Classification of users**

In Web 2.2 approaches, each user or producer must have a unique identifier throughout the web that will be granted only one time. While the internaut is connected, he must be identified through a fingerprint reader. He cannot publish the information until making a digital signature on the deposit on a specific and certified website on the Web 2.2. The user will have a unique number in the submitted information called IN, which is equivalent to the ISBN (International Standard Book Number) ISBN for books that will guarantee the rights of authors in the information produced. We propose, also, the identification of committees to validate the information by experts who will monitor the publication, sorting, classifying and archiving of this information. Thus, we propose to classify the web users into four groups, which are users who consume the information, users who consume and produce content, validators that validate the content and experts who monitor and verify publications. The types of the Web 2.2 users are represented in the following table:

Actor	Role
User	Read content
Producer	Read and create content
Validator	Validate the content which is produced
Expert	Monitor and verify the publication

Table 1. Categories of the Web 2.0's users.

Web 2.2 does not modify the information produced on the current web 2.0 in order to maintain the existing web but rather try to propose a validation of this information on the web. This section does not include anonymous interventions and the information compiled from other websites; it will put the producer's identity and the date of production. To validate content, an expert from the community of experts chooses two accredited validators in charge of each content that is submitted for publication. It will be published on the Web 2.2 only if the two Validators give a favourable opinion, otherwise, it will not be published otherwise. A user can become a validator if two experts recommend him. A validator on a specific theme should work through the Web 2.2 with other validators or experts in order to validate a subject published on a specific theme.

- **A unique identity for users**

Each user must be identified by Unique Identification (UI) on the web 2.2, similarly to internet machines that have their proper and unique IP (Internet Protocol) centralized on the Web. This identity must be done, on secure website, throughout fingerprints with robots dedicated to the validation. Note that, the identity is not limited to login and password. This new method offers more safety and less piracy and permit to the user surfing a clear Web that contains only good information. Moreover, the user is identified and known, so in case of fraud, he can be easily pursued This solution will also permit doing permanent studies on the rate of participation, detect imbalance shareholdings, protect copyrights and know who participates and who just consumes. If a website is hacked, normally, through the UI of the internauts, we will easily identify him and so he be sanctioned. We can delete its account or even pursue him on tribunal. Thus, the Spam's problem is resolved.

5.2 Proposed solutions for information

- **Identification of digital information**

Each information published in this part of the web 2.2 must be identified by a unique number centralized in one part of the web, like the ISBN for books. The data however will be saved on decentralized databases. The summary will be centralized and be used for the research by theme.

- **Subdivision of information**

The information produced on the Web 2.0 is either as an article or as commentary in various formats such as text, images, podcasts and video cast. Information will be divided into five classes, which are represented in the following table:

Symbols	Types of information	Meaning of information
B	Good	Validated and relevant
M	Medium	Validated at medium degree
F	Poor	Validated under conditions
E	Wrong	Non validated
C	Opinion or comments	

Table 2. Subdivision of information on the Web 2.2.

By classifying the users and the information generated on the Web, we can easily answer the question: who produces, when and how? The following figure shows a general classification proposed by Web 2.2 to users and the information that is produced.

Each item is created and digitally signed by one or more authors. It will not be published until being validated by two recognized Validators on the international level. The expert should assign a score to the information or propose to delete it if invalid.

5.3 Proposed solutions for the funding

- **Creation of a virtual money**

With the actual global crisis, the end of this era of easy financing will lead to the disappearance of many Internet companies, and thus, the term Web 2.0 itself. In fact, most Web 2.0 companies will not have benefices with an economic model based on a few pubs; thus, the funding companies will be obliged to close in the near future and therefore Web 2.0 will die. Normally

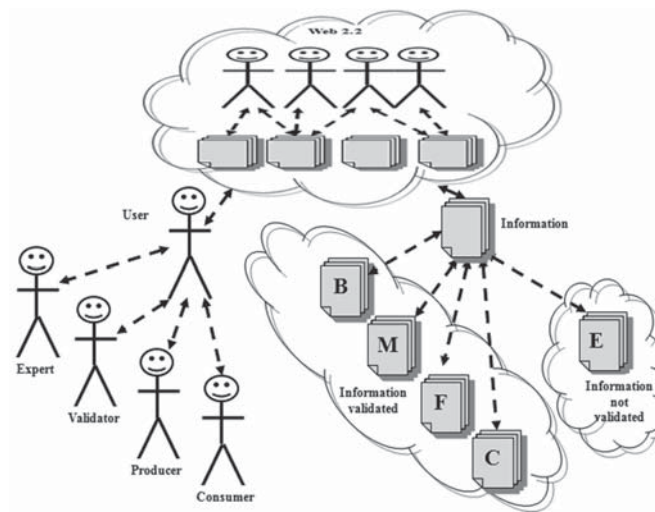


Figure 1. General classification of the Web 2.2.

we must to make the Web profitable before its development not inverse. This article proposes a funding model for Web 2.2 based on a virtual currency called Web-dollars. It will be the universal money of the web, which manages all its financial aspects. In addition to free services based on advertising and on internet's traffic, the Web will include payable services. Among the payable services, we cite blogs for specialists; some RSS (Really Simple Syndication) feeds about the validated information, which will make the user informed about the latest validated news on his field of interest; some social networks of experts validated and certified, as well as access to some wikis of professionals. Besides, the user can have a large space of storage. He can also have access to known review daily, take courses online video at a distance, have diplomas and certificates on the net, etc). The valuable information, from which we can take benefit, must be priced or paid. By this money, one can obtain services. A grant for the conversion of web dollars to common dollars may be possible, but according to the daily operations on the net.

- **Publication on the Web 2.2**

In this context, each registered user has a unique identifier and account. It will be composed by an initial value of the Web-dollars. Each account will increase whenever the user publishes validated information, it will depend on his participation. The score or notation given by validators and readers can also be taken into consideration. His account will be reduced, each time he uses a payable service. Once his account is empty, the user should produce relevant information, participate in the web 2.2 tasks, that pays by Web-dollars, such as being involved in the verification or validation of the correct information, translation of information ... The user can also acquire Web-dollars by buying this money from websites accredited depending on the rate of conversions of each day. While participating in the validation of content, experts and validators will be paid by this currency. We can even define preliminary salaries for validators and experts. If a user does not publish and does not buy more web dollars, we must forbid his access to all of the validated information validated. With this new mode, users will be encouraged to create content and give their opinions.

- **Prices of the Web 2.2**

The idea to integrate the virtual currency in the Web is to give access trough the richness of the internauts the information valuable. Users will not be able to benefit from the Web 2.2 content unless they produce or pay. To ensure access to everyone, prices have to be accessible and cheap (prices of SMS and MMS). With this new vision, to consume one must pay or purchase the virtual money or freely by producing. Non-producers will continue to publish on the web 2.0. This mechanism will present benefits to active producers and collaborators; it will distinguish them from those who do not produce. Thus, we can pay translators and producers of virtual and multilingual information. The sources of funding will expand with the internauts' proliferation and the increase of the number of active internauts.

5.4 Technical solutions

Technically, the overall architecture of the Web 2.2 will consist into layers. The different layers of the Web are illustrated in the following figure:

- **Containing layer**

It consists of hardware devices (servers, machines) and software (operating system, platforms of content)

- **Actual Web2.0 content layer**

It consists of current information of the Web 2.0 that will be published in the future but still without digital identification and filing legal and validated information.

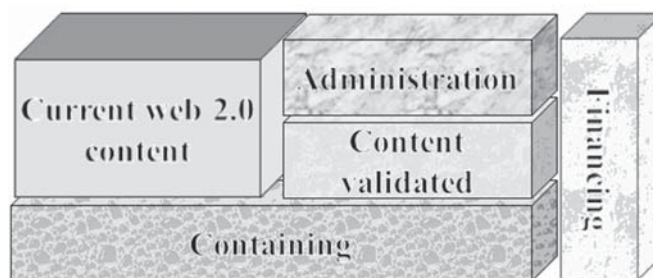


Figure 2. The architecture of the Web 2.2's layers.

- **Validated layer**

It consists of information, which is validated by at least two Validators and has a value (B, M, F, E, C). The producer of this information will take benefit from it.

- **Administration's layer**

It consists of a centralized database composed of the identified users. Thus, we can add, modify and delete when the account is empty for a long period.

- **Financing layer**

It consists of a centralized database where transactions and payments saved, debits and credits. It may concern other layers when administrators of the Web 2.2 want to buy hardware or software for the management of the web.

6. Web 2.2 Advantages

Through the concepts already proposed, we can answer the question: who publishes what, when and how? The quality of information, which is the most important things for us is secured through the subdivision and classification of users and the information produced. The proposed funding, based on the Web dollars, will ensure a reasonable lifetime for this version of the web. Among the advantages of the Web 2.2, we cite:

- **Information of good quality**

In this context, information will be clearly identified, well sorted, well presented, validated and displayed depending on its relevance. The validators and the experts will do their best to achieve the traceability of information and eliminate redundant information. Then, the validators will keep what is valid according to a definite period. The redundant information should either be destroyed or sent to the normal web anonymously. Reducing time, effort and cost, the information of good quality will enable optimal use of information by removing redundancies and adding a precision for professionals when doing research.

- **Security and copyrights**

In this new approach of the Web, users, identified, can participate and then the security and the respect of copyrights will be ensured. With respect to copyrights, a text can be produced by one or many authors. Otherwise, the laws can be applied as long as there is a unique identification of each user. The user assumes the risks and problems that may arise such as fines in the form of Web-dollars and disciplinary measures as the banning of certain sites or deletion of his account.

- **The increase of the number of Web users**

The quality of information presents a vital factor of the individual and collective work. The number of internauts will increase and the rate of participation too if we ensure a good and valuable information.

- **Enlargement of the internet's population**

Among the users of the web, we can cite people generous and radin. So, we have a very diverse population. The integration of Web-dollars will distinguish between those who publish and those who do not. More than that, it will distinguish between those who publish regularly and those that publish rarely. What has been proposed, in this article, as a vision of the Web will encourage everyone to work and publish, including lazy people or those who want rewards. Then, the Web will be opened to other populations and will give even more popularity to this type of site.

- **Rich sources of funding**

In Web 2.0, advertising is the main method of ensuring the funding of collaborations. In the new version of the web, this service will not be funded only by advertising but also with self-pay services. In fact, in addition to financial contributions from people who do not have access to various payable services of web2.1, advertising is another source of funding. The companies will be more involved, taking into consideration that the real identities of people are known and that they can target a real and specific population for marketing purposes.

- **Good process of published articles**

Each item is created and digitally signed by one or more authors. It will not be published until two internationally recognized Validators validate it. After publication, the identified Internauts can evaluate and give scores to the relevance of the content. Note, that internauts can also evaluate validators.

7. Conclusion

Web 2.0 is the web of the new generation where the user becomes active and collaborative, contrary to web 1.0. The problem in this version of the web is the quality of information. As noted previously, our proposal aims to answer the question what is the quality of published content. The quality of information which is our main concern is secured through the subdivision of users and the information that is produced. Information will be in this new method well identified, well structured, not redundant and removed when it's no longer useful. It will allow us a better management, better reuse, and therefore better research. The integration of virtual money will encourage people to participate more and so profit from their experience. Gains of this Web are on terms of the research's time and of efforts deployed in order to find the right information and the free access to contents and work for producers and payable for consumers who are not producers.

As perspectives one would like to have tools for people who have difficulties to see in order to expand our community. We would like to have a semantic Web that includes the meaning of information. We would like also to have multimedia content with multiple languages. In addition to this, we would like to have content in 3D and also in the form of distributed databases.

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