New trends in online tools for collaboration, socialising, learning and their integration till 2020

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Abstract: The popularity of community portals and solutions like Second Life is growing. In the same time awareness of the need for lifelong learning arises. Schools cannot act as standard source of knowledge given once for a whole vocational life anymore. Telework in turn starts with working part of the time from home and sending work results through the internet. Where it ends if today virtual team does not sound futuristic anymore? Future ways of using online tools in each activity (social, working and learning) will cross-define each system (living, working and learning) for next decades. This integrated set of tools can fulfil requirements set for Information Society tools. In order to assure coherent development there are five succeeding aspects to be taken into consideration and supported: visioning, definition and classification, technology, social acceptance and legal environment.

1. Introduction

Web 2.0 solutions simplify the process of publishing information in the internet giving this possibility to every user of global network. Next decade will be the time of developing Web 3.0 which characterises as complete unification of content provider and user roles and evolution of content forms from text, images, voice and then video to fully diffused applications.

Standard result of work in Information Society is the supply of on-demand elaborated set of information or application. This leads to the conclusion that next generation online tools fulfil requirements that have to be set for working tools in Information Society. Under certain conditions those tools can provide technical environment for working in fully developed Information Society. However technology is only a part of the comprehensive working system that has to encompass a set of aspects. Universal legal solutions have to refer not only to local regulation – national or European – but also to common rules for the whole globalized economy – there are no more national or regional companies. Widely seen social aspect – cultural or mental national cohesion is not an adequate assumption anymore. Organisation and management of work also requires serious redefinition. When defining working system for a virtual team rather type of occupation (specialisation) and type of work (telework) – defined as a set of working methods – have to be analysed. Lifelong learning also has to be implemented both in technical and social aspects.

Future ways of using online tools in each activity (social, working and learning) will cross-define each system (living, working and learning) for next decades. The accurate anticipation of how they will combine requires the wide discussion among researchers and

practitioners. As a result it will allow companies and states to define legal, educational and social environment to use it as a base for further development.

The subject of this paper is to analyse three types of online tools being widely used nowadays: tools supporting work collaboration, socialising and education processes and their coexistence. The analyse starts from presenting the overview of those mentioned tools focusing on either those most common or those reflecting new, innovative trends. In the second part we will focus more on trends common for all those groups of tools – on their integration. Then it comes to setting up critical factors for the coherent and synergetic development of Information Society tools.

2. Trends in online tools – the overview

2.1 Working tools

Taking into consideration modern online tool supporting the work we can divide them into three groups:

1. the first one in a row and the simplest is the basic communication – understood as text and voice transmission (e.g. e-mail, SMS, chat, VoIP, discussion forum),
2. the second one – sharing – is being used for redistribution of data resources (repositories) such as files and/or contacts and
3. the last one – the most sophisticated – are tools supporting the work management (coordination) itself (tasks, projects or events coordination).

As an example of the first group tool we can start with one of most common communicators and take a look at its evolution. Skype started from offering chat and then VoIP (Voice over Internet Protocol) solutions. Later it has been enhanced with VoiceMail. The next main step was to launch video calls and – as a result of this – conference calls. On the basis of that extensions, like for example desktop sharing, have been made available. It started the new way of development. Opening the API (*Application Programming Interface*) – i.e. giving the third parties an access to own root application – allowed the integration of other software with Skype to extend both software functionalities.

Talking about innovative online tools, one of the obvious knowledge sources is still Google. Starting from text transmission they came to the point where their work supporting environment consist for instance of GoogleSites which can be used as fully outsourced online intranet, GoogleDocs which can be used as not only text co-edition tool but also to share calculations with only internet browser needed or GoogleCalendar giving possibilities to share and manage events.

Telework starts nowadays with working part of the time from home and sending work results through the internet. There is a question where it ends if today virtual team does not sound futuristic anymore.

2.2 Social tools

In the area of socialising tools it is hard to ignore such services like Facebook, Myspace or brand new Pownce. Not going much into details they allow communication and sharing from events and videos to opinions. What they do in fact is support for building and sustain relations and promoting individuals.

The popularity of community portals and solutions like Second Life is growing. There are at least two factors influencing that phenomena. In nations where emigration has increases – like Poland in last 2 years – or where the mobility turns into reality because of other reasons these solutions are giving the possibility to sustain relationships that have

developed in face-to-face contacts. On the other hand young people in globalized world have the natural openness for widening the friendship circle and business contacts. Second Life can sound like a coherent part of life for them.

2.3 Educational tools

In the same time awareness of the need for lifelong learning arises. Schools cannot act as standard source of knowledge given once for a whole vocational life anymore. There is growing demand for accurate education which means that the scope of content have to exactly address users' needs and the way of supply it have to ensure immediate, constant and easy access. E-learning methods have to be used for that. E-learning started from lecturer's presentations available to download from the website. Today we can observe fast development of Virtual Learning Environments.

The good example of modern e-learning tools is m-learning. The minimization of handhelds and mobile phones made it feasible to study while travelling. It starts with SMS (*Short Message System*) communication to organise educational quizzes and directs to downloading and reading e-books and using central virtual learning repository.

The other trend is to explore areas of knowledge that has never been taught using such methods. As an example we can use the SISINE Software. This is based on the idea of Massive Multiplayer Online Role Playing Game (MMORPG) and used as group e-learning software for training negotiation skills. It uses the possibility of supporting verbal and non-verbal communication and allows self training either on a deterministic or artificial intelligence (neural networks) base. The software sets Virtual Learning Environment allowing users not only to chat and see each other but also to express tone and volume of their voice, facial expressions and gestures.

3. Integration of on-line tools

3.1 Functional

What we can observe in development of online tools nowadays is integration. Even if still most of them are not related – they are functionally and/or technologically covering the same areas.

Taking a look at Skype as first example. It is widely used by Poles working abroad to stay in touch with their families. In the same time it is used by many project managers to organise videoconferences or in e-learning to set up virtual class rooms. YouTube in turn has been from its beginning used to share family video clips. However it is now used also e.g. for broadcasting advertisements. Second Life is not only used to develop social relations anymore but it also runs its own educational program setting up virtual universities or allows running business which revenues are transferable to real money. ZIMBRA is a kind of modern communication tools. It can be used as a central communication repository to store and manage both private and companies evens, e-mails. Additionally it allows integration with Geographical Information System and external solution e.g. Skype. The trend to integration can also be easily seen in the way companies build their product and services portfolios. Google – already used as an example – defines four groups of users for GoogleApps. They are the following: families and groups, small businesses, enterprises, schools and colleges and they cover exactly three types of online tools being discussed: working, socialising and learning.

One of prerequisites to identification of the integration trend can be also the fact, that there are more commonly used functional solutions. The use of wiki tools, social tagging,

blogging or virtual reality ranges from building online working teams, to socialise and to spread the knowledge.

3.2 Technological

Analysis of modern online tools and technologies used by them show that there are common solutions accepted in most of them. For tools based on WWW the AJAX seems to be widely spread as a solution to make savings on bandwidth usage. Multimedia are enhancing the way of content presentation. Podcasting after socialising tools, than knowledge distribution has finally reached working solutions and is starting to be used in this area as well. Mobile versions of applications and services (e.g. search engines) evolutionary combine more and more successfully the idea of wirelessly and tools minimization.

3.3 Barriers

The need of integration come out also from the unification of barriers. The number of 'login plus password' combinations and profiles their represent is rising. They are reaching the level that users cannot manage anymore. The existence of common profile used to store and share basic user information would improve the situation. This single profile would be first, simple logical virtual representation of a user in the network. The need to allow exchange of data between various online tools (applications) also is developing fast. There have been some open Application Programming Interfaces already provided, however the standardization seems to be crucial to assure the easiness of use.

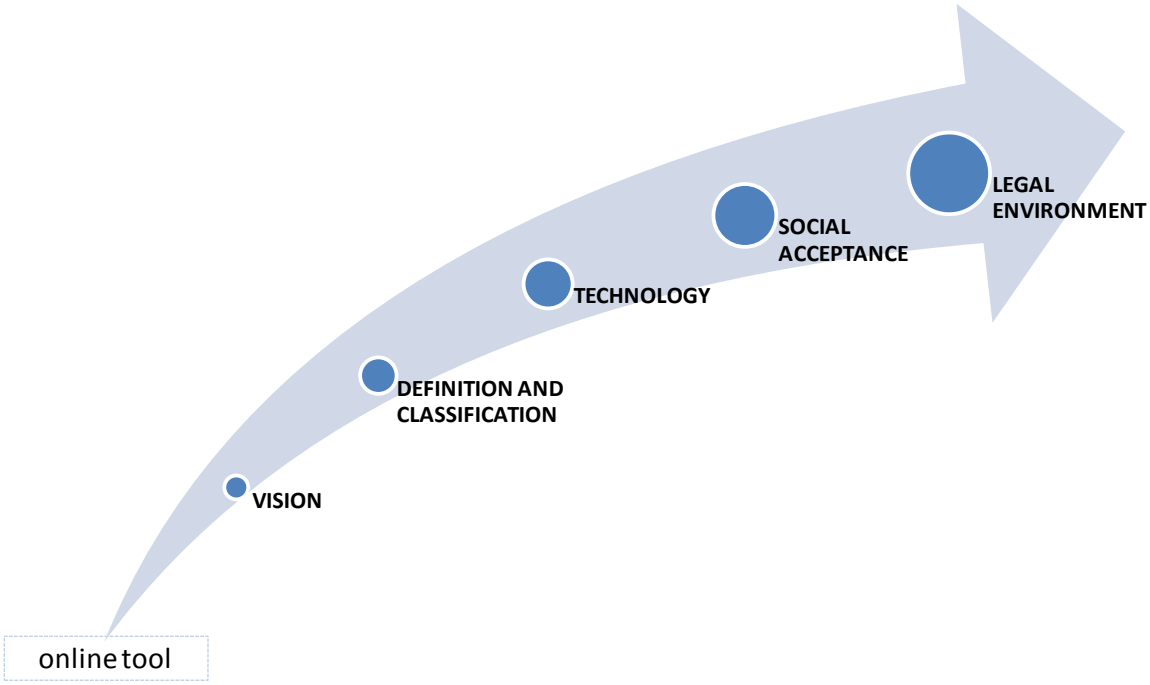
4. Background for coherent development

4.1 Introduction

When considering the evolution of those online tools the following question can be set: how to identify the time we work, the time we learn and the time we entertain within social groups. The answer can start with the statement that there is no need to identify them – there is only a question how to combine them to optimize overall performance.

When analysing development of online tool we can identify five phases of building the background step by step as presented on Figure 1. Starting from innovative ideas (Visions), through defining strategies (Definition and Classification), adapting or inventing appropriate technologies (Technology), to gaining Social Acceptance and implement modified regulations (Legal Environment).

Figure 1:



4.2 Visions

The most important areas of inventions in Information Society tools are technology and functionalities coming from both scientists and business leaders. The vision of adapting a solution into different conditions can produce an important added value as well as totally new vision. Some examples of most up to date visions related also to telework are the following: *the life cycle will not be based on biological factors anymore* [2], *the evolution of the World Wide Web is a process of step wisely cloning the human society* [1].

4.3 Definitions and classifications

Vision needs some structuring to allow its implementation. This structuring should lead to building functional and business models. These models should be used to support innovative start-ups which act as living labs. As an example we can observe the problem with definition and classification of such well known phenomena like Web 2.0 and Web 3.0 There is some valuable work done in this area, however none of them can be described as widely accepted standard.

4.4 Technology

In the area of technology there are 3 aspects to be worked on: common solutions (e.g. widgets, AJAX), common environments (e.g. Second Life), specifications and standards (e.g. those by W3C).

4.5 Social background

Fast development of online tools without support in social area can lead to the Digital Divide. The ability to use online tools should be taught from first stages of education. Especially that these tools require new specific skills. As an example we can use the switch from searching for information to filtering the huge amount of information existing in the network. In relation to the work in turn we face rising need for self-control.

4.6 Legal solutions

The law related to online tools is mostly being updated on the basic of solution already tested in practice (if not commonly - at least identified as best practice). On one hand the law is seen as a basement which is not intended to change fast but on the other hand there are cases where faster update of regulations would improve situation much. Then arises a question if the law should not be proactive. As an example let us take a look at Poland. About one and a half year ago telework did not exist in polish legal system. For people dealing with this matter there were no doubts that telework can with no problem be performed according to the Work Code. Anyway after the introduction of telework into the law it gets more popular – despite the fact that formally nothing (or almost nothing) has changed. That is a case showing the possibility to support the development by the law.

5. Conclusion

Following these five aspects: from Visions, through Definition and Classification, Technology, Social Acceptance and Legal Environment in parallel leads to work out integrated online environment for Information Society.

References

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