



Course Assignment 1

CS3242 Multimedia Technologies

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Review and Design of a Web 2.0 Application

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WEB 2.0

What is Web 2.0?

We now live in a wired, globalized world where communication and collaboration are possibly 24/7. In fact, by the beginning of year 2000, the notion of interactivity went from "*linking and clicking*" to "*creating and sharing*".

At present, individuals not only find and read information, but also create and share their own in real time. For example, in the form of blogs (Blogger, WordPress, Livejournal), in the form of photo albums (Flickr, Picasa), in the form of social networks (FaceBook, Friendster, Hi5) or in the form of videos (YouTube). This is the new web. This is **Web 2.0**.

Why Web 2.0?

Although the term "Web 2.0" suggests a new version of the World Wide Web, it does not refer to any update to any technical specifications but to changes in the ways software developers and end-users utilize the web.

To give a better understanding of the functionalities of Web 2.0, we present a comparison between the "past" and the "present". This would give a clearer understanding of (why?) Web 2.0.

Past		Present
Static HTML pages where readers could find and copy information.	to --->	Interactive services where visitors can create and post information.
Desktop-based applications	to --->	New online tools which means we can start working differently. Such online tools include the famous Google Docs , where we used extensively in our CS3242 Assignment 1.
We find and use information on the web.	to --->	The new web is now a participating, interactive place where we create information collaboratively and share results. Everyone can participate thanks to social networking and collaborative tools and the abundance of web sites that allow us to post journals, photos, movies and more. Anyone can control the content in a Web 2.0 world. One popular example would be Wikipedia .
Limited by how many things people can find, see or download off the web.	to --->	Unlimited , by how many things people can do, interact, combine, remix, upload, change, customize for themselves.

Technologies and features of Web 2.0

The concept of Web 2.0 uses programming languages such as HTML, JavaScript, XML and many others. Here, we give a brief overview of some of the technologies involved.

- Cascading Style Sheets to aid in the separation of presentation and content
- REST and/or XML- and/or JSON-based APIs
- Rich Internet application techniques, often Ajax and/or Flex/Flash-based
- Semantically valid XHTML and HTML markup
- Syndication, aggregation and notification of data in RSS or Atom feeds
- Mashups, merging content from different sources, client- and server-side

- Weblog-publishing tools
- Folksonomies (collaborative tagging, social classification, social indexing, and social tagging)
- Microformats extending pages with additional semantics
- Wiki or forum software to support user-generated content
- Internet privacy, the extended power of users to manage their own privacy in cloaking or deleting their own user content or profiles.

Techniques to encourage contributions

"In most online communities, 90% of users are lurkers who never contribute, 9% of users contribute a little and 1% of users account for almost all the action." - Jakob Nielsen, a leading web usability consultant.

- **Make it easier to contribute.** The lower the overhead, the more people will jump through the hoop. For example, there is one situation where people rarely leave a comment - even if the post deserves it - blogs that require logging in before making a comment. Keep the comments section as simple and as easy to use as possible.
- **Reward — but don't over-reward — contributions.** Although money is always good, you can also give contributors preferential treatment (such as discounts or advance notice of new stuff), or even just put gold stars on their profiles. For example, there are many ways that range from simply including a 'good comment' remark through to highlighting them in other posts that you write.
- **Edit, don't create.** Let users build their contributions by modifying existing templates rather than creating complete entities from scratch.
- **Promote quality contributors.** Give extra prominence to good contributions and to contributions from people who've proven their value, as indicated by their "reputation ranking".
- **Make participation a side effect.** For example, Amazon's "people who bought this book, bought these other books" recommendations are a side effect of people buying books.
- **Interact with comments left.** If you're not willing to use your own comments section why would your readers?
- **Be open-ended.** While you don't want to purposely leave too many things unsaid there is an art to writing open ended posts that leaves room for your readers to be experts also.

FUTURE DIRECTIONS - WEB 3.0

If one finds the concept of Web 2.0 somewhat vague, Web 3.0 is even harder to define. Web 2.0 saw users come together and create networks using new technologies. New emergent services converged from contributions of these communities. In Web 3.0, the perceived future of world wide web, technology takes these services one step further. The term Web 3.0 was originally coined by John Markoff, a journalist of the New York Times.

The general opinion about Web 3.0 seems to be that it involves using computational power, or even artificial intelligence, to further develop services. Computational power is used to process community data in order to present material on the web to create new context and to present data in a more intuitive way and enables many different technologies, services and communities to interconnect.

In short: If Web 2.0 allowed users to participate in changing the web and create new context, Web 3.0 will allow for the web to change itself.

Another vision for Web 3.0 is the semantic web. Both Web 1.0 and 2.0 present information in HTML. HTML is a markup language that contains both data and information on how the information on how the data should be presented. The data is here stored in a human readable format. Searches are mainly done in using full text search or by some linking algorithm. If you search for the word "cat" you find pages with the word "cat" and pages that link to them.

In Web 3.0 this data extended and provided with semantics to make the data more understandable for computers. The word "cat" is provided with semantics describing the nature of a cat. This way a computer can understand how the meaning of the data and how data is related.

Key features envisioned to play a part in Web 3.0

- "Internet of services". Another internet consisting not of hypertext but of services that can be combined in order to create new ones.
- Open software. A tendency towards open standards, formats and source.
- High performance and distributed computing.
- Distributed databases.
- Global wireless connections.

Current examples

It is hard to find any current applications that match this description today. Some early examples could be seen in GoogleEarth and some experimental Image software from Microsoft which uses pictures from Flickr and combines them to create 3D models of locations and buildings.

REVIEW OF THREE APPLICATIONS

We've chosen three of the most popular platforms, which should cover most of the features of Web 2.0.

1) Facebook (<http://www.facebook.com>)

Facebook is one of the most popular Web 2.0 applications. It was founded by the Harvard University student Marc Zuckerberg in the early 2004. In the beginning it was designed just for local students in Harvard but after one month it already expanded to other Canadian and American universities. It was one of the first Social Network websites and was taken as an example for a lot of other upcoming social networking systems. But none of them reached the worldwide user acceptance of Facebook. On the other hand Facebook has missed to localize its service and to regard local requirements, in basic terminologies, searches. Thus there are a lot of local competitors especially in Europe and other non English spoken countries where they could establish themselves locally. Since the last year Facebook began to develop European markets actively by setting up a translating tool. They took advantage of their community and let the users translate in their native language, based on a voting system. Today Facebook has more than 120million¹ users and is the most trafficked global social networking site and even the 5th most overall trafficked website².

COMPETITORS/ALTERNATIVES

For a long time *MySpace* was bigger than Facebook. But according to ComScore¹ it has changed this year, when Facebook could beat MySpace in its monthly visitor. In fact MySpace has been more like an online data storage, a platform to share music and to present yourself, it started to include social networking features in 2006. It is still the main platform for most musicians to present their music.

In local markets Facebook is facing a lot of small competitors who are strong on their home markets but in the global statistics none of them is as big as Facebook.

Global: ³	Visits	Growth	Local:	Countries	Visitors	Facebook
Facebook	132 Mio	153%	StudiVZ	Germany ⁴	3.1 Mio	0.177 Mio
MySpace	118 Mio	3%	Skyrock	France	11,4 Mio	3,2 Mio
Hi5	56 Mio	100%	Hi5	Latin American ⁵	12.8 Mio	7.7 Mio
Friendster	37 Mio	50%	Friendster	Asia	37Mio	20.7 Mio ³

¹ http://news.cnet.com/8301-13577_3-9973826-36.html, ComScore Research from May 2008

² <http://www.alexa.com/site/sales?num=25>, from August 2008

³ <http://www.comscore.com/press/release.asp?press=2396>, ComScore Press Release from August 2008

⁴ <http://www.comscore.com/press/release.asp?press=1737>, ComScore Press Release from September 2007

⁵ <http://venturebeat.com/2008/06/03/the-latin-american-social-networking-wars-market-leader-hi5-has-been-growing-but-so-has-facebook-and-sonico/>, VentureBeat article from June 2008, Data based on ComScore

Career networks:

LinkedIn with its main market in the American countries - 24Mio User

Xing with main markets in Germany and Asia - 3Mio User

KEY ELEMENTS, FEATURES AND ROOT CAUSES FOR THE SUCCESS OF FACEBOOK

Present yourself and gain more respect on showing your list of "good friends" like for a scrapbook
Giving some kind of good organizer to keep contact via eMail, IM, guestbooks and more. The decentralized profile maintenance gives you always actual contact details. You can even organize meetings through Facebook and invite your friends with just a few clicks. You can see when you have done what and met who.

Sharing of pictures, impressions, thoughts and your actual status is a feature which keeps you participating in Facebook regularly. The upload of pictures is very easy and you can receive comments from your friends and show them what you have done.

The excitement to see what others are doing and what kind of applications and pictures they are uploading. Add applications to your profile lets you customize your site and is free and easy. The programming is not too tough so that there are a lot of applications and you can explore and find new. This is a feature which gives Facebook a good advantage to other platforms. The large amount and individuality of applications and even games keeps the user excited and prevents of changing the platform.

Almost everyone has in these days at least a profile on Facebook. So you can find your friends in every country and group of age.

Besides the features, which are special for Facebook like the large amount of addible application and maybe the simple not too overloaded look, Facebook was from the really beginning a pure social network platform. It started with a lot of students who are maybe more "social active" than others and are maybe more interested to get new friendships in other countries. So it came up to more spreaded users which lead to a kind of standardization between the Social Networks if you are travelling to other countries. This is from what Facebook is living now. If you want to find a new friend on social networking platforms you get the best chance on Facebook. As long as no other competitor invents a really big new feature, which can't or won't be implement in Facebook, there won't be any reason for users to change to other platforms.

FEATURES TO ENCOURAGE USER CONTRIBUTION & ANNOTATION OF CONTENTS

Facebook has to encourage users to stay active and to visit the website daily at least to take more benefits from its advertisements. It has to resist against competitors and to be the platform which most of users are using. To encourage users of frequent visits, there has to be features which the user wants to use daily. This is done by the general opportunity to tell what you have done the day or the status message, which the user shall update every time he changes his actual activity.

Then you can browse your friends' uploaded content daily to keep informed on their ongoing activities and find new "exciting" programs as well.

The messaging functionalities are replacing the present channels like eMail and taking place in daily communication

2) YouTube (<http://www.youtube.com>)

YouTube is a platform for sharing every type of videos on the net. The users can upload their own videos and browse, comment and rate others. Founded in 2005 it was taken over by Google just one year later for US\$ 1.65 bn. Basically offering video clips, YouTube extended its service with standard social network functions like friend lists, messaging features and user created profile pages. Today studies attribute almost 20% of overall web traffic⁶ and more than 70% of all video clips to YouTube⁷.

KEY ELEMENTS, FEATURES AND ROOT CAUSES FOR THE SUCCESS

- Uploading Videos of almost every format in just a few clicks
- Almost no restrictions, free expression

⁶ <http://www.ellacoya.com/news/pdf/2007/NXTcommEllacoyaMediaAlert.pdf> Ellacoya Data Shows Web Traffic Overtakes Peer-to-Peer (P2P) as Largest Percentage of Bandwidth on the Network

⁷ <http://www.startup-review.com/blog/youtube-case-study-widget-marketing-comes-of-age.php> YouTube Case Study: Widget marketing comes of age

- Share a good joke get entertained
- Self Exposures
- Limited bandwidth, videos too large for sharing via eMail
- New watching experience – no need to wait and download the entire video, browse through linked similar content

The main factor for YouTube's success is probably the easy way of using. Everyone who already tried to view or download other videos has handled with a lot of different codecs. YouTube let you upload in just a few click most of the video formats and converts them automatically to the FlashVideo format which can be used with every internet browser.

Additionally although YouTube has very restrictive terms & conditions, it doesn't follow them strictly. Thus you are free to show every kind of content without bothering that this could be deleted. On the other hand this let to a lot of illegal content like downloaded series and movies. But doubtlessly is this another benefit from the view of the users.

FEATURES TO ENCOURAGE USER CONTRIBUTION & ANNOTATION OF CONTENTS

- Get comments and tributes for your effort
- Rating System appreciate your own videos and let you participate in creating the ranking list
- Number of Views to get high ranked videos

3) Google Maps (<http://maps.google.com>)

GoogleMaps is a website we've chosen because it has the chance to connect other services in a way of becoming a portal to the content of all Web 2.0 services.

Google started the service 2005. It mainly provides an online map directory with satellite pictures and street maps including a routing function. But only in 2007 functions have been implemented by which user created content could be saved and shared with others.

KEY ELEMENTS, FEATURES AND ROOT CAUSES FOR THE SUCCESS

- Free and easy to use and only a web browser is needed
- Good quality maps, NASA Satellite pictures in high resolution
- New feature-Live Street view
- Routing planner, with included GPS feature
- Changeable content to overlay the maps and plan trips
- Easy implementation in own websites

One of the big opportunities Google has is to implement more of the existing Web 2.0 services. With the connection of user content to the real life, this could provide the user with useful information about visiting places, activities to do or people to contact in his particular region.

For examples you can see the entries of the Wikipedia Website or you can watch the videos from YouTube, which are linked to their places in the maps of GoogleMaps. All Google users can create their own maps with information like places worth to visit, tracks in special regions etc. The service of Wikimapia is based on GoogleMaps and let the users describe places on the interactive map. This shows what users can provide on information and how useful it can be. With more and more content and connections to other Web 2.0 applications like sharing sites (e.g. YouTube, Flickr, etc.) and Social Networking Platforms GoogleMaps could provide the internet users with the next portal for finding region based content.

FEATURES TO ENCOURAGE USER CONTRIBUTION & ANNOTATION OF CONTENTS

Unfortunately on the main site of GoogleMaps there is less interaction possibility. Most of the services are external and just using the maps of GoogleMaps on their own Websites.

On GoogleMaps you can create your own routes and you can upload pictures through a third-party Website. These contents can be shown to the maps of other users.

DESIGN AND DESCRIBE A NEW APPLICATION

The Facebook application "*101 things to do in 1001 days*"

PROBLEM AND BACKGROUND

The task is to design and implement an application in the domain for web 2.0. Our application is called "101 things to do in 1001 days". The "101 things to do in 1001 days" project was originally created by Michael Green, living in New Zealand. In 2003 he created a list with challenges in order to motivate himself. This idea developed into "101 things to do in 1001 days" which is a list with self-elected tasks. It could be tasks to motivate yourself or thing that makes you happy, it is your choice. There are only two criteria. The tasks must be specific with a result that you can measure or clearly defined. The tasks must also be realistic and stretching.

FUNCTIONALITIES

1) The list

The basic functionality in the application is the "101 things list". The user is required to create his own list when the applications are installed. The list shall contain 101 tasks and every task contains of a title (mandatory) and a describing text (optional). It is also possible to choose tasks from a global list, which is merged together of all inserted tasks.

2) Status

When the list has created every task on the list it gets the default status "*Not started*". Later the user can change the status on the task to the following:

- Started
- x% Finished
- Finished

When the user has started with a task the status should be changed to "*Started*". When a task is partially finished the user can change the status to "*x% Finished*". For example if the user has a task that is to run a marathon four times and he has done it twice, the task is "*50% Finished*". When the task is all done the status is "*Finished*".

3) Comments

All tasks are open for comments by any user that uses the application. A comment can be done independent on which status the task has.

4) Rate

All tasks are open for rating by any user that uses the application. The grading scale is between 1 and 5. Every user is only allowed to vote one time. The rating of each task becomes the average of every user votes on that task. A user can rate the task independent on which status the task has.

5) Upload

When a task is finished, the user can upload either a picture, audio file or a video for proof.

ENCOURAGING USER CONTRIBUTION

This application encourages user contribution in a number of ways. Firstly, the user cannot access other users' lists before he has created his own. Thereafter it is easy to contribute material to the application through comments, rate tasks and uploading pictures, videos or audio.

IMPLEMENTATION

The "101 things to do in 1001 days" is to be implemented on the Facebook platform. The programming language that is about to be used is PHP together with a MYSQL database.



Step 1: Make your list

Step 2: Start the time

Step 3: Done!

What do you want to do with your life?

Create your own "101 things to do in 1001 days" list and get motivated today!

Describe your tasks

Describe your 1st task here...

Choose from list

Describe your 2nd task here...

Choose from list



Describe your 101st task here...

Choose from list

Save!

6 of your friend have this app!

Invite your friends!

Start Typing a Friend's Name

- Adam Johansson
- Adam Viklund
- Adis Bajraktarevic
- Adrian Nilsson
- Alayan Alaa
- Alex Bennheden

You haven't selected anyone.

Advertise

Jos n Jes Florist



Jos n Jes Florist have the freshest and cheapest flowers around. Check out the promotion this month.



More Ads



Step 1: Make your list

Step 2: Start the time

Step 3: Done!

Congratulation!

You have now created your list. Start your 1001 days countdown by pressing the start button!

Start the time

1. Run a marathon
2. Travel to the USA
- ...
101. Watch Star Wars ten times

Start!

Advertise

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More Ads

6 of your friend have this app!

Invite your friends!

Start Typing a Friend's Name

- Adam Johnsson
- Adam Viklund
- Adis Bajraktarevic
- Adrian Nilsson
- Alayan Alaa
- Alex Bennheden

You haven't selected anyone.



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More Ads

Step 1: Make your list Step 2: Start the time Step 3: Done!

Alexander's list

78 Not started tasks 20 Started tasks 3 Finished tasks Overall rating: 3.0 (15 votes)

Start the time

1. Run a marathon

Status: **Not started** Rating: 4.5 (15 votes)

2. Travel to the USA

Status: **Finished** Rating: 3.8 (5 votes)

Comments:

Björn Lundgren wrote 11th August:
Way to go Alex!

Jovian Lin wrote 9th August:
You're the man Alex



Video:



Picture:



101. Watch Star Wars ten times

Status: **Not started** Rating: 4.5 (15 votes)