Socialest: an application of mapping in creation of a design solution for user driven websites

by

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ABSTRACT

The Web 2.0 paradigm relies on the user to create content for websites. This creates volumes of information that is fed to other users. There is a concern that there can be a lack of credibility and relevance of information for the user. The goal for this study is to create a prototype Web 2.0 website that allows users to submit and organize information through cognitive mapping.

The prototype website uses aspects of Kevin Lynch’s cognitive mapping to allow individual users to organize content as they see fit. Information graphic concepts from Edward Tufte are applied in this study to keep the design of the prototype and its information clear for the user.

The results of this prototype address issues of user’s motives in submitting content and interacting with the community at large. In addition, the prototype also presents the user with an application that they might use to logically organize information. Future projections for Socialest are implementing the site, and conducting further studies of how users experience the interactive mapping.
CHAPTER 1: INTRODUCTION

1.1 Problem Statement

There is a paradigm shift in how people use the Internet, allowing users to contribute content very much more than they could even a few years ago. The shift may seem subtle to those who use the Internet. However, creating content for the web was initially in the hands of companies and individuals with the knowledge of web technology. The average user did not have access that would allow for the creation and uploading of content.

The paradigm shift was initiated when web developers began to offer online applications with which users could offer opinions and share various media with others. These online applications focused on public journaling (or blogging), allowing the opinions of users to be read by others. The user could take on the role of reporter and content creator. Developers began to create websites with the features of a blog, with more opportunity for users to create a place for their Internet personas, as well as a place to create communities. This trend has created a new paradigm of websites that leave it to the user to not only create content but to find and submit other’s content as a social reporting portal.

Users now have a number of portals to upload content they have created. The paradigm shift has led to average users becoming content providers, web reporters, and critics. This new web paradigm creates an information overload for users to trying to digest. Search engines may be able to help users, but tremendous levels of information are created every day. Users trying to find particular information may not receive credible or relevant results. Poorly designed interfaces and visual elements make searching for
credible and relevant information increasingly difficult. This can be seen in online communities where user-driven content is only posted for prestige, not for social value. Users’ abilities to upload content means that anyone can say or create anything on the Internet, adding to the information overload and the creation of content that may not be credible.

1.2 Goal Statement

The purpose of this study is to explore the issues of the user-driven website and to propose a website design based on information design principles put forth by Tufte with cognitive mapping such as that used by Lynch. Tufte’s studies in creating concise information graphics become important in creating easily understandable graphics. Lynch’s studies in how individuals map out views of their physical space work well towards trying to apply cognitive mapping to represent users’ intangible space on the web. To structure the study, the author will evaluate how Tufte’s information design principles and Lynch’s method of cognitive mapping method of physical space can be adapted to cyberspace to organize information so that users are all to receive information that is both relevant and credible.

The combination of these concepts raises various research questions:
1) What are the characteristics of the online community and users in the paradigm of user-driven websites?
2) How to present information effectively?
3) How to categorize information?
4) What are the elements of Lynch’s cognitive and psychogeographic mapping?
5) How to apply Tufte’s information design elements and Lynch’s cognitive mapping to enhance online experiences?

1.3 Definitions of Key Terms

The following are key terms that will be addressed in this study. Each describes concepts derived from, or related to, concepts of user-driven websites and the proposed design solution.

**Web 2.0:** The Internet paradigm which focuses on the idea that the user should be the author of online content as opposed to the web developer creating the content for a website.¹

**Folksonomy:** A decentralized taxonomy where individuals have the authority to contribute their ideas to a particular classification.² This concept can be attached to the Web 2.0 paradigm through users’ classification of content as it is uploaded or by adding keywords to existing information.

**Meta-data:** A type of secondary information attached to data. Meta-data can be complex information the user never comes in contact with or is visible as keywords related to the information.

**Tags and Tagging:** Action of users adding meta-data to information. Represented by user-determined keywords describing the information. This is important for users in classifying and finding information by keyword.

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Nihilism: Concept where significant and trivial information are presented together, removing a sense of importance.³

**Friendster/MySpace/Facebook:** Social networking sites where users create a personal profile and befriend other users.⁴ These sites are not the same as those considered in the case study or the proposed design but are still considered a part of the Web 2.0 paradigm.

**Netville:** A study that wired a suburban neighborhood with high-end Internet technology to see what effect electronic/Internet communications had on social relationships.⁵

**MUD:** Multi User Dungeon, a text-based world that is customized by the user. MUDs are an early example of user-driven web applications.

**Second Life:** Similar to the MUD though based on a 3-D world that users can interact with and customize.

**Flame-war:** An online argument that degenerates into meaningless attacks.

**Web-application:** An online application. Any site that offers some aspect of a program users might have on their computer qualifies. Del.icio.us would qualify, since users can also store their bookmarks in a browser on their computer.

**Cognitive mapping:** Using Kevin Lynch’s concept of cognitive mapping, which considers how a person mentally maps out their physical world. For the purpose of this study, the concept is being used to help describe an individual’s view of intangible space.

**1.4 Delimitations and Limitations**

This study is intended to propose a design solution for the user-driven website. It will not examine user actions on, or implementation of, the proposed design solution.

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⁵ Barney and Feenberg, 37 – 40.
This solution will cover the design of a social-news website with aspects of cognitive mapping taken into account to create the user interface.

1.5 Significance of the Proposed Study

The significance of this study is based around the idea of Tufte’s information design principles and Lynch’s cognitive mapping applied to mapping social websites. In this application, the design of the user-driven site becomes customizable to reflect the user’s concept of the Internet landscape. Information design concepts from Tufte aid in creating a clear online design of information. Lynch’s concepts reflect how people view the physical world. This study aims to design a site for users to represent the intangible space of the Internet. The value and significance comes from how the design might be used to organize information in visually meaningful ways.

1.6 Methods

To answer the research questions, this study will be divided into five chapters. Chapter One forms the ‘general introduction,’ giving the reader a sense of the problem. This is followed by a brief definition of terms that will be used, the delimitations and limitations of the study, the significance of the proposed study, and finally the methodology.

Chapter Two is the ‘literature review’ and explores characteristics of online community and users. This chapter looks at how users create and identify online communities. This is necessary as a means of understanding how and why users act the way they do online, which can be very different from how they might act in the face-to-face encounters. This is followed by an analysis of how the overload of electronic information creates a leveling of information where any piece of content is no more
important than any other, which leads to a consideration of how users help and harm information leveling through technologies and user-driven categorizations. Finally, there is a look at Tufte’s concepts and rules for creating information graphics and Lynch’s exploration in cognitive mapping.

Chapter Three presents a case study of four existing user-driven websites. This will be useful in setting up a foundation of effective aspects of existing user-driven websites to which cognitive mapping and information design can be applied. These sites have been chosen based on how they relate to the current user-driven paradigm. Digg, Spotback, Del.icio.us, and the ORG will be considered on a number of criteria that examine site goals, design, and social aspects. The results of the case study will help inform aspects of the proposed website design.

Chapter Four is a proposed design based on the case study, Tufte’s information design elements, and Lynch’s cognitive mapping. These elements help create a web application that allows users to map, store, and find information. The application takes information and gives it a graphical form users can categorize. The system’s structure is meant to be flexible in organization so that users are free to create unique maps of their interests. Finally, Chapter Five is the ‘conclusion,’ locating and discussing future possibilities for findings in this study.
CHAPTER 2: LITERATURE REVIEW

When considering the goals of the proposed design, called Socialest in existing literature, there is a wide spectrum of information that becomes important for the project of creating a new web application. The literature reviewed ranges from social to technical, addressing the problems listed in Chapter One.

An aspect of Socialest focuses on the community and identity of the users with the social concepts of Web 2.0. Community is explored in terms of groups that form as online entities, with a look at how they form, develop, and, eventually, end. The online communities should consider how individuals spend their time on the Internet as well as how they construct or deconstruct their identities and how they interact with others. In addition, this section of the review looks into the positive and negative aspects of not having face-to-face interactions.

There is a need to explore how user-driven information and information overload affect the quality of a user’s experience with a site. In this case, the review focuses on information leveling: where context and importance of content is removed and all information is on the same plane. Within the discussion of this concept there is also a look at how user-driven taxonomies are both positively and negatively effecting how credible and relevant information is presented to users.

In addition to looking at the meta-data as a way to fight nihilistic information, there is a consideration of information graphics and cartography, looking specifically at the works of Tufte and Lynch. Information graphics become important in terms of effectively handling information and creating clear, understandable graphics for the user. Cartography becomes important in how individuals create maps out their world.
2.1 Community

The Internet age has given society the ability to completely toss aside time and space and connect with people anywhere in the world. It no longer matters people have a connection with the their neighbors. After all, they may not share any kind of meaningful similarities with those they could communicate with in a face-to-face manner. Whereas users could more easily negate space and find those who do share their interests, people with whom they might have more in common with and might have a better foundation of trust.

Even with the possibility of being able to use the Internet to connect with people, there can still be an animosity about who someone really is. Users may have a certain amount of anonymity, since there is no face-to-face interaction. Online communities are certainly possible regardless of the anonymity of the Internet. In illustration, the Well is an online community that allows users to come together and essentially share information that has been around since 1985.⁶ There are some basic tenets of what can constitute a community, Feenburg and Bakardjieva describe as: “sociology and philosophy propose five attributes of community with parallels in the online world. They are: 1) identification with symbols and ritual practices; 2) acceptance of common rules; 3) mutual aid; 4) mutual respect; 5) authentic communication.”⁷ The combination of these rules sets up an overview of a successful community. The rules also set up the framework for the very beginnings of a community, where people find similarities and bond with one another.

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⁷ Barney and Feenberg, 5.
The first point in particular, identifying with symbols and rituals, points strongly towards either similar interests, or more broadly, similar (or the same) culture or sub-culture.

Renninger and Shumar have their own set of criteria, including “[a] shared set of physical resources and needs; mutual interdependence; and complex social organization including kinship, political, economic, and administrative layers.” These become specific points, but nowhere in any of these qualifications is there anything that establishes a community in a certain physical place. There are similarities in both sets of criteria for community. Both also explain, though not explicitly, the fallacy of a community needing to be confined to a physical space.

2.1.1 Community Lifecycles and Portals

The author notes that the criteria described, mean that an online community may be no different than any other community or culture. Those who join the community use a different medium to communicate with each other, and like real communities, online communities have finite lifecycles. Anyone who has been a part of an online community for any length of time has probably witnessed and experienced this cycle. The cycle of MediaMOO is an example of the lifecycle of an Internet community. The same can be said to have happened within the Well. As stated before, people come together using the Internet and web applications as a means to communicate and to bond. The group grows and allows new members admittance. A group can usually only take on so many

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9 Renninger and Shumar do actually have a point that does talk about physical resources, but that still does not require that the entire community need be present to use them. It may even be means for the community to exist at a distance through a new router or web server. Ultimately both sets of rules seem optimal to define nearly any community.
10 Renninger and Shumar, 22 – 24.
11 Barney and Feenberg, 61 – 62.
members before it either reaches a critical mass or users begin to disagree. This point of saturation is where a group, and community, can begin to fracture. With MediaMOO, the disenfranchised left the application completely for better web applications and those who remained had a lack of expertise or enthusiasm.\(^\text{12}\) With the Well, the issues were more about time and personalities. The web application can become worn out; sometimes the people who are part of the community can lose interest. Borgmann quotes one Well user as saying that the site had grown a “tired, predictable feel.”\(^\text{13}\) This lull in activity is either the end for the community or just a low period, depending upon the motivation of who remain active members.

The application used to mediate the community can become obsolete. Sometimes the community does not die; it leaves for a better, more convenient application. With MediaMOO, many other similar applications were built, each with a different purpose but with the idea of serving as a meeting place. The users from MediaMOO spawned a host of mediated virtual places meant to serve different communities in different ways.\(^\text{14}\) While the technology changes, the people will migrate to new community portals as necessary.

Sometimes member migrations are not just the result of the changing technology but of bad customer service. Boyd illustrates how the people behind the scenes of Friendster and Myspace have negotiated users’ needs.\(^\text{15}\) An unwillingness to update the software or keeping it closed from user exploration can leave communities and users

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\(^{12}\) Renninger and Shumar, 24.  
\(^{13}\) Barney and Feenberg, 60.  
\(^{14}\) Renninger and Shumar, 26.  
feeling like those in charge of the application do not care or, worse, that they are trying to stifle individual expression.  

While Boyd definitely thinks that Friendster failed its users by limiting the kinds of interactions they could have, one has to remember that Friendster and Myspace allow users to do different things. From her perspective, Myspace is an open public space that allows a broad spectrum of interaction and exploration, while Friendster is more about clean and simple communication. Both sites work, but for different kinds of communities and individuals. The variety of media that a user can utilize and put onto a Myspace page creates seemingly endless possibilities for variety to share with friends.

In some cases, however, the changing technology may not leave a web application devoid of its users or its community. Despite being over twenty years old, the Well for example, still exists as a place for people to create communities, which have remained largely unchanged. Web applications may also see changes through time of who uses it. With many of the social networking sites and applications, the people who first inhabit it are usually tech-savvy people or those who are on the cutting edge of technology. Others who are initially drawn to this type of site create the kinds of communities and cultures that have no better public sphere in which to gather in. As the technology becomes more familiar, more people begin to join in. Even though the applications are web-based, they still hold to qualities of the early and late adopters that Donald Norman speaks of with regards to electronic devices.

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16 Boyd, 5.
2.1.2 Online Limitations

Detractors of online communities attack the idea that people are only distancing themselves further from the communities of which they are actually physically a part.\textsuperscript{19} People with this dystopic view perceive the Internet as a means only to degrade sociability.\textsuperscript{20} The problem with the line of thought is that society has been losing touch with those kinds of localized and traditional communities for some time. What critics see is not just a detachment between and among people in face-to-face interaction, but a lack of caring for the well-being of physical communities. Some might blame technology like television for creating this distract.\textsuperscript{21} People certainly can become glued to their computers the same way they can with television. Quan-Hasse, Wellman, Witte, and Hampton explain that the major difference between television and the Internet is that the Internet is not a one-way medium. Turkel, though, considers the possibility that users are only alienating themselves with the Internet, “filling their lives with virtual friends.”\textsuperscript{22}

Turkel made this comment in 1995, and the Internet has changed considerably since then. From a certain standpoint, people are using the Internet more as a platform for social endeavors. There is plenty of evidence to suggest that it serves to keep local social ties. Research from Netville, a wired community studied for diminished physical interaction, showed that people still communicated with family and neighbors close to them.\textsuperscript{23} What stands out is that for being seen as a global entity, the Internet allows

\textsuperscript{22} Turkel, 235.
\textsuperscript{23} Haythornwaite and Wellman, 365.
people to keep in touch even on a local level. People have not privatized their physical lives to the point where actual social contact will end any time soon. While users have no problem creating and maintaining communities online, some of the things they have disconnected with in the real world have not transferred in the same way. People are as disinterested in politics and civic engagement online as they are offline. That is not saying that politically and civic-minded people will not make their own online communities; they just will not be a unifying force to make all people rush to the polls.

It is interesting that people might actually be ignoring the fact that others are still maintaining local ties when so much focus is on the global community and globalization. When people refer to globalization, they generally talk about the economic aspects of the global village. For purposes of this study, the economics focuses on the necessary communication for globalization. Any place that is wired (or wireless) can be connected to any other point in the world similarly so. Boundaries and borders mean little when wireless communication is involved. This seems to be an obvious point of globalization, using the Internet as a vehicle: it erases distance and obstacles. As Friedman said, “it levels everything in the world to the point where we’re all standing in a row.”

In this case, Friedman’s flattening is unable to smooth out the entire world. Culture remains or resists. Unique cultures create a situation that does not necessarily oppose leveling but neither does it accept it. How culture interacts with this global stage is called “glocalization.” Interestingly, despite the fact that the Internet will allow users to remove context from information and identity, there are cultural contexts within which

24 Haythornwaite, and Wellman, 318
25 Thomas Friedman has an anecdote about this that sums it up. (Friedman, 187).
people have grown up that are not easily displaced. Ignoring these contexts can hurt a social website, like the earlier example of Friendster, which tried to exert too much control on what users could do and ultimately how they could interact with each other. These restrictions on what users can do ultimately drove people away. As Boyd states:

“Just because people can connect globally does not mean they want to. People are more drawn to those who are like them, who share their same values and cultural norms. … Furthermore, most people don’t use digital communities to make new friends – most use it to connect to offline friends through technology.”

With cultural concerns acting as such a powerful force, it is surprising that it has not had more of an effect on the Internet. Of course it may all depend on the culture; some are going to be more open to alternative cultures and norms. In the situation of the online social application: it merely needs to lend itself as a public space for community. The challenge for designing such sites must avoid stifling the cultural factor, or at least to avoid challenging it in an insulting way. While simple to state, creating a bridge into a constructed space that can span language, values, and norms becomes more complicated. Some community sites have certainly been able to cater to such needs, so it is possible.

2.1.3 Characteristics of Online Participants

The earliest users have been previously mentioned: the early adopters, the cultures searching for other outlets and other public spaces. Users no longer need to physically be involved in a community; they are aware that they can use the Internet to interact with

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28 Friedman, 414.
29 Boyd, 3.
others over time and space that would not otherwise be possible is enough. The issue is that users do not necessarily need to represent their actual self on the Internet. Problems can arise from the actions of people who act out these other selves.

When individuals build real world identities, they create them from their experiences with others, their particular culture, and from the world around them. There are social norms that govern what people should and should not do in a particular culture. Breaking these norms can label a person in negative ways within a society. In the physical world, these norms do not allow for the kind of identity experimentation that the anonymity of the Internet can provide. Different identities are much easier to construct on the Internet, where there can be a veil of anonymity that allows people to explore other facets of self. The second they enter the virtual world; they no longer necessarily have an attachment to the personality they have in the real world.

Users interaction with the detached virtual world allows a level of detachment as well. This detachment allows the user to play with the multiplicity of identity. Turkle explains, the concept stems back to Freud’s concept of the multiple parts that construct a personality. Freud’s concept of the fractured whole is expanded on by Carl Jung, creating many general identities in addition to just the Ego, Id, and Superego. Turkle ends with the additions made by the poststructuralists who keep fragmenting the self beyond the archetypes Jung suggests. Ultimately, the reoccurring term for identity in this sense is the decentered self.

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30 Wilson, 94.
31 Turkle, 178.
Turkle mentions Lacan’s explanation of a bottleneck that takes place within the decentered self. Lacan describes that all of the parts of self meet, discuss, and come to a consensus. Under normal real world situations, the various parts of the whole bottleneck at the point of experience and an individual sees him or herself as one entity. With this concept, different aspects of self may be more dominate than others depending on the situation.

Turkle points out that this idea of multiplicity goes against how identity may usually be defined. While the concept may be at odds with a singular theory of identity, multiplicity does provide an advantage in the results of identity experimentation on the Internet. When a user steps into the virtual world, this place of deliberation that is usually self-contained is extended outside the mind.

This extension of self, and ultimately experimentation with identity, happens in other more localized ways through digital media, which can be seen through video games. Turkle uses MUDs as a prime example of how people have created different and multiple identities online. The MUD is the precursor to the MMORPGs (massively multiplayer online role playing games) of today and ancestor of the pen and paper role-playing games. The common theme they all share is that the player has to create a new self in cyberspace. This new self may have completely different values and appearance than the actual user in the physical world. Other aspects of self can come through, and instead of cycling through our selves, each aspect of self may have a controlling stake in

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32 Turkle, ibid.
33 Barney and Feenberg, 103.
34 Barney and Feenberg, 104.
35 Turkle, 180.
a particular function online (or in a particular identity). Turkle describes the importance of online identity construction she notes that

“In cyberspace, as is well known, the body is represented by one’s own textual description, so the obese can be slender, the beautiful plain. The fact that self-representation is written in text means that there is time to reflect upon and edit one’s ‘composition,’ which makes it easier for the shy to be outgoing, the ‘nerdy’ sophisticated.”

Through the fabrication of multiple, malleable online identities, users have the potential to reach out and connect with people they would likely not otherwise be able to meet.

As mentioned before, the digital world removes a lot of face-to-face interaction. The same kind of interaction and physical cues are missing online. Since users are navigating a virtual world that is intangible and detached from the real world in both time and space, only their interpretation of the information presented to them remains. This lack of physical appearance in the virtual world could increase the intensity of emotions. Albert Borgmann defines this detachment:

“It is trivially true that text based communication filters out a person’s actual physical appearance. But what remains and comes through is both a thinner and a more intense version of a person’s character. A real bully will be a worse bully on the internet.”

The problem of Borgmann’s thin selves arises when people begin to use their heightened selves in online community activities. A thought can bypass the bottleneck of what is appropriate to say or do and be delivered as a comment on a particular article or blog post. This behavior can lead to other users responding in similar ways, resulting in

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36 Barney and Feenberg, 103.
37 Barney and Feenberg, 101.
38 Barney and Feenberg, 59.
shouting matches known as flame-wars. These arguments may originate from a difference of opinion, a person is just crude, or misinterpreted.

The anonymity the Internet affords, allows users to act however they want. Part of the problem comes from the same source as the thin self. The detachment from the outside world creates a sense of security through anonymity, one reason why identity construction is so powerful when experimenting with aspects of self. The asynchronous or real-time interaction still lacks the qualities of one-on-one interaction. Hubert Dreyfus explains why we enjoy this anonymity so much: “the person in the aesthetic sphere keeps open all possibilities and has no fixed identity that could be threatened by disappointment, humiliation, or loss.”39 People can be manipulative because of the perceived safety they feel from this sense of detachment.

Reciprocity is another aspect to identity in regards to social websites. Most sites provide the option of adding friends or having the community validate something a user submitted. This creates a value for the users to gauge their standing within the community. These interactions with other people become another important factor in building an online identity. Willson looks at Habermaas’ consideration of how individuals cannot create identity in a vacuum; at some point they have to get feedback from others.40 Willson’s intersubjectivity considers that there are such responses online, regardless of asynchronous communication.

Given that interaction online is a decentered experience, each person involved in an interaction that “requires both the recognition of the other as deserving of mutual

39 Barney and Feenberg, 74.
40 Willson, 99.
This can create a situation where users are known by their online prestige and use this as a means of creating identity. On social networking sites like Myspace, user has denoted how popular he or she is by the number of friends. The friends list can also describe users personalities depending on the friends they keep.\(^{42}\) On social reporting sites like Digg, prestige comes from submitting stories that other users can vote to approve or disapprove of. The more stories users vote positively on, the more the author’s name will be seen on the main page. This kind of identity building can inadvertently create popularity contests that work against a site’s goals.

2.1.4 Credibility and Relevance of Information

The Internet allows people access to every sort of information. Whatever a person is interested in, someone has probably created content for it. If not, then the people, if so inclined, can easily create their own content. With all of this content, there is an issue of the credibility of information. The anonymity that allows users to be whoever they want, also allows anyone to be an expert on any subject.

To look at how this affects the credibility of information, Borgmann defines information as bypass of actual knowledge. Knowledge can be divided into two categories: direct and indirect. Direct knowledge comes from direct contact and hands on experience.\(^{43}\) People can know things that they can come in contact with, things they can see. Knowledge can change, as the truth of something changes. Borgmann uses optical

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\(^{41}\) Willson, 101.


illusions as an example of how perceptions can be false.\textsuperscript{44} Of course, once a person witnesses and understands an illusion, they have acquired a new understanding and knowledge.

Indirect knowledge comes from information which people transmit, knowledge without direct experience. Borgmann links indirect knowledge closely with information.\textsuperscript{45} People can transmit information and absorb it without having to worry about ever being knowledgeable on a particular subject. Online this means that users do not need to be knowledgeable about anything, but they can be informed on everything in the world. The problem is that with online anonymity, it can be hard to tell if the information is actually coming from someone who is knowledgeable, or merely informed and potentially incorrect.

Postman sees information in terms of what it can spur others to do.\textsuperscript{46} Ultimately, he sees information, historically, as a source of motivation. While it is not differentiated from knowledge, to have information suggests that to know something, even indirectly, should result in some kind response from a person. There are some problems with the amount of information the Internet can present. Users are exposed to a tremendous amount of information online to sift through to find interesting or amusing content. This is the effect of nihilism of information online.

Nihilism is a problem that includes any media that conveys information. The problem comes with the importance of entertainment and the loss of meaning and discourse. There are different ways of looking at how meaning is lost; Postman goes back

\textsuperscript{44} Borgmann, 12.
\textsuperscript{45} Borgmann, 14.
in time to the telegraph, which allowed information to cross great distances at the cost of context.\(^{47}\) He explains that even though the nineteenth century United States could communicate easily across its territory, this ability did not mean that different regions had anything to say to each other:

“… Telegraphy gave a form of legitimacy to the idea of context-free information; that is, to the idea that the value of information need not be tied to any function it might serve in social and political decision-making and action, but may attach merely to its novelty, interest, and curiosity.”\(^{48}\)

The terms ‘may attach’ are worth noting. They certainly take into account that not all the information being produced fits a meaning-free qualification because of lost context. Meaningful information does have to compete with the meaningless however. Prior to the Internet, the flood of information was funneled through television, radio, and/or newspapers. Postman mentions human-interest stories as an example of the same kind of context-less information as telegraphy.\(^{49}\) There are still context-less stories on television news that give the briefest amount of information on a story, usually just enough to know what is going on and then on to the next story and the next. Postman calls this technique ‘Now… This,’ where the brief stories viewers are told essentially deserve only a short span of attention or concern, no matter how horrible the story.\(^{50}\)

While the stories can certainly inform, they hold little or no relevance to one’s daily life or reality. This can also be seen in newspapers or news websites (social or otherwise). A title offers a factoid about the story, sufficient to get the basic overview. There is no need

\(^{47}\) Postman, 65.  
\(^{48}\) Postman, ibid.  
\(^{49}\) Postman, 66.  
\(^{50}\) Postman, 99.
to read the rest; just move on to the next headline. Social news sites, or with RSS (Really Simple Syndication) feeds, work much the same way only the content is constantly changing. On Digg, a user can peruse the headlines of hundreds of stories in minutes. Indirectly, the user now knows snippets of a lot of different and potentially unrelated information.

This ability to peruse limitless decontextualized information is seen by Postman as removing action from information. To Postman, and as seen in the Digg example above, users are fed so much information that there is little they can do about it. In many cases, the information is out of context to their lives, and there is no reason to react to it. In a similar statement, Dreyfus paraphrases Kierkegaard’s fear of this paralyzing form of information: “Everything is equal and nothing matters enough that one would be willing to die for it.” Dreyfus and Postman’s thoughts are similar here in that because of the flood and leveling of information, a person is less likely to act on or care about it.

Another similarity in Dreyfus and Postman’s thought is the kind of feedback loop nihilistic information takes. Dreyfus notes the ability to absorb all this information can be both a blessing and a curse. On one hand, all the information people can absorb can give a large populace opinion on a wide range of topics. The downside is these same people can now voice their opinions on topics about which they are only marginally informed, yet of which they are not knowledgeable. Postman sees the media as a cause of the loop. People are fed so much information that voicing opinions is their only option. Other courses of action are just not allowed. All people can do with their opinions, is to

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51 Postman, 68.
52 Barney and Feenberg, 69.
53 Barney and Feenberg, 71.
voice them back to the media where they will be used as more information. Online the middleman, i.e. the media, can be taken out of the equation. Users can upload the information directly, where others will absorb it, form opinions, and then voice them via blogs or social news sites.

Dreyfus also notes that such context-less information is also affected by the anonymity of those uploading the content. He argues that if all information is leveled to the point where no one will be stirred to act on it, no one will care about the truthfulness of the information either. If people cannot always confirm another’s identity online, then they cannot know whether the information is accurate. The idea seems almost contradictory; if people can be skeptical of the information they find on the Internet, then there should be no reason to keep going back for more. In illustration, Wikipedia is a user-centered encyclopedia where users create and maintain articles on any kind of information. While it is largely self-controlled, and the information can be as accurate as a regular encyclopedia, there are moments where the ability to edit in a particular view (opinion) on a situation can ruin the credibility of the anonymous information. Friedman admits to using Wikipedia, but he uses it “with the knowledge that the community is not always right, the network doesn’t always self correct – certainly not as fast as its errors can get spread.” It is a skepticism that Dreyfus also notices in Kierkegaard’s writings on the Press. Friedman’s statement at least shows some rationality when it comes to being skeptical about what is to be believed when the level of context is low and level of anonymity is high.

54 Postman, 69.
55 Barney and Feenberg, 79.
56 Friedman, 124.
57 Barney and Feenberg, 79.
2.1.5 Interface of Online Community

Folksonomy is a kind of organization that comes from the Web 2.0 philosophy of users’ authorship and existing technology that allows users to attach words and terms believed to be relevant to the objects of information they may be viewing (e.g. blog posts, images, and color palettes). The words and terms users attach to these web objects are referred to as the object’s meta-data. The user may typically see the meta-data as labels known as tags which by extension can be seen in web applications such as Flickr, where image searches are based on this meta-data created by the user who uploaded a particular image.58 Largely though, these tags are hidden data that follow a particular information object around. In searching for websites, search engines use similar meta-data embedded into the sites.

Users tag objects for both social and practical purposes. From the standpoint of the social user, tags allow for sharing information through keywords that can bring similarly interested people together.59 Of course, people may connect in different ways, either building community from shared interests or building a pool of shared resources and content. The sharing of resources can be seen in websites like Del.icio.us and Flickr, where users create groups of tags or pool images. For practical users, there is a focus on users resources and needs: organizing their tags in much the same fashion as keeping bookmarks of favorite sites.60

60 Boyd, ibid.
While tagging allows for personal freedom when it comes to labeling information, it is also seen as a large flaw of folksonomy. Petersen sees the problem of folksonomy as a lack of distinction between articles of content:

“Certainly all individuals’ perceptions are influenced by their own experiences and cultures, whereas the professional cataloger, even if trying to be unbiased, has only one viewpoint. Yet to include all viewpoints opens up a classification system to the inconsistency that allows a work to be both about A and not about A.”  

This initial idea that an object can lose identity in regards to how it should be classified seems like a problem, even though this is one of the benefits of folksonomy systems. Petersen may be looking at this kind of system from a macro perspective, where nothing can really be organized in any meaningful way if an object has the potential to have conflicting meanings attached to it by users. From this view, Petersen is correct in thinking that the system would eventually become unstable as more and more terms are added to an object. Folksonomy is, however, a micro-scale structure that at best allows individuals to find what they want because others tagged it before. From Petersen’s point of view, this system is cumbersome and fragile because it cannot create any overarching hierarchy of information that tries to incorporate and organize even ephemeral objects and information.

Petersen’s concern is that a folksonomy could become unstable because of an excess of tags that leave an object relative to everything, is echoed by Guy and Tonkin.

The problem they point out is that tags users attach are relative to their own needs and not

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62 Peterson, 4.
63 Peterson, ibid.
to everyone else. While their solution to tagging is not to do away with it entirely, they point out some of the biggest errors are made when adding tags. They note for example, that spelling errors, badly encoded compound words, tags with meaning only to individuals, and outlying tags that appear only once to an object are possible mistakes when tagging. Without some way of enforcing a tagging etiquette, there is no way of getting users to make changes in how they tag an object.

Cultural differences can also cause problems with effective tagging. Boyd sees the problem as one of cultural domination that could potentially skew the accuracy of tags. Different languages do not translate well to others, or cultural differences may change the meanings of things. As Boyd points out: “there are tons of words with multiple and conflicting meanings. This is why reading a translation of something is never the same – it’s not just a matter of linguistic translation, but cultural translation. That’s almost impossible.”

Weinberger also sees this problem, although he cites more regional and personal meanings. He illustrates how people might tag information on San Francisco; some may simplify the name to ‘Frisco.’ To Weinberger, there is a desire to label the information in the same way other users have, this does not stop users from attaching what he calls oddball tags to information. Breaking the uniformity of an object’s tags may make it show up to other users as irrelevant information because of the oddball tag. Weinberger’s

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64 Guy and Tonkin, 1.
65 Guy and Tonkin, 5.
67 Boyd, ibid.
example also points out the opposite problem with tagging, that a particular group’s point of view will dominate an object’s meta-data and push a specific concept or idea.  

As such, majorities in folksonomies can become coercive to smaller elements that may be interested in an object but are trying to use a nomenclature outside the majority’s approval. Jaron Lanier echoes this concern and considers users to be mindless groups that can change information at a whim if the group believes it is wrong. Lanier is skeptical about the idea that these systems are ‘good enough,’ which is essentially what Weinberger says about folksonomies: “messy and inelegant and inefficient, but it will be good enough.”

While there is a lot of criticism of Web 2.0 paradigms and of folksonomies, most of what is being criticized is that the structure makes an unwieldy collection of users attaching and aggregating information in a seemingly uncontrollable way. In many of the criticisms, the solution is not to back away from folksonomies but merely to add elements of a more rigid social and organizational structure.

**2.1.6 Summary of Online Communities**

The value of communities for the proposed website design of Socialest, is in how groups of people come to inhabit and use a site. For a Web 2.0 website, users are drawn to creating content and in turn finding other people with similar interests. While there is concern that online communities could be degrading real world communities, research would suggest this isn’t the case. Online communities instead can be seen as a way of

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69 Weinberger, ibid.
71 Weinberger, 2.
augmenting real world relationships, as well as allowing for purely digital communities to exist.

What is also of interest for this study is the question of credibility from the individuals who make up the community. The Internet allows a great anonymity to users, which allows them to portray different aspects of their selves, or to be someone entirely different. For some, this is an exercise in identity experimentation, a form of escapism, or means to be malicious without exposing a real identity.

Anonymity also effects the information and content being created. If the credibility of the person posting information cannot be verified, the information may not be reliable. Further, in trying to organize information, user mediated taxonomies can create meta-data for content that may only have context to a handful of people.

2.2 Information Graphics and Cartography

Having analyzed online communities and the information that they produce, the focus is moved to how this information can be clearly displayed to the user. Research examines the graphical aspects of information in its presentation to the user through Web 2.0 websites. A survey of information graphics, and Tufte’s rules for creating effective displays will create a foundation for this section. Cognitive mapping is also considered for potential as an alternative method of organizing and presenting information.

2.2.1 Edward Tufte’s Information Graphics

In looking at how mapping could be utilized for Socialist, there is a need to consider just how such systems work effectively. This focus on cartography and cognitive mapping starts with Tufte’s ideas of what makes information graphics work effectively. Tufte has set down a number of rules for the creation of effective information
graphics. To a graphic designer, many of these rules may seem like common sense in terms of trying to bring clarity to even the most complicated information graphic. For Tufte however, these points are not always properly considered and a graphic can suffer. Tufte’s concept of data-ink is one such way of considering creating a balance between information and graphic.\textsuperscript{72} The concept of data-ink states that there is a ratio of information to graphical elements.\textsuperscript{73} The more information a graphic has, the less chance there is to remove graphical elements without also losing information.\textsuperscript{74} Tufte gives a wealth of examples that show how a graphic can be overwhelmed visually by elements that do not really aid in explaining the information (figure 2.1).\textsuperscript{75}

The context and integrity of information is an important element in information graphics. Tufte considers how graphics may lie to the viewer, particularly in terms of the context of the information presented. Figure 2.2 shows how to show only part of a whole set.\textsuperscript{76} Conveying the truth of the data is Tufte’s main goal, to which he declares: “Graphics must not quote data out of context.”\textsuperscript{77} This kind of lying graphic generally shows only one data set that is largely irrelevant by itself, the power these graphic have is through elaborate illustration.\textsuperscript{78} Lying graphics often are missing other comparative information. Tufte claims that a reader does have the power to see through and become skeptical of a lying graphic.\textsuperscript{79} In the case of figure 2.2, the viewer is lacking any other

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{72} Edward Tufte. \textit{The Visual Display of Quantitative Information} 2\textsuperscript{nd} ed. Graphics Press, Cheshire, CT, 2001, 93.
\item \textsuperscript{73} Tufte, ibid.
\item \textsuperscript{74} Tufte, ibid.
\item \textsuperscript{75} Tufte, 100-105.
\item \textsuperscript{76} Tufte, 74.
\item \textsuperscript{77} Tufte, ibid.
\item \textsuperscript{78} Tufte, 70.
\end{itemize}
\end{footnotesize}
information on why there are fewer doctors, just that there are fewer. The graphic has little meaning without something else to compare the data to.

What Tufte tries to explain is that there are many ways to clutter a graphic with unnecessary information. There are graphics that contain many different levels of information; maps are good examples of multilayered graphics. The number of levels of information being conveyed also changes how the graphics should be used. In relation to cartography, there is usually a lot of information that needs to be displayed, which necessitates a consideration of how to keep every dimension of information clear and easy to understand. An example of this is are maps Tufte used to demonstrate the layering and integration in cartography (figures. 2.3, 2.4).[^80]

Tufte also has rules for how color should be used. Unlike information ink, limiting color is not necessary, but care should be taken so that a graphic does not become an eyesore. For instance, Tufte explains that strong colors can make for that can vibrate and become difficult to read.[^81] This does not mean that strong vibrant colors should not be used; it does mean they should be used sparingly, and for emphasis, while more muted colors should fill in other spaces that do not require as much attention.[^82]

Ultimately, Tufte’s design principles encourage a designer to think of the context of the information to be presented. In addition, Tufte conveys that simplicity in information graphics keeps the information clear to the reader. Information context and graphical simplicity are the focus for effective information graphics.

[^80]: Tufte, 80.
[^81]: Tufte, 82.
[^82]: Tufte, 90.
Figure 2.1 Example of a simplified chart.

Figure 2.2 Example of a misleading graphic.

Figure 2.3 Isometric map of New York City.
2.2.2 Kevin Lynch’s Cartography

Lynch’s work in *The Image of the City* shows how the structure of cities’ surroundings influences how they classify different areas. Through case studies of a small number of distinct cities, Lynch shows that no two cities are mapped the same way. Cognitive maps that residents make show that even with the structure imposed around them, each will map the space differently depending on how they need to use the space.

Boston, for instance, is a very complicated city in terms of how its citizenry map out the boundaries of districts. The complicated street layout ends up creating various
man-made boundaries that separate the city for those who live there, and this is represented by Lynch’s interviews with residents.\(^{83}\)

In contrast, his study of Jersey City has a regimented plan. The image constructed of this city is one of monotony, where it is easy to get lost just trying to use scarce local landmarks.\(^{84}\) Instead, major highways and street signs become more important in Jersey City.

There are common elements people use to see their world, however, Lynch notes these commonalities appearing in all of his case study cities. Various elements, like landmarks, end up being very obvious ways of demarking space for a person.\(^{85}\) Other elements like paths, edges, districts, and nodes comprise the basics as to how people tend to map their worlds.\(^{86}\) These elements are important to the case study and proposed design solution.

The first of these elements are districts. Lynch notes that there are a number of ways individuals can understand different districts, “The physical characteristics that determine districts are thematic continuities which may consist of an endless variety of components: texture, space, form, detail, symbol, building type, use, activity, inhabitants, degree of maintenance, topography.”\(^{87}\) In relation to Lynch’s studies with cognitive mapping, districts can be seen from the Boston study as flexible but distinct.\(^{88}\) Through interviews, Lynch could show that people noticed when areas in the city changed and how each area had its own personality.


\(^{84}\) Lynch, 31.

\(^{85}\) Lynch, 48.

\(^{86}\) Lynch, 47.

\(^{87}\) Lynch, 67.

\(^{88}\) Lynch, 68.
Lynch defines the path as “the channels along which the observer customarily, occasionally, or potentially moves.” The roads, sidewalks, and literal paths that people use to navigate their world best represent the idea of paths. Paths merely connect one element to another.

Another element which Lynch presents are edges, “a linear element not considered paths: they are usually, but not quite always, the boundaries between two kinds of areas.” The boundaries may be physical boundaries such as rivers or walls though boundaries can also be mental distinctions between or among districts as well.

The node creates a point in which there is a concentration of importance, which people can enter and move. These may be considered high traffic areas used by many people use or particularly important places to an individual. These nodes may be junctions of paths or endpoints as well.

The final element is the landmark, which for Lynch is any distinguishable feature an individual can use as a point of reference. Much like nodes, landmarks distinguish particular important areas. In contrast to the node, these are not areas to inhabit but markers to distinguish other elements like paths.

Mapping can and has accomplished new interactive levels with various new media. Technology and new media have led to interactive maps of information, in particular, the concepts of mapping intangible spaces, or of abstract ideas:

89 Lynch, 47.
90 Lynch, 62.
91 Lynch, 65.
92 Lynch, 47.
93 Lynch, 72.
94 Lynch, 48.
“The Internet produces a new type of space-time that bears a loose and flexible relationship to the physical world. The word ‘space’ in ‘cyberspace’ is highly metaphoric and cannot be separated from the activity conducted within it because the activity is what produces this ‘space.’”95

Efforts have been made to map the Internet in various forms. Van Weelden notes the encyclopedic map as a way to understand the data found on the Internet, which usually comes across visually as a grand network of lines and nodes.96 The same can be said for maps of social networks. The difficult part is trying to find a way to represent a wealth of similar information about a space that does not tangibly exist. There are many uses for the mined data floating around the Internet. It should be noted that Van Weelden is primarily discussing the mapping of objects and people and their relationship to the physical world.97

2.2.3 Summary of Information Graphics and Cartography

Information graphics and cartography are large parts of the proposed website design. Tufte gives specific guidelines on creating clear graphics for the user. Through the concept of information ink, there is a ratio of graphic to information. Ultimately, this concept suggests that a graphic can be very simple and still be clear.

From cartography, Lynch’s cognitive mapping defines how individuals will map out the same physical area differently depending on their needs. In addition to this, Lynch’s study showed that there were common elements that

96 Abrams and Jones, 27.
97 Abrams and Jones, 27.
became evident through various test subjects’ maps. These elements of paths, boundaries, districts, landmarks, and nodes are important to identify for this study, as they can be moved and applied to the proposed website design.
CHAPTER 3: CASE STUDIES

The methodology for Socialest will be the case studies of existing user-driven websites. Though these sites follow some of the same tenets in their designs, they differ in how users are allowed to create information and how it is presented back to users. There is a framework of functional elements that convey information in relevant ways will be explored within these existing sites. In their current form, it is easy to find a lack of strong visual representation of information to the user. The goal of the case studies is to explore what does and does not work and how that might effect the attachment of mapping elements and information graphics. In addition, this study is interested in how users find information relevant to what interests them and how they use the meta-data to build their virtual world of information and share with other users.

Another goal is to examine both the positives and negatives aspects of tagging within the current textual designs. Jaron Lanier raises the concern that the information becomes so important that the community either believes false information or uses the system to push a specific concept.98 The hope is to consider how the designs of these aggregating social news sites affect the negative views of tagging and user-driven websites.

3.1 Selection of Websites

There will be four sites for consideration. Each handles community, tagging, and information graphics differently, though all share the concept of social interaction. These sites are relatively young in terms of the Internet. Digg has only been only been in existence since 2005 yet, and it has already built a large user base. The site has been such

98 Lanier, 12.
an influence that instead of rapidly popular websites being ‘Google bombed,’ sites are now ‘Dugg’.\(^9\) Digg sets itself up as a social news network where users find sites and news on other sites through the various sections of the site. The more other users like the link provided, the more they ‘digg’ the story, the more likely it is to be on the front page.

Spotback is another website that tries to do the same thing. Instead of relying completely on users to submit stories, automated information aggregation programs collect stories.\(^1\) Users can rate the stories they read, leading a background program within Spotback to learn what stories are relevant to the user.

The third site, Del.icio.us is a social bookmarking site. Users can store links to other sites and share them with other users based on a folksonomic tag system. The system works like the tagging structure of the photo-sharing website Flickr.

The fourth site, the ORG, is a collaborative space for user-created content. The ORG is the result of a broad audience of the video blog *The Show, with Ze Frank*. The popularity grew beyond just the video blog and the site has created a community of fans. The focus of the ORG is on the community and the projects people create either individually or in groups.

**3.2 Criteria for the Case Studies**

The criteria for the case studies will try to cover aspects of social reporting and information leveling through graphic design. Each of these sites will meet the criteria in

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\(^9\) When a site is ‘Google Bombed’ or ‘Dugg,’ it is inundated with users who have suddenly discovered the site. The usual means of this is through news articles posted by Digg users (for example). The result is that the sudden explosion of people cannot be handled by smaller-scale websites, the site’s bandwidth is consumed, and the site goes down for a period of time.

\(^1\) One such common type of automated feed is RSS (Really Simple Syndication). The idea of RSS is that a web designer can create conditions that anyone who subscribes to the feed will know when new content has been uploaded (a new blog post for instance).
different ways; some sites are lacking the social component but focus on the conveyance of information.

3.2.1 Site Goal

Each evaluation will start with reviewing the goal of the site. Including an overview of the site, its various functions, and relationship to the Web 2.0 paradigm. This will give some context to the following criteria and will explain deficiencies the site may have. A particular site may not have been made to meet a particular criterion but still shows value in other areas. This section will also look briefly at the various sections and pages within the particular sites.

3.2.2 Social Interaction

The next focal point will be how social structures work on the site. This will determine the kinds of interactions and communities the users can create. Concerns here deal with how users interact with each other and how the website may affect how a user acts. Each site will be different in how it makes users aware of others.

3.2.3 Information Search Methods

This criteria explores how users find information they want and how can they store the information once they have found it. Much of this information will be based on how well the site can search through its own information or if meta-data becomes more important to grouping information. If the system is based on tags, a user may be able to lump saved information objects into a personal tag of their own or they might search that tag again and again to retrieve the information.
3.2.4 Presentation of Information

Each system handles information differently. For this aspect, the focus will be on how a particular system parses and stores information. This is governed in part by the site’s goals but explains why the system organizes information in particular ways. A website may organize its information by tag or by simple categorization. These differences help show if the system is effective in bringing relevant information to the user.

3.2.5 Contribution of Participants

User contribution is a hallmark of the Web 2.0 paradigm. The analysis here focuses on the ease of information submission and what other systems are in place to prevent repetitive information or poorly structured tags. There is also a concern as to what kinds of information and content are permitted on a particular site. Some of the case study sites are more specialized and limit the kind of information a user can submit. A news site will want news; a bookmarking site will only want bookmarks.

3.2.6 Visual Information

On the visual side of information hierarchy, should be considered to create a pleasing aesthetic experience. In addition, there is a concern with the selected sites’ designs in relation to information leveling. Depending on the portal, sites base information in text to explain what the link is leading a user to. There are exceptions in sites like the ORG, which display a thumbnail of the content. The concern is how information is laid out, with a critique of the selected sites following various principles set by Edward Tufte explored already in the literature review.
3.2.7 Navigation

The final criterion focuses on the navigation and layout of the case study sites. The layout organization can have its own effect on the user’s experience with the site. This part of the study is a critique and overview of the site’s structure and organization in regards to graphical clarity. The websites will also be considered in their relation to Lynch’s cognitive mapping elements defined in Chapter Two. The goal is to begin to relate existing aspects of Web 2.0 websites to Lynch’s mapping elements. In making this initial relationship, there can be more clarity between Lynch’s concepts and the proposed design solution in Chapter Four.

3.3 Digg

3.3.1 Site Goal

Digg is a complex Web 2.0 site with a simple concept: users make the news. Upon entering the site, even an unregistered user will see a list of headlines of top stories currently on the system. Refreshing the site will likely change the headlines and a new story will have been voted to the top. The reason for the constant turnover of information is the user base is constantly exploring the web for more information to submit to Digg. In turn, users ‘digg’ a submitted site, which gives the link a ranking based on the number of votes it receives.

An interesting aspect of this information aggregation is that it is completely based on user contributions. Digg has no scripts reading RSS feeds from other news sites to create content for the site; it is dependant on a healthy and large user base. Without interested, motivated users, there would be no content for Digg. This does create
moments where users can become more interested in getting other users to ‘digg’ their stories rather than report the news.

3.3.2 Social Interaction

Users have the ability to contact other users in a number of ways. The main form of communication is the comments feature. Registered users are allowed to add comments to any submitted story. The comments continue discussion on a topic, though it does not take much for the comments to go off topic. There is also the ever-present possibility to start arguments over particularly hot topics, which may start a flame-war. These conversations add an element of a round-table discussion of topics, which in turn can create new relationships between users. At the same time, these comments can spur intellectual discourse and interest in issues and events happening in the world.

Figure 3.1: Friends page
Users also have the ability to create a friends list of people the user already knows or of other users they agree with or whose stories they particularly like. A user can add a friend by viewing another user’s profile, where it is a simple matter of clicking on the ‘add friend’ button. Once a user has added a few friends, they can view their friends in their profile (figure 3.1), which gives the user a springboard to other user profiles. Within a user’s profile, there is the option to see which friends have also dugg particular stories. Graphically, this is displayed by a small arrow container, which displays which friend(s) agreed (figure 3.2). Along with commenting on stories and being able to track what other users dig, or agree on if they are friends, there is also the option for the user to include information in their profile so that other users might contact them through instant messaging clients and blogs but not email.

![Image of Digg user interface](http://www.diggnation.com/)

Figure 3.2: Agreed on stories
3.3.3 Information Search Methods

As mentioned previously, information on Digg is constantly changing, and finding information can be less important than stumbling upon it. Finding specific information can be done through the search option. There is little control over how and what the search function sifts through. The most control comes from being able to determine how far back in time a story was posted.

Storing information is considerably easier. Any story the user finds worthy of digging is saved in their profile (figure 3.2). There is considerably more control over sifting through saved stories; a user can view dugg stories by category. In reverse of the search option, there is no option to view by date dugg or submitted stories.

3.3.4 Presentation of Information

Digg is based on a category system. When a user wants to look through information of a specific type, they need to either search for specific stories or look through the various categories to read topic-specific content. The user can always pick between categories at any time. For the registered user, there is an option as to which stories are presented in the categories bar. Unfortunately, turning off particular categories and subcategories removes them from the list altogether. The other downside of the category system is that it is still only a pool for stories that may only be related, not necessarily relevant, to what the user is looking for.

3.3.5 Contribution of Participants

The primary things the user can submit are stories, links to other sites, or videos for the video section. The content of Digg is really just redirections to content created on other sites, which are found by Digg users. When submitting a story, there is an
announcement of four qualifications. These are reminders to the user to keep things running smoothly. There are no automated programs to watch spelling or to make sure the user has entered the direct address for the story’s content. There is an reminder for the user to search Digg to make sure no one else has already posted a link to the story. This means of avoiding redundant posts is simple and up to the user. It does not guarantee duplicate stories will not happen. If there are duplicate stories, one story will generally be the focused on and dugg, while the other is ignored or buried.

3.3.6 Visual Information

Visually, information is conveyed to the user through a single column list with a story title hook and a short blurb on what to expect from the link. The system makes it easy to scroll quickly through a page of headlines and head to the next batch. There is little motivation to read every story, and as quickly as the user can read the title and overview, they can decide whether it is worth with a digg.

The only other way that information is conveyed is in the ‘upcoming stories’ section in a cloud view (figure 3.3). Essentially story titles are centered in the page and given a font size relative to the number of ‘diggs’ they’ve received. The sheer number of stories, and given that their size is determined by popularity or number of comments, means that there may be little or no change in font size within a centered jumble of headlines. While the concept may denote hierarchy to important stories, the effect comes across as confusing.
3.3.7 Navigation

The front page (fig. 3.4) of Digg gives users a general listing of top stories for all categories. Even unregistered or non-logged in users can jump from section to section, which are all found on the top navigation bar. There are three main sections to Digg, displayed in the blue bar: News, Videos, and Podcasts. These sections have only recently been added to the site. Prior to their addition, everything was considered news, and no differentiation was made between media.

Below the main categories, in the green bar, are the various categories that stories and links are sorted into. The main news topics are sorted into technology, science, world and business, sports, entertainment, gaming, and a default all topics option. The video
and podcast sections have similar categories with some differences. In videos, there is a humor category, in podcasts, there are categories for art and culture and TV and film. In all media, there are subcategories that separate the stories even further. Clicking on one of the categories will add another darker green bar to the navigation with the subcategories listed upon it. Logging in will give users another option to further customize the subcategories.

Figure 3.4: Digg front page.

On the far right of the main navigation are the login/register dialogs and the search tool. Logging in pushes the layout of the site down, creating another blue bar above the main bar, with a small ajax/javascript animation that causes the input boxes to fade in. Logging in or just closing the login bar causes the dialog to fade out, and the bar abruptly disappears, shifting the site back up to its original position.
There is also the option to view the most popular stories or to view upcoming stories. If a user hits the refresh button while in the popular story’s tab, not much would change. This is usually because the number of diggs is high enough that if one user adds a digg, its place in the hierarchy may not change. In upcoming stories, refreshing may give the user a whole new batch of stories since the number of diggs is usually in the single digits and one new digg can change its overall ranking.

While showing the list of stories, there is also a side bar with a small amount of information. Digg displays the top ten of whichever category the user is in unless cloud view is selected. This top ten allows quick access to popular stories, though frequent users will probably have already seen these particular stories. The sidebar also displays a couple of alternative visualizations of the site through a Flash-based interface.

In relation to Lynch’s elements, the categories and media types are similar to districts. Each area relates to a focus of information, which the user should find distinctive. For Digg, the edges of the districts are visually distinct by the textual divisions of the categories. The nodes that Lynch described could cover any thing that people could inhabit or use. In relation to digital media, stories relate to nodes, in that a story is a junction for users to reach or a place to meet and discuss content. Visual landmarks for Digg could be any of the titles for the categories, as well as the site’s logo, and the ‘digg’ button. Each of these elements can give the user references as to where on the site they are. One aspect of Lynch’s elements that is missing is the path. This element does not translate well into virtual form.
3.4 Spotback

3.4.1 Site Goal

Spotback’s goal is to bring a wealth of information to the user. Information is feed-based, so the site is not relying on the user to submit stories. There are a very wide variety of categories for information. While user contribution takes a negligible role within Spotback, the user’s ability to control and reorganize information is expanded. The draw of Spotback is that the system keeps track of stories that the user rates and correlates that information to present the user with more similar stories or fewer stories if the user rates a story negatively. In addition to a content filtering system, there is also a keyword tag system to help alert the user of relevance within stories presented.

3.4.2 Social Interaction

Interacting with other users on Spotback is very limited. A user has the ability to add friends to their profile, which they can use to track what stories other users rate or comment on. There is no option to message a user within the Spotback system, but users are permitted to include their email address and messaging client user names into their profiles so that other users can contact them.

Commenting on stories allows discourse between users on various topics in much the same way it does on Digg. On Spotback, a user finds it difficult to start a conversation through comments on any story. The community at large does not seem to take advantage of the comment system. One possible reason for this is that the system is not centered on user contributions, so the news and information loses the social aspects that

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101 At one time, earlier in Spotback’s existence, there was an option for users to suggest sites into the story list. This feature has been removed in more recent versions of the site.
might draw others to talk about it. Another possibility is the redundancy of the comments feature. Most of the sites/stories that are displayed have comments of their own. Where this redundancy does not stop users on Digg, the same cannot be said on Spotback.

3.4.3 Information Search Methods

Finding and storing information can be an interesting process for the user. Finding specific information is done most easily from the search function. However, this function has nothing to refine searches, nothing to constrain the search to a particular category or time frame. Depending on how complicated the search is, this may cause the user problems.

In storing information, rating a story and saving a story are two different things. A user’s profile will display recently and positively rated stories, which allows the user access to the stories. This access is only for a short time, and then the stories are wiped from the page. Saving stories does permanently store them in the user’s profile, though compared to the ratings slider, the save button is invisible.

3.4.4 Presentation of Information

Spotback shines in the myriad of ways information can be presented to the user. From the main page, the user can immediately being rating stories. Once rated, the system begins to tally and take into consideration the types and rankings of stories the user has given stories to present future stories to the user. There is a question of whether the system actually knows what kinds of stories are related or if it is just pulling another story from the same subcategory. It is somewhat hard to tell, and early on in Spotback’s existence, when there were not many sources of stories, a user might be greeted with few or no stories for a category.
Another way the user can help Spotback find relevant information is to add keywords for the system to highlight. Much like tagging, the user is giving the system words that are attached to objects that are meaningful to them. Unlike tags, the meta-data keywords the user generates are only really seen by the user and the system and never attached to the content that the system finds. They keywords show up as highlighted words whenever encountered or as another news page, which displays the title of a story that has one or more keywords contained within it. The user can then look at stories by individual keywords or add more tags to their list.

3.4.5 Contribution of Participants

Spotback is run by feeds that have been collected from other sources. The user’s contribution and ultimate motivation for using the site is to input their ratings of stories. While they may have the option to comment and discuss stories, the main draw is the customization and personalization of the information. The most a user can contribute to content is RSS feeds for their own personalized list in the news snacks section.

3.4.6 Visual Information

Spotback allows users to reorganize the layout of the site. Entering the layout editor, a user can create and save layouts. The user is presented with a drag and drop interface, where each of the categories can easily be shuffled or removed (figure 3.5). Once a user has added to or arranged the layout as they wish, they can also decide what subcategories and what number of stories Spotback should display at a time. There is a final option at the end of the subcategory list that lets Spotback choose a user-specified number of stories from any of the subcategories within a particular category.
There is also the News Snacks page. On this page, a user is presented with a three-column layout of news feeds. The choices of the kinds of information are limited to a handful of predetermined feeds or user-imported feeds. The layout is filled with small headlines, with the title and source of the feed, and with headlines of its latest stories. Clicking on a story link brings up a rectangle over the rest of the content which includes a short overview of the story and offers the option for the user (if interested) to leave the site and read the complete story (figure 3.6).
3.4.7 Navigation

When the user enters the site, they are asked to either register, login, or enter as an anonymous user. Regardless of what they decide, they are able to use much of the site’s functionality, though a registered user will be able to save layouts and keywords to use whenever they log in.
After login, the user first sees two columns of stories divided by color-coded categories (figure 3.7). The site has a top bar navigation system, which is divided into three areas; the upper most is for accessing various sections of Spotback. This includes the search function and access to top stories. The second level contains links to the various categories. Rolling over any of the categories brings up a small dropdown menu with the sub-categories; check boxes indicate whether they are being included in the story list. It also includes links for keyword tracking and advanced customization. The third level is login information, where the user is given another way to their account settings.
Also in this tier of the navigation, the user finds the dropdown to change layouts and the option to cycle forward and backward through stories.\(^\text{102}\)

The columns are set up on a white background, with a colored bar separating the main categories. Color choices appear to be arbitrary, seen when comparing the contrast in the orange used in the Arts category to the slightly lighter shade used for Games. Under each category is a small subcategory in the same color as its parent and a headline in blue. Below that is information on the source of the link, the time it was posted, and options for the user to save the source or block it; followed by options the user can take with the story emailing, saving, or commenting, as well as the ratings slider.

Spotback also makes use of animation and overlays that create interesting moments within the user interface. Most of these can be explained as scripted events using javascript or ajax. When a story is rated, the column smoothly moves down and another story pops into existence. This is a small aesthetic touch and is used sparingly through the site.

In regards to Lynch’s elements, districts have another aspect of distinction within Spotback because of category color-coding. The differentiation between categories creates more distinct edges to the various categories. Like Digg, stories relate to nodes, allowing users to move to and through information. Landmarks for Spotback are similar to that of Digg, though the ratings slider takes the place of the ‘digg’ button. There are also the title bars for the various categories that work as landmarks as well, letting the user know what category a story is in.

\(^{102}\) The forward and back option is another recent addition to Spotback. Earlier versions of the site did not allow going back to earlier stories. A user could only move forward through stories. If the user did not save or rate a story they liked, the only way to get back to a story was to search.
3.5 Del.icio.us

3.5.1 Site Goal

Del.icio.us is a social bookmarking website. The goal is for users to save their bookmarks on the website where other users can then view and save the links themselves. It is a simple concept that relies completely on user submission. The social aspect of easily sharing bookmarks between users creates the motive for using the site. Like many Web 2.0 sites, the goal is to give the user an opportunity to be able to access their information regardless of what computer they are on. Del.icio.us does this, allowing users to have an online version of their bookmarks.

3.5.2 Social Interaction

Del.icio.us allows users to add friends to their profile. Adding a friend means that when a user clicks on ‘your network,’ they will see links their friends have saved. The more friends one adds, the more links will be available for the user to explore. There is also the option to include friends as tags when users add a link. This makes the link show up in a user’s ‘links for you’ page, which shows links that other users want to share.

Absent from Del.icio.us is a commenting system or direct messaging between users. This leaves users largely unable to interact in a more direct manner. Del.icio.us does allow users to include their homepage URL or email through the ‘mailto:’ tag. Using the mailto: tag is an archaic means to allow other users an avenue for contact.

3.5.3 Information Search Methods

Finding information on Del.icio.us is largely based on searching the site’s database of meta-data tags that users have attached to their links. The value is that users can enter words that they think are relevant to finding what they are looking for. It hopes
that, other users will have thought the same way and attached the same terms in the metadata. The search also allows users to use a general Internet-wide search as well or lsearch locally within the user’s saved links.

Storing links is the point of Del.icio.us. Clicking on ‘your bookmarks’ takes users directly to their saved links. The system does not organize links in any manner. If a user adds a link to their list, it is placed at the top of the list. Users can either leave their links unordered or Del.icio.us has the option for the user to manually group tags into larger categories.

3.5.4 Presentation of Information

Information on Del.icio.us is tag-based, which means that searches are going to be based on the relevance of the tags other users have attached to objects. The more often users have bookmarked and saved into Del.icio.us, the more likely that a wide range of common terms have been attached to a story. As mentioned in Chapter Two, users may add so many different tags that the meaning of an object is diluted. The opposite can also happen, where a small set of tags is consistently attached to an object. 103

3.5.5 Contribution of Participants

The motivation for the user to contribute is that they can create a list of links they can access from any computer that is connected to the Internet. Where with other site, information is meant to be shared, Del.icio.us could be considered a bookmarking website first, and a community site second. Links are the solitary content that users can submit to the site. Users also add appropriate tags and descriptions to aid other users’ searches.

103 Weinberger, pg 3.
When submitting, the user can go through the ‘post’ section found at the end of the sections list. The following page asks for a URL for the site being bookmarked, then asks for a description and appropriate tags. The interface is graphically simple like the rest of the website, using only basic elements.

Another way of submitting information to Del.icio.us is to download and install a pair of simple, but useful, plug-ins for the user’s web browser. The plug-ins allow for users to tag sites without having to be at the Del.icio.us website (fig. 3.8). Clicking on the Del.icio.us logo takes a user to their bookmarks for quick access. Clicking on ‘tag this’ while at a site brings up a pop-up window with a smaller link-submittal form with the URL of the site already entered for the user. The plug-ins create a lower level of effort for the user, making contributing information simple.

![Image: Del.icio.us plug-ins](http://www.imageafter.com/)

**Figure 3.8: Del.icio.us plug-ins**

### 3.5.6 Visual Information

The color scheme is simple to the point where the logo for the site contains most of the color palette for the site. The site is kept graphically simple this way. There are a few instances where thumbnails are used to show sites.

The way information is conveyed to the user is through a list of the links with a bold headline, which is a direct link. Below that are the tags that have been attached to the link along with a pink block link with the number of times a particular link has been
saved by other users. The color contrast makes this difficult to read, though clicking on a link takes a user to a side site that shows descriptions of a link left by other users.

3.5.7 Navigation

An unregistered user or one that is not logged in will initially see the ‘what’s hot’ section of the site. The page is broken up into three parts: the top navigation, the links, and a sidebar of tags and categories that are active (figure 3.9).

![Del.icio.us frontpage]

The top navigation is visually simple; the user at all times has access to their bookmarks and other sharing options in the left side of the navigation. On the right are the user’s options for their profile along with popular and recent links. The search
function is also found on the right side of the navigation and is the only aspect that moves depending on the page.

Content is divided into two columns; the larger left column holds the links, the smaller right column holds either information on popular tags or information for the user to help organize their links. Depending on the page the user is on, information may be placed between the navigation and the content columns. This is instructional text that the user might find in their settings.

Del.icio.us has much less in common with Lynch’s mapping elements. Del.icio.us’ simple design and organization of information lead to few elements relatable to mapping. Districts are nonexistent on Del.icio.us since there are only tags to organize information, not categories. This also means that there are no discernable edges on the site. Like Digg and Spotback, each bookmark on Del.icio.us could be considered a node. The only landmark is the Del.icio.us logo that stays at the top of screen.

3.6 The ORG (www.zefrank.org)

3.6.1 Site Goal

The ORG is different from the other sites evaluated in the case study. The ORG is interested in the people and creations of the community. The ORG is the result and brainchild of The Show, with Ze Frank, a year-long video blog that gathered a large fan-base. Ze encouraged his viewers to send in video clips, help him with projects, and even play him at a game of chess. The community grew, and the need to organize projects led to the creation of the ORG. The ORG was also something that this community of varied creative individuals could continue after The Show had concluded. The ORG stands out as a Web 2.0 site because it relies on users creating, linking directly from external
content, and embedding photos and videos from other upload sites like YouTube or Flickr.

3.6.2 Social Interaction

Interacting with other users on the ORG can happen one of two ways: users can either comment on any of the content within the site or send email-style messages to each other. Where many of the other case study sites will only allow direct messages to others users they have added as friends, the ORG allows users to send messages regardless of whether or not they actually know the other user.

In addition to this, groups of users can create ‘packs.’ These packs may share a regional commonality or some other shared interest. Any user can join or start a pack; both are done through a single click either from the pack the user wants to join or by clicking on the ‘start new pack’ link in the secondary navigation. The pack section is also the only other section besides the map where the user has search capabilities.
The ability to comment on content uploaded by other users is common across the other sites in the study. For the ORG, users can attach their comments to any of the content except for the map on the front page. While the ability to comment and communicate is common across the four websites, the commentary attached to information on the ORG site is more of a casual conversation. Unlike the other websites studied, the ORG is not focused on news or aggregating and organizing links but on creation of content.

### 3.6.3 Information Search Methods

Except for the search option on the map on the front page, The ORG is missing search functions for other content. Searching content submitted by the whole community of the ORG is done by hitting either the ‘What’s New’ section or the ‘Shuffler’ sections and just advancing through the content by hitting the tiny forward button in the upper left
corner next to the logo (figure 3.12). Searching from the map allows users to see other users, and in turn their photos, videos, and blogs. This creates a local view of content and activity for users. Projects and packs are the only other sections that currently have search functions.

Saving information is simple on the ORG. Any kind of content the user can view, they can add as a favorite. The only place this is not the case is in the blog section, where the ORG is not embedding the content from another area. All other content that a user has saved can be found and retrieved through their profile page. The content is organized by media type like the rest of the site.

3.6.4 Information Presentation

The ORG is not necessarily as well-organized site compared to Digg or Del.icio.us in how the site presents information. A user can search for recent content from a specific area on the map (figure 3.10). Outside of searching by region, the only relevance users can find from information is to view content by most recent upload or by randomized selection. Content on the ORG is pooled into very general media categories without concern for other levels of organization.

3.5.5 Contribution of Participants

A user on the ORG can submit a wide range of content: photos, videos, blog posts, and text. These different types of content can be added through the ‘add media’ section. The user can pick a particular type of media from the secondary navigation. A small link allows the user to access the dialog for specifying the kind of media. ORG then embeds the media. Instead of a link to another website, the content is displayed on the
ORG from the other website. The embedded content the user uploads links back to the web applications where it was originally uploaded. All of the uploaded content can be seen through the ‘add media’ section or through the user’s profile page.

3.6.6 Visual Information

The visual style of this site is different from the other sites in the case study. The ORG’s layout keeps the content in a small space that does not require the user to scroll. In comparison, the other sites are built with the intention that the user would need to scroll. For the ORG, the content is meant to fit in a small area and tries to create an experience by keeping content and information in a concise space for the user. The site’s layout is broken when content, for example, images are larger than the fixed space of the browser window. This is not as much a problem with videos; since existing online video upload sites scale the video down to make them useable for the Internet.

Thumbnails of content within this limited space are placed into a grid to keep scrolling to a minimum (figure 3.11). For a section of the ORG like users or packs, the content has descriptive information attached and is gathered into columns. Where other sites allow information to extend down a page, the ORG is condensing the information into a small region. Visually, this creates a busy space from page to page.

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104 This is not something terribly new. Users of YouTube have been able to embed movies they upload to the service to other websites or in blog posts. It does keep the user at the particular site rather than jumping to another site to view the media.
3.6.7 Navigation

On entering and logging into the ORG, users will see a map of their area populated by small duck icons representing other users. From this map, the user can jump to the profiles of other users in their area. The map provides an example of the mash-up of media, mixing the site with Google Maps. A user can see other users, search for businesses, work, or media that other users have submitted to the ORG.
The Main navigation is situated to the left of the page, which includes links to the map (home), new content, a random selection of content, favorites, projects, packs, toys, messages, adding content, and users setting. Section navigation is found tucked along the top of the page and includes small forward and back buttons with links to the various types of media each section is named after.

In relation to Lynch’s elements, the ORG is much like the other sites in the case study. Districts are distinguished by categories and subcategories from the main and secondary navigation. Edges are much like those from Digg, where the distinction comes from the fact that the user is on a new page, away from another district’s content. The node remains similar to the other case study websites. Visually, the ORG’s nodes give the
user a different way of knowing what the node will lead them to. Landmarks on the ORG are similar to Digg and Spotback in that they are largely points of reference to what category the user is in.

3.7 Analysis of case studies

Of the four case study websites, Digg comes across as having the most successful aspects for a Web 2.0 site. Choosing a single strong site creates a guideline for the proposed design solution. While all of the sites considered had strengths, Digg could be considered the strongest of the four for various reasons (fig. 3.13).

Digg
Spotback
Del.icio.us
the ORG

Digg has created a large community that takes advantage of the site’s features. With approximately a million users, there is a great deal of interaction on the site. Of course, the interaction is largely the submission of news and links to other sites, but there are also aspects of creating friend lists and commenting, debating, or arguing about

stories. The most significant limitation of the Digg community is that it is more about the sharing of information than acting on that information. The only other site that comes close to doing something with information is the ORG. Within the ORG, the goal is more the creation of information, either individually or in groups. These are two different definitions of how community can work for Web 2.0. Incorporating the ORG’s style of community into Digg could create a more dynamic community.

There is also the aspect of what users can contribute to Digg. The idea is that users should submit news from regular journalistic sources or blogs. While not all of this information is news, it allows users to submit links to a wide range of media. The ORG also follows this idea of allowing a wide range of media, though it is more focused on the user’s creation of that media.

Digg’s structure creates an illustration of successful Web 2.0 aspects. The user base and user community of Digg, for example, are vibrant and eager to contribute new content to the site. This is a hallmark of a Web 2.0 site: a user base that drives the content of the site. The wide range of information creates a need for organization, as well as the possibility that a user may jump to different categories within these interest areas. While Digg’s organization is not perfect in offsetting information leveling, it does create a user run system to dictate what should be important to look at through voting.

106 Not always true, as seen with the HD DVD copy protection number fiasco that caused a great deal of commotion from the community in what they saw as an attack on their freedom of speech. When the original post that contained the number was taken down by Digg staff due to a legal order, the users essentially rebelled and began posting the number again and again. After spamming Digg with the number, other stories began popping up linking to blog post debating the whole ordeal. The users have won for the time being, but there are still a lot of questions. The bottom line is that the community has shown it can organize and try to do something that could effect greater social change.

107 As seen in the case study of Digg, this system can have downsides if the story is low ranked, is a copy, or poorly formatted in the submittal process.
CHAPTER 4: PROPOSED DESIGN SOLUTION: SOCIALEST

To apply cognitive mapping techniques to the content of Digg, there are a number of different aspects that must be considered in proposing a website design.

1) Social aspects of such sites: where information is shared, users can interact with each other.

2) Considerations of how users submit and share various kinds of media.

3) How all of the information is arranged visually for the user.

The result of the proposed design solution is the creation of a system that would allow the user to create their own organization of information and include other users. The goal of the prototype design is to create a visual representation of how users see their virtual world. In much the same way that Lynch noticed that the residents of a city would all describe their surroundings differently depending on class and what section of a town they lived in, similarities in each of their cognitive maps would demonstrate a geographical representation regardless of status.¹⁰⁸ These responses were all representations of a tangible space. The main concept in applying Lynch’s elements to a social reporting website is that the space being mapped is intangible.

This kind of cognitive mapping conflicts with other websites that create a structure and taxonomy of information for the user to understand and navigate. The visual approach to Socialest would allow the user flexibility to create personal maps of information. Since the potential range of information is significant, there is a need to make Socialest structured yet customizable for individual users. The hope is that users will create meaningful levels in relevance as they create their own maps.

¹⁰⁸ Lynch, 30, 146.
4.1 The Map

At the most basic level of this application is the mapping elements that Lynch creates from his own studies. Each user’s map is customizable and includes basic elements that Lynch notes is consistent in cognitive mapping. As noted in Chapter Two, Lynch’s elements include: landmarks, nodes, districts, edges, and paths.109

4.1.2 Creating Districts

To SocialEst, the most important of the elements listed above is the district. Visually this element will be displayed prominently throughout the user’s process of map building. The district element translates well into design principles that can then be used to differentiate between categories and stories within SocialEst. These boundaries will be individually meaningful to users.

The basic district unit would be comprised of a rectilinear shape (figure 4.1). Each information block represents content, which contain a link, comments, and associated users. While not a real structure, the content block acts as a physical element for the act of cartography. From Tufte’s influence, the information blocks are meant to be simple elements, with brief headlines to describe content. Nested information is represented by a small version of an information block. A small silhouette represents friends attached to a block. Finally, hub blocks have a thick top with title to make them stand out against regular blocks.

Figure 4.1: Category colors, nested blocks, and attached friends

As the user enters a particular site and their personal accounts, they will see a wide view of their map with a variety of different districts, each containing different categories (figure 4.2). From here, they can decide what category/district they would like to enter, create new districts, or reorganize what information may go into a district. The visual boundaries of the district are the result of both the user and system’s decisions of meta-data and interest. The user can zoom in on a particular area by using the zoom tool, clicking directly on a category in the navigation, or clicking on the graphical representation of the category on the map.
When the user navigates to a category, they will click on the district to enter it and view individual blocks of information, which they and system have organized to create groups of related information (figures 4.3, 4.13). As the user adds blocks to the map, they have the option of placing the objects on the map, creating a landscape in such a way that similar content begins to create smaller districts within larger categories. The size of information blocks and categories is variable and grows depending on the frequency of use by the user.
4.1.3 Defining Categories

District categories are based on a mixture of categories found on Digg, Spotback, and can be found on regular news sites (figure 4.1). The main differences are that Arts becomes its own category much like Spotback, while areas like Health are moved into Science as with Digg. These are only overarching categories for the site. Unlike the case-study sites, there is no need to create further structured category branches into the system; the goal is to allow the user flexibility in using the system so they may get the most from meta-data input by the user to categorize information.
4.1.4 Color Coding Categories

Differentiation among the categories will become necessary when trying to define where boundaries lay. Color becomes a source for distinction and concern in creating distinct categories. As seen with Spotback, providing categories colors enhances the visual differentiation of information. The system which color-coded categories seemed arbitrary, and in some cases, colors were similar enough in the titles that distinguishing certain categories could be awkward. While the arbitrary act of choosing which category gets what color is less of a concern, the distinctiveness of the colors is important. There are fewer primary categories for Socialest, so there is more chance to have a range of colors that are distinct from one another. From Tufte, the colors are used in limited manner, kept mainly to the outlines of the information blocks. When zoomed out, the category districts are filled with their appropriate color, but a lighter shade so that the colors do not start to vibrate against one another.

4.1.5 Creating Boundaries

Each category has its own boundaries and limits as to what can be found in it. These boundaries are similar to Lynch’s edges. The edge takes on a similar role within Socialest, further defining district boundaries which can also be found within a particular category. Depending on how users might organize their information, they may leave gaps between loosely or unrelated blocks within a category. This is an organizational method users may employ, which the system can use to consider a block’s tags and placement on the map by the similarity to other tags nearby.

110 It is worth noting that Spotback has seventeen main categories to choose from. Color choices become rather limited and lack of choice is probably the reason for the similarity of color between some of the categories.
This creates a concept of grouping of tags around other similar tags. In considering boundaries, as blocks are moved and grouped, certain tags will be grouped as well. Within the Arts category, a user may lump blocks with design-related tags close together, while leaving a break between blocks tagged for performance art. This would be up to the user to delineate breaks in tag relationships, though the system would then note where certain tags are grouped and suggest that another block with a related tag be placed close by. There is the possibility of the system placing unrelated blocks in close proximity due to “oddball” tags it believes are related.\textsuperscript{111}

On the larger scale, there is a possibility that the boundaries between categories may be very obvious where there is a clear division among tags and interest. These harsher boundaries are illustrated by the differences in color between the categories (figure 4.2). There are situations where the tags create boundaries that are not as clearly defined, where there may be some relationship between two categories for a user, or the system has found a block that could situate itself somewhere in the middle. In these instances, the color of the block fades to represent this transitional position of the object’s tags (figure 4.3).

It is important to note that boundaries are aided by the system. As the user lumps blocks and their associated tags together, the system creates a database of these user-related tags. These databases are then used to compare tags from other users’ submitted content and suggest appropriate placement of shared content.

\textsuperscript{111} Weinberger, 3.
4.1.6 Landmarks and Nodes Combine

Landmarks and nodes are two very different elements to Lynch. He defines the node as “strategic foci into which the observer can enter.”\textsuperscript{112} This includes areas a person might frequent in getting around, like intersections or coffee shops. Conversely, Lynch defines landmarks as: “point references considered to be external to the observer.”\textsuperscript{113} As seen in the case study, the landmark usually became a point of reference as to what category the user was in, while the node was considered to be the link to content. The relationship between the two is that the landmark can be a point of reference from afar but can serve as a node close up. In the case of the design proposed here, the landmark is related more closely to this concept.

Visually, the combination of the two elements creates district blocks that act as nodes where the user specifies tags (or sites which would be given tags) to create various sub-category organizations within a district creating a hub block (figure 4.3). The primary use for the hub block is to create an origin point for the system to learn what tags a user may be interested in and to start to grow as more blocks are collected around a hub. It is predicted that the system will deliver more blocks that are relevant to the user’s particular interests around different hubs.

These hub blocks are a means of redundant navigation for the user. At the zoomed out level, the user can see various hubs within categories. Clicking on the hubs will zoom the user into that particular hub. The size of the hub is governed by the same concept that

\textsuperscript{112} Lynch, 72.
\textsuperscript{113} Lynch, 78.
controls the size of other content blocks and is a reflection of the how often the hub is used.

4.1.7 Other Elements

Not all of the five elements necessarily translate into visual objects. The concept of paths in particular seems to have no need to be represented visually within this project. For Socialest, paths are not necessary since the user is able to move through an intangible space.

![Figure 4.4: Submitting information](image)
4.2 Information

Following the mantra of Web 2.0, all content for Socialest is user-driven. Each piece of information that the user submits is given tags that describe what the object is (figure 4.4). All forms of media are allowed since the information blocks are references to links that would take the user to a particular site. This allows everything from blogs to videos to be organized on a user’s map.

The user places objects upon their map either as regular block or nesting it within other information blocks minimizing clutter. The blocks can be rearranged and nested as the user sees fit (figure 4.5). Each block can contain other related materials, just by
dragging and dropping a block inside of another in edit mode. Removing that nested block is done in a similar manner, by dragging the nested icon back onto the map.

The user has full control as to where blocks are placed. Each block can be placed on the map in a drag and drop fashion (figure 4.6). The benefit to this is that as blocks are moved, their tags are moved with them. When a block is set back down next to another block, the system considers their tags to be related and will use this information to consider where other user’s submitted information could be relevant and where it might be placed.

The system takes submitted information and puts it temporarily on other user’s maps. Depending on the tags a block was given, these might be placed in the transitional space between categories or closer to particular hubs. These are meant to be temporary, as the only objects on the map that should have permanence are the blocks that the user has created or saved to their map. These ephemeral blocks are there for the user to explore and use to expand their maps (figure 4.3).

The user has the option of saving these suggested blocks into their own map, placing them as they see fit. There is the possibility that the system will begin to see a separation of tags as more blocks are added to the map and create a more defined boundary between particular categories.

Since the ephemeral blocks are temporary on the user’s map, they may see something of interest, not save it and let it disappear within a day. It would be a potential nightmare to continue to pile blocks into a user’s map, creating an unmanageable map the user would be frustrated with. Instead, the user has the opportunity to look at and save only content that is of interest and relevance to them.
This means that if a user deletes a block from their map, it is not completely deleted. It is only deleted from that particular map. Each object would be stored more permanently within the system. Like any other site, a standard search function would allow users to find information they might otherwise not have seen or known about on the map. It also would allow new users to save time potentially wasted creating duplicate blocks when submitting information.

4.3 Social Interaction

Amid the information sharing and map building is a desire to let users interact with each other, to talk about the blocks they have submitted, and to build communities around the various interests that may show through the tags. Without some sort of interaction between individuals, there is little motivation to submit information other than to create a personal link map. The system does force other users’ submitted objects onto everyone’s maps, even if only temporarily, which is a start to building community and communication.

Users are allowed a number of different forms of communication. Comments are the most basic, where users are allowed to make remarks on a particular information block. In this form of communication, users are interacting in reaction to a particular block. There is also the ability for users to create lists of friends and to send messages to each other (figure 4.7). The messaging, like commenting, is certainly nothing new, but it does allow another level of possible communication between users. The ability to befriend other users to whom they then have easy access is what that makes group and community interaction possible on Socialest.
Figure 4.7: Message composition screen

Figure 4.8: Attaching friends to a block of information
Friends are visually represented as a marker placed within a particular information block (figure 4.1). While there is a visual representation of a friend attached to a story, moving them around the map is handled differently than a nested block. The user must add or remove another user through a particular block (figure 4.8). Further options for communication are found within the information block. This is one way of organizing how a user views an individual within their map. One block may contain an entire community focused on a particular interest. It is up to the user to decide where to put their friends.

To attach friends to content, the user clicks on the check boxes to decide which friends should be attached where. To help quickly find the friends to attach, the user is able to sort and organize their friends list through buttons found in the dialog window. When the user has chosen the friends they want to attach, they click on the attach buttons found at either the top or the bottom of the list.

A problem that could arise is where a friend is part of distinctly different interests. This increases the probability that friends could potentially be in two (or more) places at once on a user’s map. More of the specifics of this situation will be addressed in the user interface section.

### 4.4 User Interface

The interface for Socialest is meant to be unobtrusive. The system itself would help the user explore new information; however, the user still has to navigate a graphical representation of that information. The basic idea is to create a small set of tools and options that will be commonly found along the top of the browser window (figure 4.9).
This includes options for logging in, searching, submitting new blocks, adding friends, zooming, and, most importantly, the edit and navigation toggle.

### 4.4.1 Edit and Navigation Modes

When users are interacting with Socialest, they are moving around the map, adding blocks, submitting content, and communicating with other users. There is a desire to keep the user from accidentally moving blocks when they mean to move around the map. To keep this from happening, there are two sets of tools for Socialest. These tools are divided into edit and navigation modes.

![Figure 4.9: Navigation bar with login details and logged in](image)

In the edit mode, the user has the ability to reshape their map. This mode turns on the drag-and-drop function of the blocks and allows the user to move blocks as they see fit (figure 4.6). It also allows them to change a block’s category as they move the block around.

Navigation mode has more options for the map, allowing the user to move blocks around, add ephemeral blocks as permanent blocks, though there is a need to switch to edit to place them, add friends, move friends, and add comments. Many of the options for navigation mode are found when the user clicks on a particular block. The block expands
over the window and map to display its content. Information about the content is displayed: content title, content summary, link to content, content tags, name of the user who submitted the block, friends associated with this kind of information, and comments with forms for the user to add their own comment (figure 4.10). There is an exit button in the upper right corner to return the block to its regular size.

Figure 4.10: Information block expanded in edit mode
4.4.2 Friends

The friends display (figure 4.11) shows a number of options for the user. Adding friends is handled in the first column. The user can enter in the user name or email address of other users to search for them. The results of the search are displayed below the search input, where the user can choose the appropriate user to add.

The second column is the list of befriended users organized by the third column, which the user can constrain how friends are displayed, category, by date the friend was added or alphabetically. Within the friends lists, the user can view the other user’s profiles, delete them from the list, change the categories they should be associated with, or send them a message.
At any time, if the user clicks on his or her friends, or other user names, or on the email radio button, the block’s content changes to the message center (figure 4.7). This center has a list of friends displayed to the user, with a radio-button next to each name designating whom the message will be sent to, with the forms for the message taking up the primary area of the window.

### 4.4.3 Submitting Content

Much like the expanded box for block information and message center, the submission dialog initially sits over the map (figure 4.4). The submission form asks the user to create a title for the content, something simple that can fit into a block. The user is also asked to input the link for content so that the user and others can venture to the particular site. Finally, the user is asked to define meta-data tags for the particular block. When the user submits the content, the system switches to edit mode and suggests an initial category for where to place the block. The user can either accept it and place the block or define a different category for the block.

### 4.4.4 Searching

The search function is largely typical of any website’s search. There is a basic search found on the upper navigation and a more advanced search (figure 4.12). The window-sized dialog allows for a search of content blocks. If the user searches for content, they have the option of searching their own map or for content they wish to find for their map. In the former case, the search command returns lists of content which, when the user clicks on it, takes the user to that particular place on the map. When the user searches for content not on their map, the procedure is similar to when the user has to place newly submitted content in the map.
4.4.5 Moving around the Map

Moving around the map is reminiscent of more recent web applications where the user is able to navigate around large areas by clicking and dragging or by using navigational buttons to move around in incremental steps, like the one found on the ORG for instance. For Socialest, a similar system would be used.

There is also the ability for the user to zoom in and out of different levels of the organization (figure 4.9). The option is there to zoom in and out from these views to quickly move between categories as opposed to scrolling from one point to another. This simplifies the process of moving around large maps simple.

Figure 4.12: Search screen
4.5 Technical Limitations

While this website is a prototype, it requires skills and knowledge the author currently lacks. The technology exists to create the site proposed here. There are the back-end technologies such as MySQL, a website that stores individual user data for
maps. While this technology is certainly not new to the Internet, it still requires skills to organize and code the necessary components and storage tables.

There are newer types of programming languages that the author would suggest like AJAX (asynchronous JavaScript and XML). This kind of scripting allows for greater flexibility in how sites operate visually. This can be seen with the layout customization page found on Spotback. It would certainly lend its abilities to the creation of a mapping website like Socialest. There is also the possibility of using Flash and its form of coding Actionscript. There is a problem with Flash in that it can easily slow down a computer’s performance if the code is not written correctly.

**4.6 Summary of the Design Solution**

The proposed design solution takes elements from Lynch’s cognitive mapping and applies it to a Web 2.0 website, in this case, based off the style of Digg. The application of mapping elements creates a new way of organizing information for the user. This also creates a personal system that allows each user to have a customized experience. The mapping elements translate well into digital form, where information takes on a graphical representation that the user can then manipulate as they see fit. In addition, guidelines set by Tufte have informed how graphical elements and color are used in the prototype.

While the elements visually make the system unique, background systems use tagged meta-data to further customize the user’s experience. As the user organizes the map, the system uses grouped tags to suggest related blocks. Ultimately as the user spends more time interacting with Socialest, the more relevant the information they should receive.
CHAPTER 5: CONCLUSIONS

The emergence of the Web 2.0 paradigm has created a shift in how users approach websites, content, and community. The study has provided an understanding of the issues of community and information within this new paradigm. With that as a foundation, the objectives of this study were to propose a design solution applying Tufte’s information graphics and Lynch’s cognitive mapping concepts to provide methods of presenting credible and relevant information to users.

The design proposed in this study has explored how Tufte’s information graphics and Lynch’s cognitive mapping concepts can be applied to the user-driven websites of the Web 2.0 paradigm. The design is meant to be an explanation and proof of concept for mapping as a means of organizing information for a user-driven website.

The prototype addresses social interaction and community, by allowing the user to contribute information to the system, which is then automatically shared with the rest of the user base. This follows closely with the kind of interaction that is common with Web 2.0 websites. It also allows users to see who posted a piece of information. A user can then befriend another user and associate them with a particular category or interest. This can create varied unique communities that a user may be a part of.

In presenting information to the user, the volume of information presented in Socialest led to the application of Edward Tufte’s concepts of information graphics. The concepts are a guideline for creating concise graphics. The application of these concepts was translated to the digital medium of Socialest. The site design benefits from the concepts Tufte describes to create clear and understandable graphics.
The categorization of information uses folksonomies to create a system that can give users credible and relevant information. With the limitations of folksonomies discussed in chapter two, the system will only display new information temporarily to the user. If the item is not relevant it will disappear from the user’s map. If they decide to save it to their map, it is then up the user to organize the new block with the rest of their map. The system behind Socialest does require that users interact with the system so that it can compare the user’s tags with information on the rest of the system to suggest new blocks that may be relevant to the user.

From Lynch’s cognitive mapping present themselves as five distinct elements. These common elements arose from Lynch’s studies as individuals defined their surroundings. Elements such as districts and landmarks transfer easily to the prototype design, where the user is presented with the opportunity to organize digital information in a similar manner making a map of physical surroundings.

Graphically, Tufte’s rules for creating information graphics informed how the basic information blocks and user interface look. The information blocks carry only the most basic information to remain clear, a simple outline to denote category, a short headline, and small icons to announce friends or nested stories.

Combining all of these aspects into Socialest creates a Web 2.0 prototype that allows users to interactively organize information on a personal level. The structure for the site is based on the visual qualities of each user’s map. This creates a unique way of displaying information compared to methods employed by existing websites. The map creates a means of representing for the user, their view of a non-physical environment.
5.1 Limitations

There are potential limitations of applying Lynch’s cognitive mapping to Socialest. This study focused on how maps could be created, with the hope that users would save information from the range of categories. A limitation from Lynch’s studies is that individuals would only map out areas important or common to them. As seen with Lynch’s studies, people from different districts had different opinions of other districts or have no knowledge of different districts.\(^{114}\) Where this creates a concern for Socialest is that a user may ignore adding information and users from other categories to their map. This shows the limitation of the prototype. There is a need for programmers to implement the website so that users could interact with the prototype.

User interaction with Socialest cannot be predicted the same way it might be with more typical web design. The interactivity of the mapping aspects of Socialest is ultimately what makes this study significant. This prototype takes a new direction in how users can interact and explore the Internet through this application of mapping.

5.2 Future Projections

What is proposed in this study is a prototype for a website. When implemented, the aspects of information organization and social interaction can be studied in detail. Further efforts to study information organization would consider how the user experiences the website. Users’ responses to the concept of using cognitive mapping to organize and present information should be examined to verify the use of this prototype as the future study.

\(^{114}\) Lynch, 20.
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