

#### INVESTICE DO ROZVOJE VZDĚLÁVÁNÍ

## **Designing Social Interaction**

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HCI

#### **Faculty**Of**Arts**

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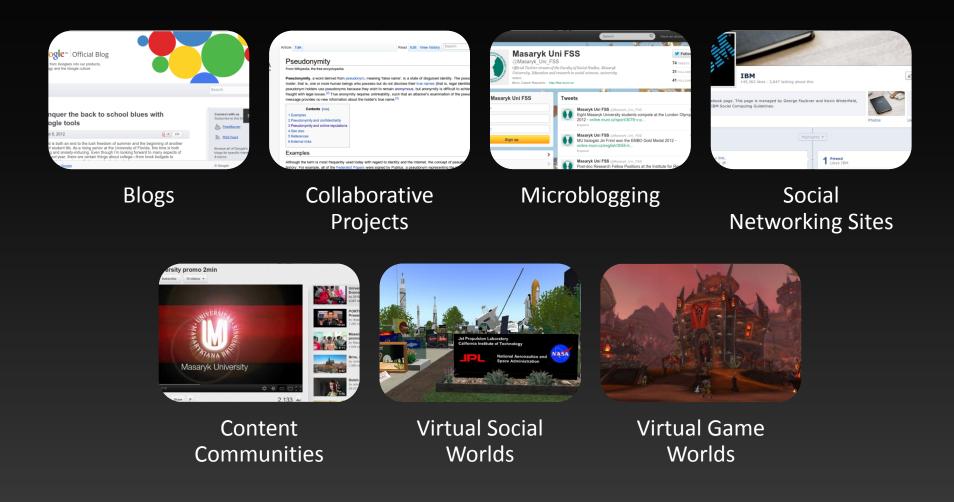
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"Social media is a group Internet-based applications that build o the ideological and technological foundation of Web 2.0, and that allo the creation and exchange of user-generated content." p. 61



Source: Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. Business Horizons, 53(1), 59–68. doi:10.1016/j.bushor.2009.09.003

### Social Media Classifications



Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. Business Horizons, 53(1), 59–68. doi:10.1016/j.bushor.2009.09.003 Kaplan, A. M., & Haenlein, M. (2011). The early bird catches the news: Nine things you should know about micro-blogging. Business Horizons, 54(2), 105–113. doi:10.1016/j.bushor.2010.09.004

## Applications of Social media

#### Entertainment

#### Workplace



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Source: http://thechinabeat.blogspot.cz/2008/10/wow-in-china-and-us.html . Accessed September 8, 2012

Source: Sarah Houghton, Source: Flickr.com

## Today's Forecast

"[...] the rate of change and development of new features of social media will continue for the foreseeable future." p. 256



## Defining Social Networks and Online Communities

#### What is a Social Network?

A social network is a social structure made up of individuals (or organizations) called "nodes", which are tied (connected) by one or more specific types of interdependency, such as friendship, kinship, common interest, financial exchange, dislike, sexual relationships, or relationships of beliefs, knowledge or prestige.

Online communities are Web sites where user relationships develop.

## Comparison of Social Networks and Online Communities (1)

#### A social network

- Has an organizational structure focused around an individual's one-to-one relationships.
- Has weak secondary connections between members.
- Allows its users to be members of many communities in the network at the same time.

#### An online community

- Has an organizational structure focused around a shared purpose rather than one-to-one relationships.
- Has strong, predictable secondary relationships among members.
- Is distinct from other communities because of differences in purpose, policies, and computing environment.

## Comparison of Social Networks and Online Communities (2)

#### A social network

- Is good for sharing activities.
- Is less effective at activities requiring cooperation and collective action.
- Makes it easier for users to build communities.

#### An online community

- Is good for activities requiring sharing and cooperation.
- Is effective at providing the framework for activities requiring collective action.
- Should not be confused with "adhocracies", "discussion groups", "forums", or "lists".

#### Shirky's ladder

#### Sharing

Ideal for social networks, i.e. exchanging photos

#### Cooperation

takes more effort and demands more complexity, organizing activity for gathering resources for a party, strong secondary connections needed

#### Collective action

dealing with large organizational structures, such as unions, government agencies, corporations.

#### Ingredients for a social network site



#### "social network site" ≠ "social networking sites"

"'Networking' emphasizes relationship initiation, often between strangers."

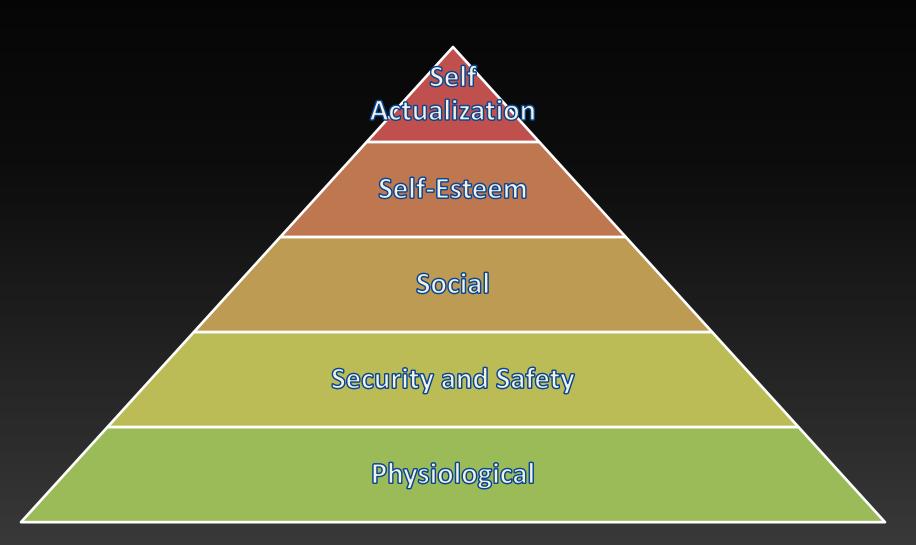
In a network, "Participants are not necessarily 'networking' or looking to meet new people; instead, they are primarily communicating with people who are already a part of their extended social network."

"What makes social network sites unique is not that they allow individuals to meet strangers, but rather that they enable users to articulate and make visible their social networks."

## **Designing Social Spaces**

Considerations

## Maslow's Hierarchy of Needs

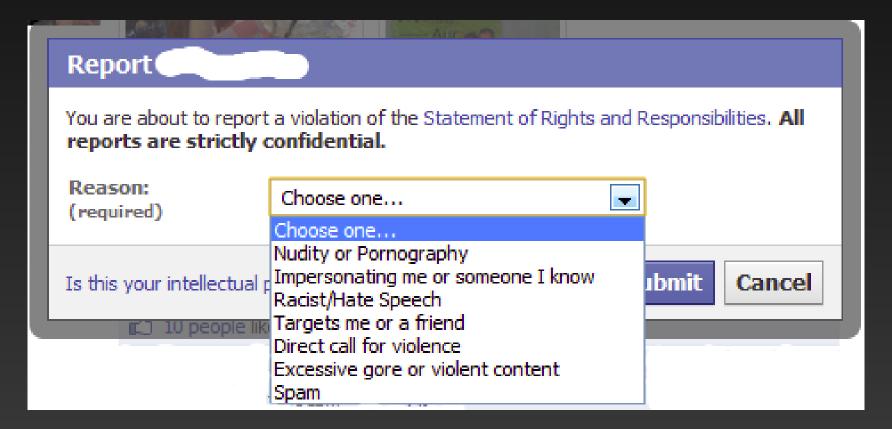


Source: Kim, A. J. (2000). Community Building on the Web. Peachpit Press.

#### Examples of satisfying needs for Security and Safety & Self-Esteem



#### Moderating the content



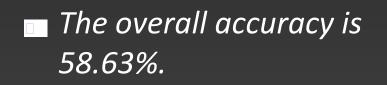
# Youtube's automated approach: What is the Content ID tool?

The Content ID tool is the latest way YouTube offers copyright holders to easily identify and manage their content on YouTube. The tool creates ID files which are then run against user uploads and, if a match occurs, the copyright holders policy preferences are then applied to that video. Rights owners can choose to block, track or monetize their content.

### Youtube's Content ID Video

# Software moderation: Bullytracer's example

- Rules based on a dictionary of keywords are used to classify a window of posts.
- A truth set of MySpace threads was created.
- Identified correctly windows containing cyberbullying 85.30%, and identified innocent 51.91%





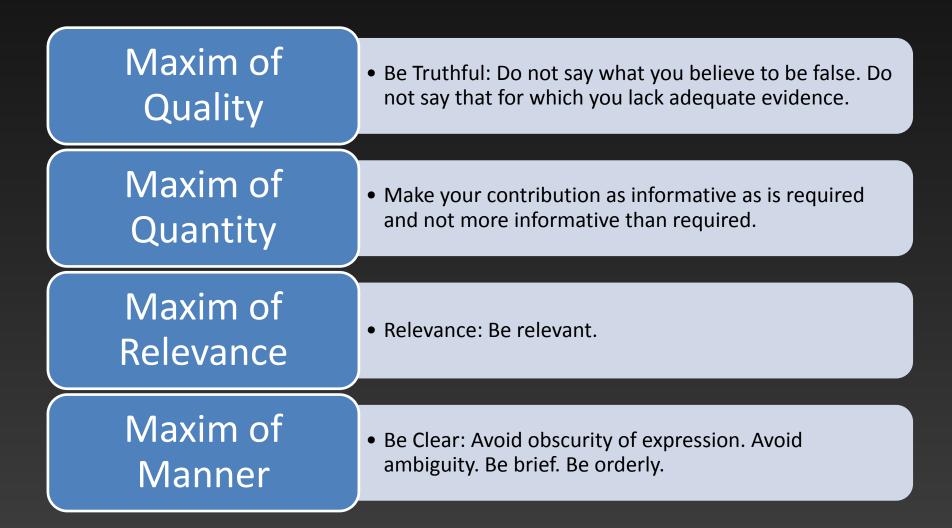
#### **Best approach: Mixed-Methods(?)**

Moderators as the main protective force of a social network site

Users contributing by reporting what moderators cannot see or do not have enough time to see(such as personal messages)

Software used to detect suspicious messages which moderators can investigate later on and evaluate them

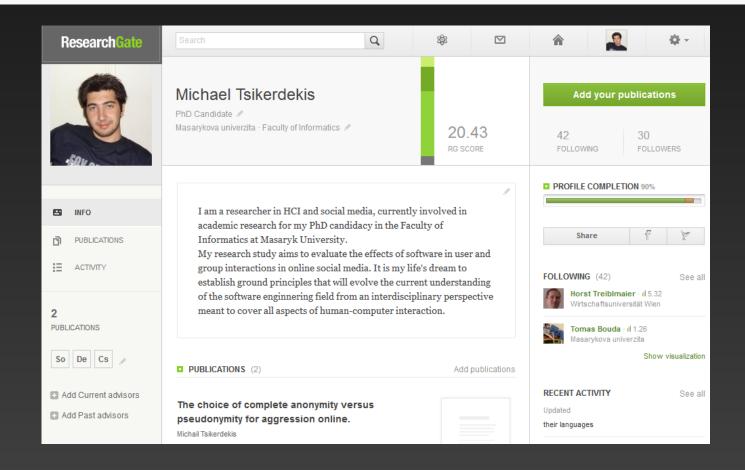
#### **Cooperative principle**



Source: Grice, Paul (1975). "Logic and conversation". In Syntax and Semantics, 3: Speech Acts, ed. P. Cole & J. Morgan. New York: Academic Press. Reprinted in Studies in the Way of Words, ed. H. P. Grice, pp. 22–40. Cambridge, MA: Harvard University Press (1989)

#### **Example: Maxim of Quality**

## 65% of people believe in ghosts.<sup>[citation needed]</sup>



## Design, Development and Management of a Social Network/ing Site

#### **The Friendster case**

#### R **Friendster Beta** The new way to meet people Friendster is an online community that connects people through networks of friends for dating or making new friends. You can use Friendster to: Meet new people to date, through your friends and their friends Make new friends Help your friends meet new people Create your own personal and private community, where you can interact with people who are connected to you through networks of mutual friends. It's easy and fun! [Take a Tour | Testimonials | More Info] Log In Sign Up

About Us | Contact Us | Store | Help | Terms of Service | Privacy Policy Copyright © 2002-2003 Friendster, Inc. All rights reserved. Patent Pending.

#### How old is Friendster?

2003

LastFM

Tribe.net

2003

2003

Plaxo

2003

Hi5

2003

2003

2003

2003

2003

2004

2002

LinkedIn

Image Source: Skloog. http://www.ritholtz.com/blog/2010/12/history-of-social-media/. Accessed September 11, 2012

## edia

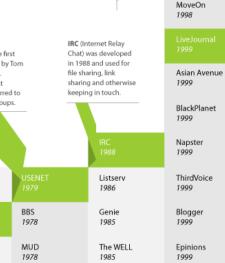
- are general
- countries. There
- sites to share
- es to connect

as launched in 1997 and was the first network. It allowed users to create a ecome friends with other users

ourchased for \$125 million and in 2001 vn

1970s

ere first 79 by Tom llis. ost eferred to groups.



1980s

Multiply is a digital content sharing, "family-friendly" social network and media sharing site puts much more emphasis on security and privacy than many other networks. MySpace was founded in 2003 and by 2006 had grown to be the most popular social network in the world. MySpace differentiated itself from competitors by allowing users to completely customize the look of their profiles. Users could also post music from

artists on MySpace and embed videos from other

sites on their profiles.

blogs. LiveJournal

otherwise interact.

LunarStorm

2000

2000

1990s

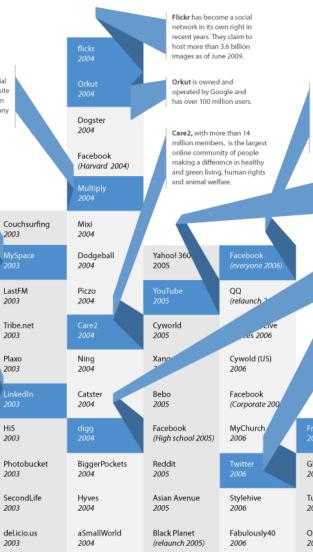
The Palace

1994

LinkedIn was founded in 2003 and was one of the first mainstream social networks devoted to business. LiveJournal was a social network built around Friendster was really the first constantly-updated modern, general social network. Founded in 2002, encouraged its users to follow one another and Friendster is still a very active social network, with over 90 to create groups and million registered users and 60+ million unique visitors each month



2001



#### World of Warcraft / MMORPGS

MMORPGS (Massively multiplayer onli social networks in their own right. MM though there were other online role-pla most famous of these is World of Warci aame world and on related forums and

Facebook's growth in the fall of 2007 was staggering. Over 1 million new users signed up every week, 200,000 daily, totaling over 50 million active users. Facebook received 40 billion page views a month. Facebook is 6th most trafficked site in the US and top photo sharing site with 4.1 billion photos uploaded.

YouTube was the first major video hosting a

Users can upload videos up to 10 minutes lo them through YouTube or by embedding th websites (social networks, blogs, forums, et

Digg users can share links to anything online and other users can vote that content up ("dig") or down ("bury"). Us can also comment on content posted others and keep a friends list.

Twitter gained a lot of popularity during the 2007 SxSW (South by Southwest) conference.

Tweets trippled during the conference, from 20k per day to 60k. Twitter has developed a cult-like following and has a number of famous users (Ashton Kutcher, Demi Moore, Soleil Moon Frye, MC Hammer, Oprah, Martha Stewart, and many, many more)

bo 05	Facebook (Corporate 200				
cebook	MyChurch	FriendFeed	FriendFeed was acquired		
igh school 2005)	2006	2007	Facebook in August 2009		
ddit 05	Twitter 2006	GlobalGrind 2007			
ian Avenue	Stylehive	Tumblr	Ping.fm	Net	
05	2006	2007	2008	200	
ack Planet	Fabulously40	Osmosus	kontain	Pos	
Haunch 2005)	2006	2007	2008	200	
2005	2006	2007	2008	1	

#### **Friendster highlights**

- Friendster is built on the assumption that friends-of-friends are more likely to be good dates than strangers.
- While Stanley Milgram argues that everyone is connected within 6 degrees, Friendster only allows you to see or communicate with those who are within 4 degrees.
- Friendster encourages users to join even if they are not looking for dates Friendster launched into public beta in the fall of 2002. By mid-August 2003, the site had 1.5 million registered accounts and was still growing exponentially.

danah boyd (2003). "Reflections on Friendster, Trust and Intimacy." Ubiquitous Computing (Ubicomp 2003), Workshop application for the Intimate Ubiquitous Computing Workshop. Seattle, WA, October 12-15, 2003.

#### **Technical Difficulties**

Friendster's servers and databases were ill-equipped to handle its rapid growth, and the site faltered regularly, frustrating users who replaced email with Friendster.

#### Ofriendster.

#### Temporary Maintenance

Thank you for visiting Friendster. While our goal is to give you 24-hour have the best possible experience. We will be back online shortly.



#### **Social difficulties**

Upset cultural
 balance
 Collapse in social

contexts

Fakesters & Trophy Friends



#### **Friendster's solution**

 Active deletion of Fakesters (and genuine users who chose non-realistic photos) signaled to some that the company did not share users' interests.

 Many early adopters left because of the combination of technical difficulties, social collisions, and a rupture of trust between users and the site.

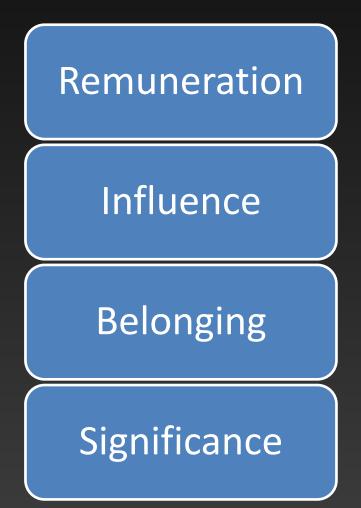


## Friendster's Violations of Maslow's Hierarchy

- Psysiological (Restricting access either intentionally or unintentionally)
- Social (Not allowing users to form subgroups based on their interests)
- Self Actualization (Not allowing users to form their identities as they wish or use pictures other than the ones with their real faces)

## Building Communities and Social Network Sites

#### **RIBS Model**



Source: Tharon Howard, Elsevier - Morgan Kaufmann Design to Thrive Creating Social Networks Edition 2010

#### **Remuneration (1)**

- In January 1999, AltaVista was reaping the benefits of being one of the first search engines
- However, AltaVista just like Yahoo began to suffer from what some might call "feature creep."

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		🗟 Click Here				
AltaVista <sup>®</sup> The most powerful and useful guide to the Net						
Ask AltaVista <sup>TM</sup> a question	a. Or enter a few words in 🛛 any language 💌	Help - Advanced				
	Search					
Example: Where can I download mp3 files for instrumental music?						
Specialty         AV Family Filter - AV Photo Finder - AV Tools & Gadgets           Searches         Entertainment - Health - Online Shopping - Careers - Maps           People Finder - Stock Quotes - Travel - Usenet - Yellow Pages						
CATEGORIES	NEWS BY ABCNEWS.com	🗟 Click Here				
<u>Automotive</u> Business & Finance	Lewinsky Talks     Olympic House-cleaning     Jasper Trial Begins					
Computers & Internet	Papal Mass Draws 1 Million Mexicans ALTAVISTA HIGHLIGHTS					
<u>Health &amp; Fitness</u> <u>Hobbies &amp; Interests</u>	Search Clinton Video Footage: New <u>State of The Union</u> Impeachment Trial	Featured Sponsors				
<u>Home &amp; Family</u>	Video courtesy of C-SPAN.	Quality DutyFree Jewelry!				
<u>Media &amp; Amusements</u> People & Chat	OTHER SERVICES AltaVista Discovery - Video Search Demo	Great Gifts from BLOCKBUSTER®				
Reference & Education	FREE Email - AV Translation Services Make Us Your Homepage - Create A Card Photo Albums! - Asian Languages	• <u>Save on bestsellers</u> everyday at Amazon ePC Flowers and				
Shopping & Services	- Hoto Albumar - Asian Languages	<u>Gifts Valentines</u> Specials				
Society & Politics		Spoonio				
Sports & Recreation						
Travel & Vacations						

AltaVista Home | Help | Feedback | Advertising Info | Set your Preferences | Text-Only Version COMPAQ | Disclaimer | Privacy | Our Search Network | About AltaVista | Add a Page

### **Remuneration (2)**

- Google's website in 1999
   was simple, less time consuming and efficient
- it offered the kind of user experience people appreciated.
- Google's Interface
   "remunerated" users
   because it was more fun to
   use than AltaVista's 1999
   home page.



## Remuneration: Examples of Techniques

- Make the text editor fun; add emoticons
- Mentors teach
- Seed the discussion
- Use stars to show membership contribution levels
- Rank the value of members' messages
- Remove the fear factor by providing examples of how to participate
- Create a safe environment by sending out "tickle" messages

#### What is Influence?

Influence can be said to exist in a community when its members believe that they can control or at least shape the policies, procedures, topics, and standards of evidence used to persuade others in an online community or social network.

# Three membership models for considering influence needs

Social technographics ladder

Membership lifecycle model

The five trajectories of learners

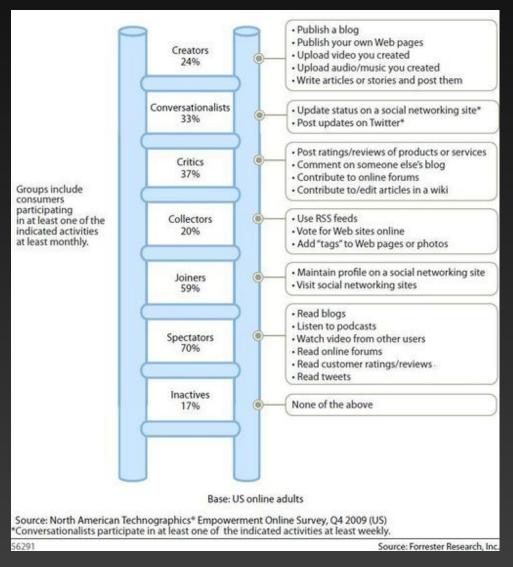
# Social technographics ladder and influence needs

- Creators: Need to know when they're being read and have some impact
- Critics: Need feedback that helps them determine how values in the network are lining up
- Collectors: Need to hear that their social bookmarking, archives, or collecting behaviors are valued by the community
- Joiners: Need to see that other people have viewed their profile information
- Spectators: Need to see that Creators and Critics appreciate the time that they invest reading their posts
- Inactives: Have all the influence needs of the previous five membership types, but these needs aren't being met

#### Social technographics ladder

 Analyzed data for 13 countries, for business buyers, and even for voters. Profiles for over a hundred clients, profiling Walmart shoppers, nonprofit donors, and doctors.

 Ranks on the ladder have shown steady growth, with some (like Joiners) growing faster than others (like Creators)



#### Belonging

Belonging are the techniques or mechanisms by which we help members of the community develop the sense of "social presence," a sense that they belong in that community, that they identify with it, and that they share a bond with its other members.

#### **Belonging: Examples of techniques**

- Create and distribute a story of origin
- Create an initiation ritual
- Encourage your leaders and elders to share mythologies: Use negative myths
- Encourage members to share myths and stories about themselves
- Create leveling up ceremonies: Use podcasts
- Establish routines and protocols: "Fight Club" protocol
- Establish symbols, colors, and visual identities
- Use a membership application as an initiation ritual

#### Significance

In order to be considered "significant," your network or community needs to be: well recognized established as the "go-to place" for accomplishing your users' goals valued by people your users respect populated by people who are serious and passionate in their field distinguished as a reputable brand to your users

#### The paradox of exclusivity

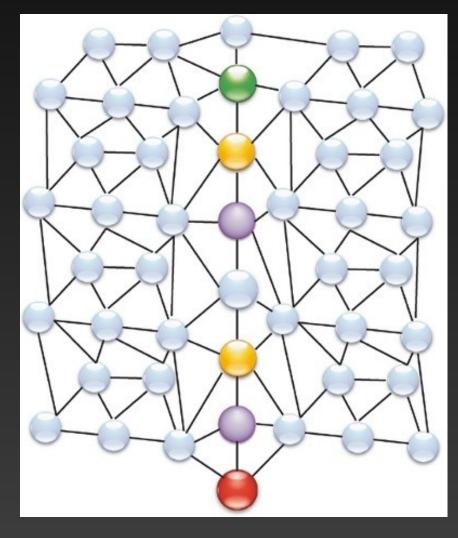
- Difficult paradox that social network and community designers have to overcome in order to take advantage of exclusivity and its impact on the significance of the community or network
- People are perverse; they want to be part of group, but they don't want to be another face in the crowd.
- Obama's community designers paradoxically created popularity and drove eyeballs to their

#### **Social Capital & Significance**

- Friedster started off as an open SNS, whereas Facebook started off as closed one
- People will attempt to acquire "social capital" that will "buy" them access to individuals and conversations that will allow them to achieve their particular, individual goals.
- College students on Facebook befriended particular groups to demonstrate that they were part of the "in crowd."

### Using Nodes and Connectors to Start the Conversation (1)

In 2001, Watts recruited 61,000 people and then asked them to transmit messages to 18 targets worldwide. Like Milgram, he found that average length of the chain was roughly six links



### Using Nodes and Connectors to Start the Conversation (2)

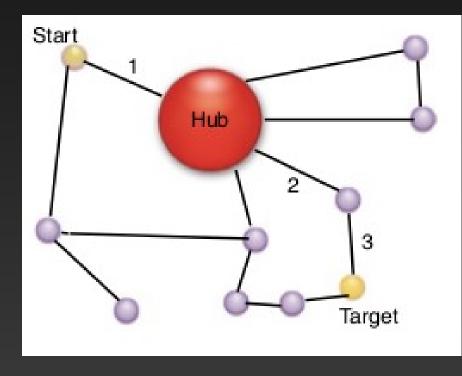
Gladwell identified three types of individuals who can "tip" a trend into a word-of-mouth viral marketing campaign.

- *Connectors*: people that seem to know everybody and have many connections
- *Mavens*: collecting information about subject of interest

- *Salesmen*: sharing information and persuading people

### Using Nodes and Connectors to Start the Conversation (3)

These three types of individuals have more impact on a networking system of a hub on network than the typical node because they have the effect of shortening the number of links needed from six to as few as three.

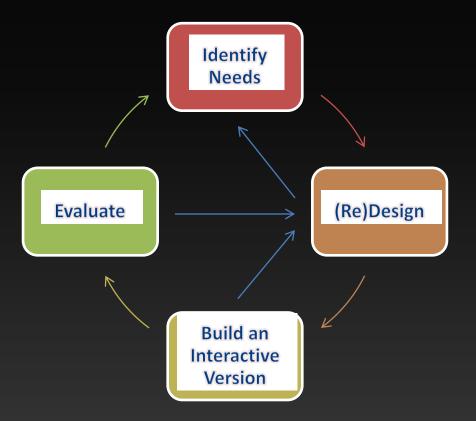


#### Social Interaction Design

A practical guide

### Interaction Design (IxD)

"A central concern of interaction design is to develop interactive products that are usable. By this is generally meant easy to learn, effective to use, and provide an enjoyable user experience." p. 2



### Interaction Design Goals

#### **Usability Goals**

- Efficient to use
- Effective to use
- Safe to use
- Have good utility
- Easy to learn
- Easy to remember how to use

#### **User Experience Goals**

- Fun
- Emotionally fulfilling
- Rewarding
- Supportive of Creativity
- Aesthetically Pleasing
- Motivating
- Helpful
- Entertaining
- Enjoyable
- Satisfying

Source: Rogers, Y., Sharp, H., & Preece, J. (2011). Interaction Design: Beyond Human-Computer Interaction. John Wiley & Sons.







Image Source: Bdate Kaspar/Franziska Sponsel. http://www.iconhot.com/icon/rrze/user-computer.html. Accessed September 8, 2012.

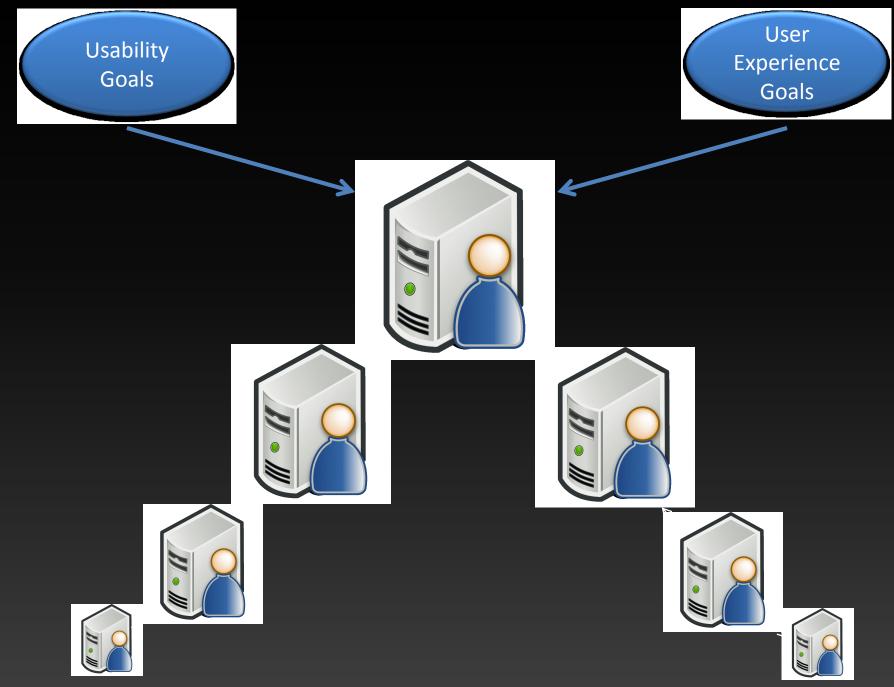


Image Source: Bdate Kaspar/Franziska Sponsel. http://www.iconhot.com/icon/rrze/user-computer.html. Accessed September 8, 2012

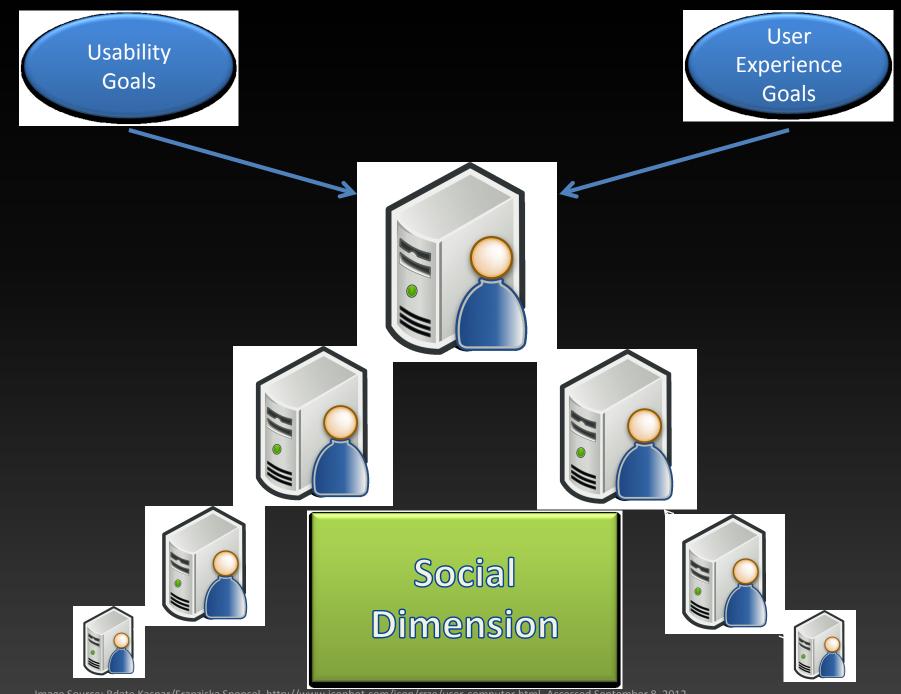


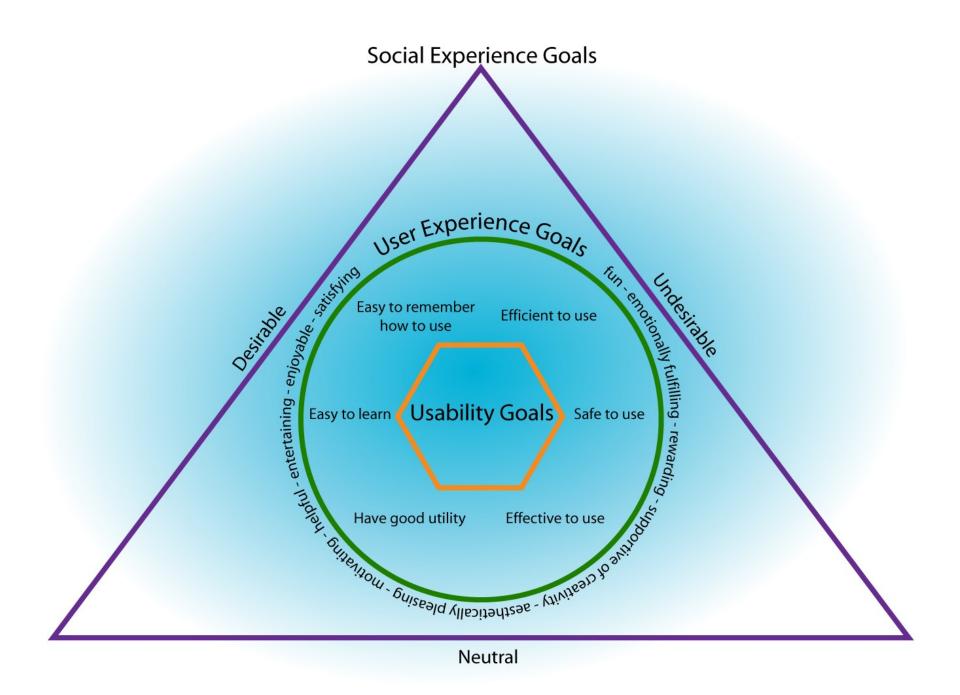
Image Source: Bdate Kaspar/Franziska Sponsel. http://www.iconhot.com/icon/rrze/user-computer.html. Accessed September 8, 2012.

#### Social Interaction Design

"Social interaction design is a set of principles, models, methodologies and other aids that are used in the proactive design and development of systems which involve social environments, in order to satisfy a system's *social experience goals*. In turn, social experience goals are a set of goals derived from the social dimension of a system and describe social behaviors, interactions, attitudes and phenomena, which are identified by designers in order to meet system and user explicit as well as implicit overall goals."

### Social Experience Goals: Classified Examples





# Example: Social Interaction Design in Practice

- Social media service: YourCity
- Active involvement of people in their communities.
- Understand issues, find solutions and help notify authorities faster about problems.
- The public has not only power to report and find solutions for problems but also has power to assess on whether high rank officials are effectively doing their job.



### Needfinding for Social Experience Goals

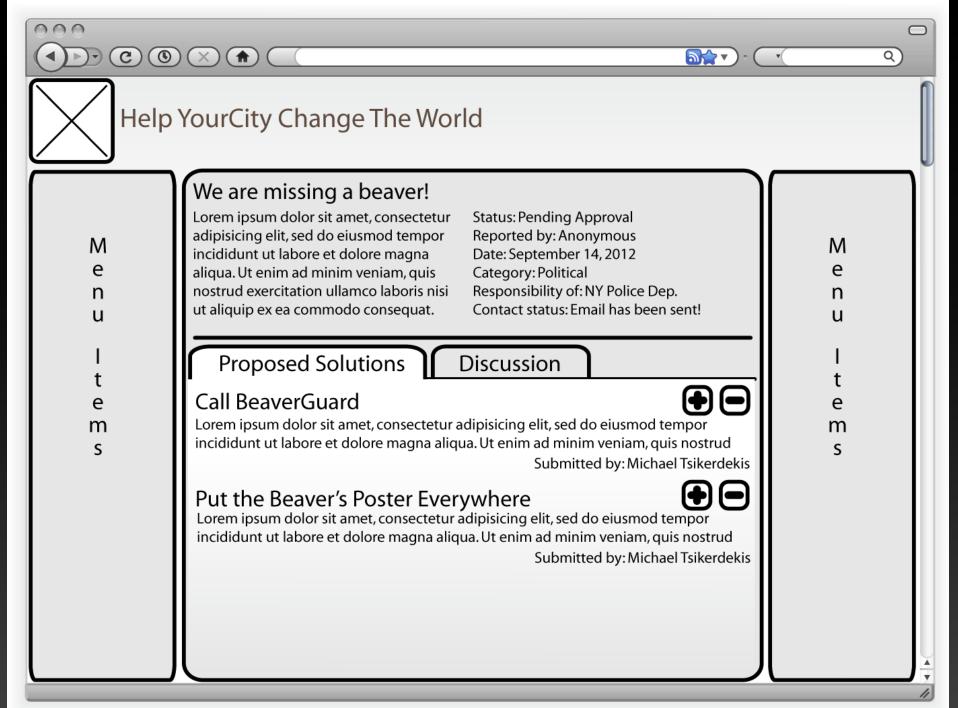
- Source: Users but also system designers and stakeholders
- Methods: On-site

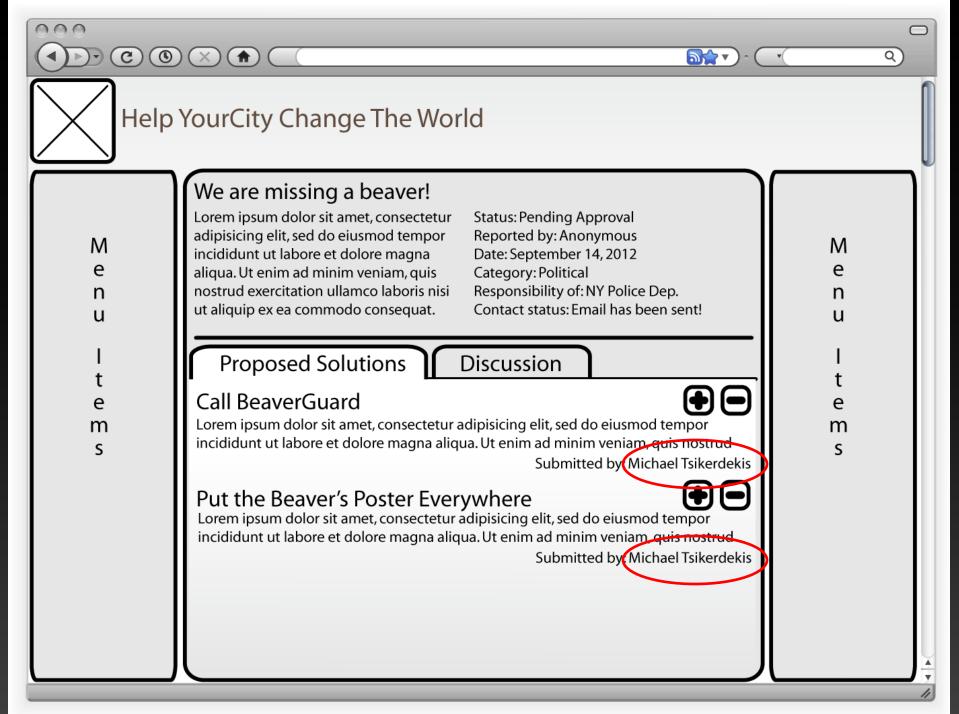
   Observation,
   Interviews, Participant
   Observation,
   Questionnaires, Focus
   Groups etc.
- Development of personas

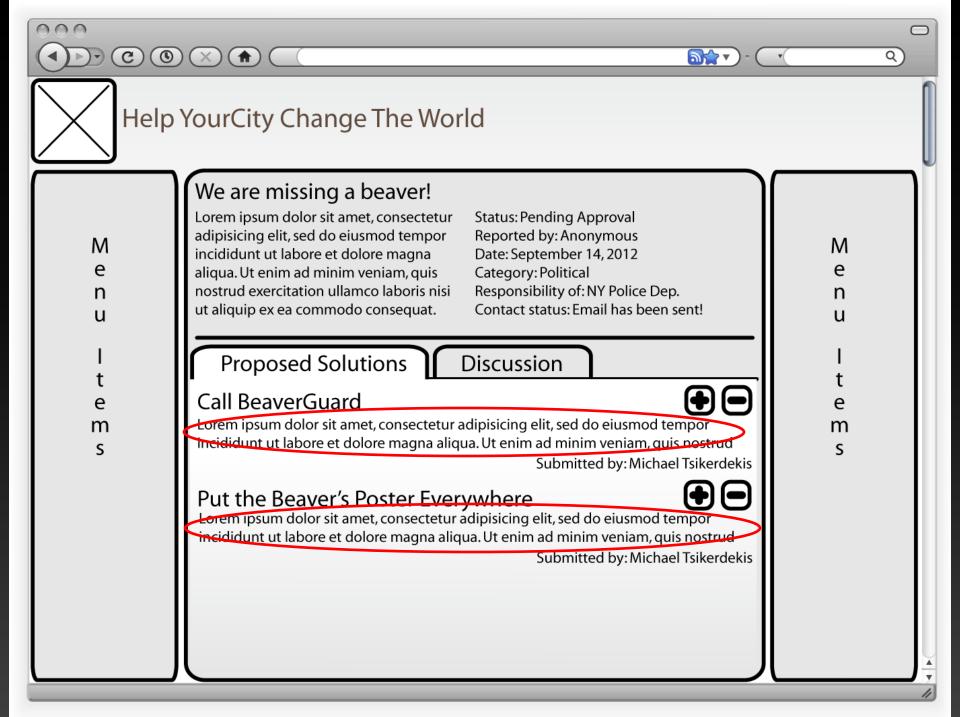
## Groupthink

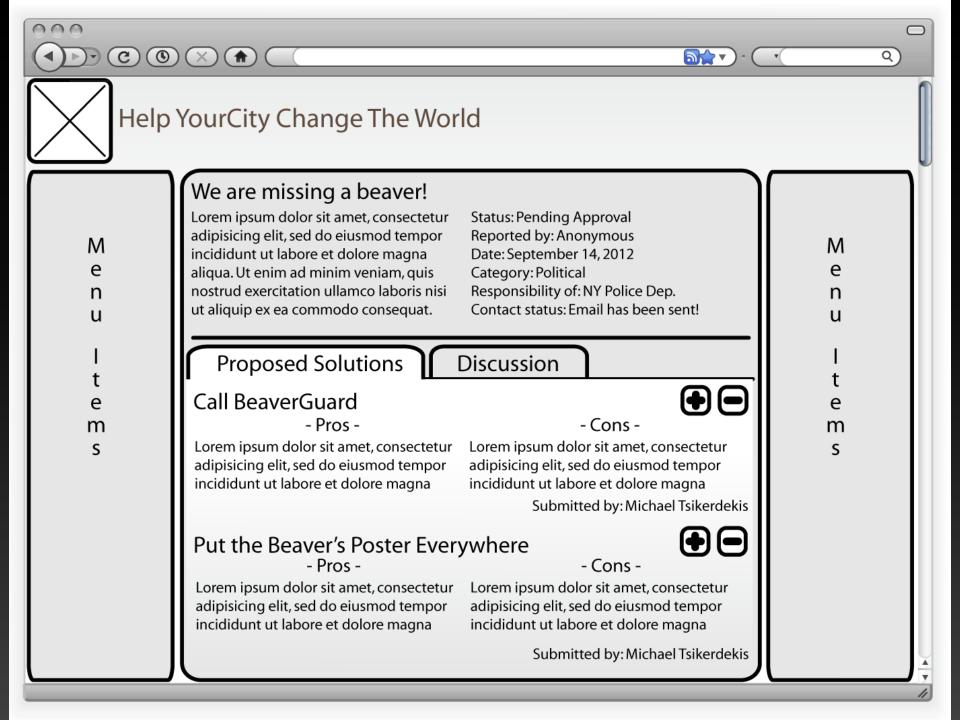
## Aggression

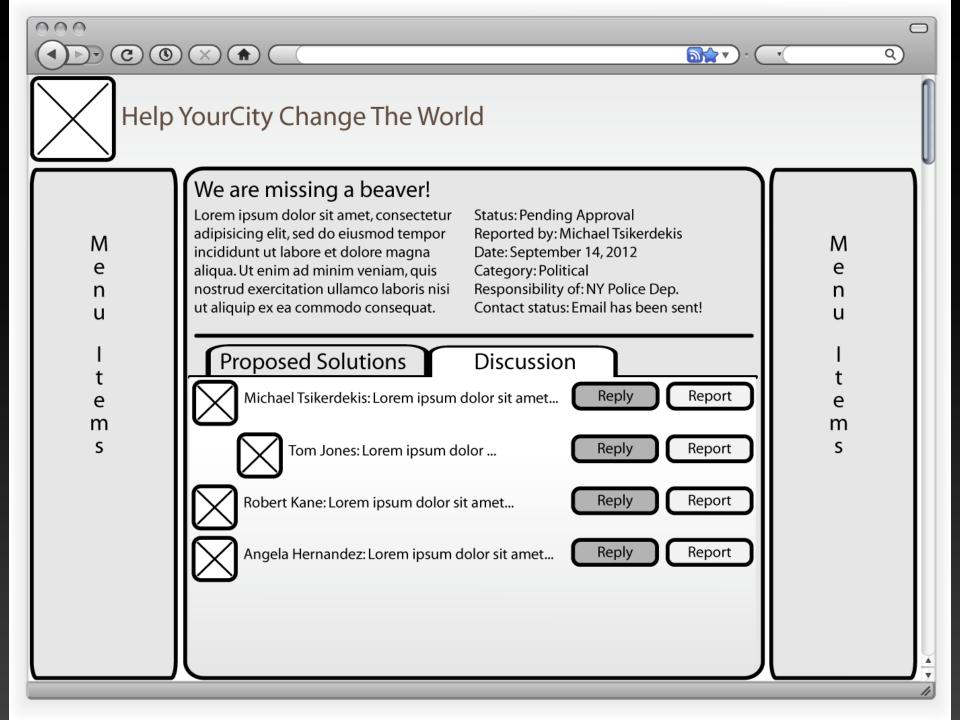
### Prototyping for SIxD

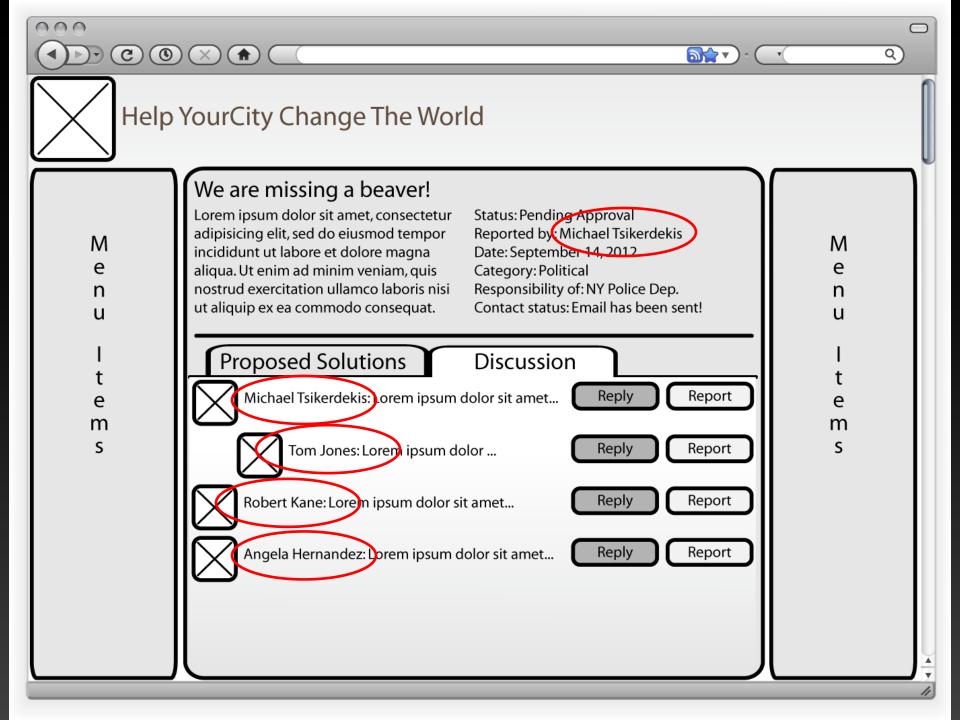


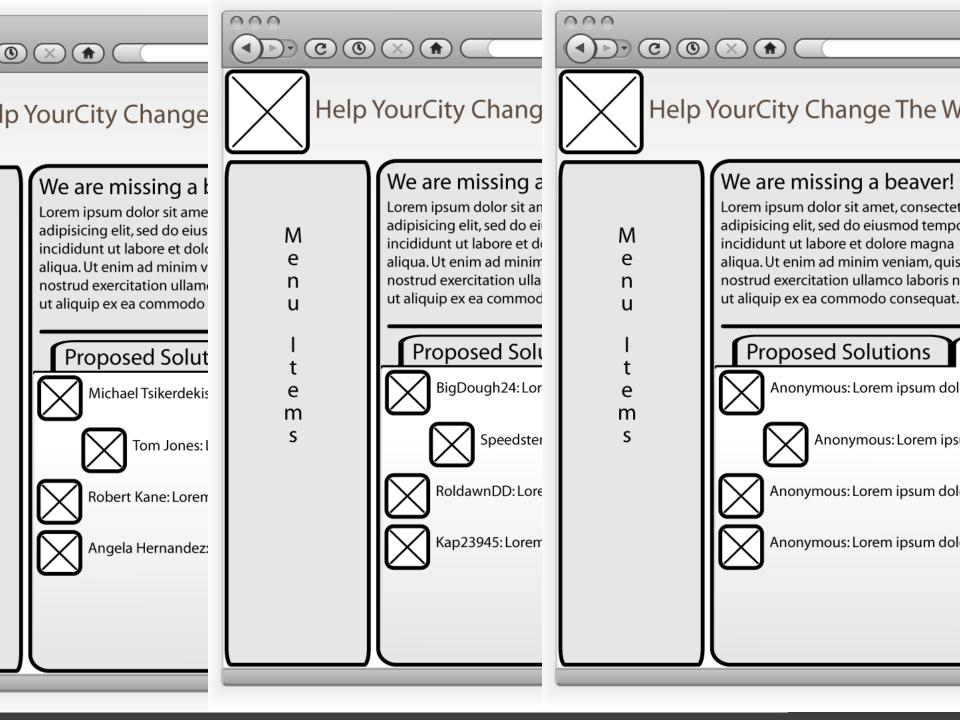










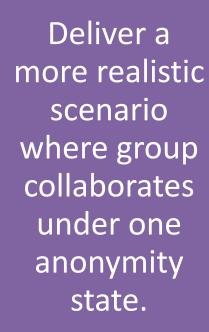


#### **Evaluation in Social Interaction Design**

- H1: As anonymity rises so does the likelihood of individuals contributing more solutions.
- H2: Pro/con lists may help individuals process information better and produce more arguments than textual information representation.
- H3: Pseudonymity is a more powerful contributor to aggression than complete anonymity.

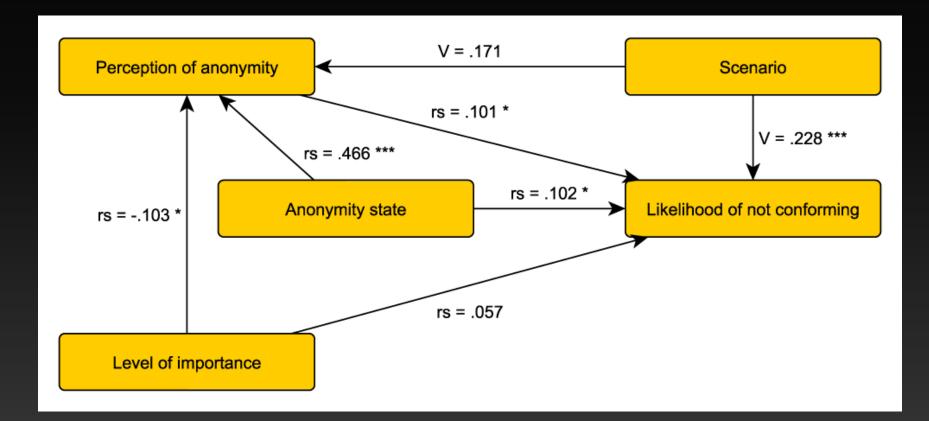
#### H1: Wikipedia Survey

Obtain opinion about problems and selection of an optimum solution



Most of the group supports a solution other than the optimum selected. To conform or not?

#### H1: Results



Source: Tsikerdekis, M. (2012). The Effects of Perceived Anonymity and Anonymity States on Conformity and Groupthink in Online Communities: A Wikipedia Study. Journal of the American Society for Information Science and Technology. To be published in 2012.

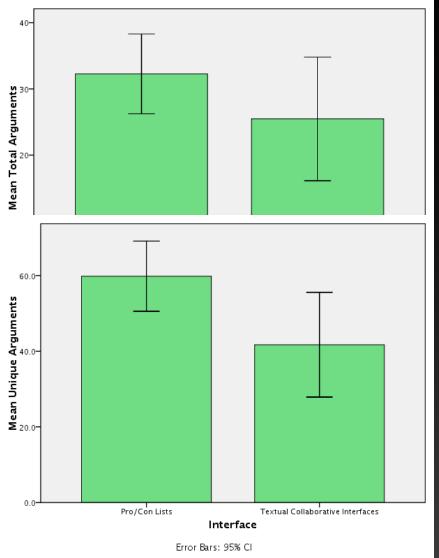
### H2: Comparative analysis Wikipedia -Debatepedia

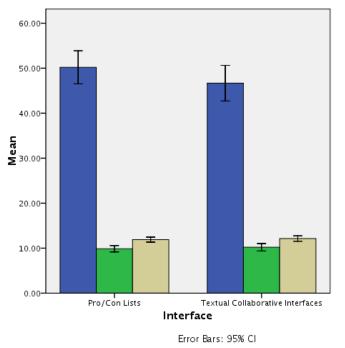
**Obtaining** a random sample of correspondi ng article from Wikipedia and Debatepedia

Content analysis for arguments on each article.

Statistical comparative analysis to determine differences in argument production and readability.

#### H2: Pro/Con lists and Groupthink Goal





Readability

FRE FK SMOG

Total Arguments: U = 68.5, Z = -1.827, p = .068, r = .334 Unique Arguments: t(28) = 2.332, p = .027, r = .403 Readability: FRE (t(28) = -1.398, p = .173, r = .255), FK (t(28) = 0.666, p = .511, r = .124), SMOG (t(28) = 0.649, p = .522, r = .122)

Source: Tsikerdekis, M. (2012). Pro/Con Lists and their Use in Group Decision Support Systems for Reducing Groupthink. INFOCOMP Journal of Computer Science, 11(3). To be published in September 2012

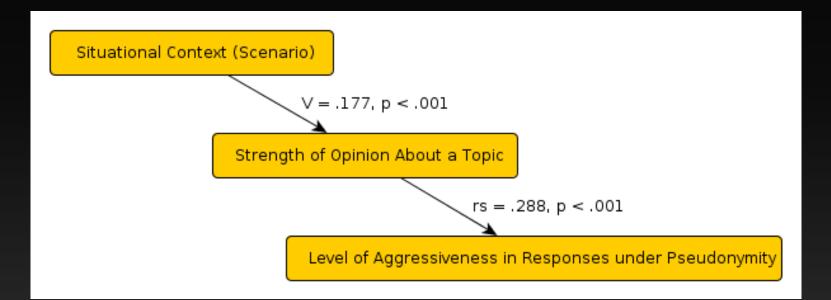
#### H3: Facebook Survey

Obtain opinion and strength of opinion about controversial topics.

Face scenarios under different anonymity states based on the topics depending on the opinion reported.

A response is required in a set of predetermin ed messages

#### H3: Anonymity States and Aggression



Real names and complete anonymity produced similar levels of aggressive responses and lower than pseudonymity.

Source: Tsikerdekis, M. (2012). The choice of complete anonymity versus pseudonymity for aggression online. eMinds International Journal on Human-Computer Interaction, 2(8), 35–57. Retrieved from http://www.eminds.uniovi.es/index.php?journal=eminds&page=article&op=viewFile&path%5B%5D=106&path%5B%5D=67

#### Decisions on Design based on Evaluation

- Norms and other strategies will be employed so that members will be using their real names (at least the majority).
- Additional option will be given for posting and proposing solutions where individuals can post completely anonymously.
- Solutions will have a description section as well as a pro/con list section where users can contribute their own opinions on the solutions.

#### Summary (1)

#### Summary (2)

#### **Further Reading**

- John P. Scott. Social Network Analysis: A Handbook. Sage Publications Ltd; 2nd edition (March 2000)
- John P Scott (Editor), Peter Carrington (Editor). The SAGE Handbook of Social Network Analysis. Sage Publications Ltd (May 25, 2011)
- Penelope Hawe and Laura Ghali Use of social network analysis to map the social relationships of staff and teachers at school Health Educ. Res. (2008) 23(1): 62-69 first

#### **Further Reading**

- Tharon Howard, Elsevier Morgan Kaufmann Design to Thrive Creating Social Networks Edition 2010
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