ONLINE STRUCTURE FOR CIVIC ENGAGEMENT IN THE SEPTEMBER 11 WEB SPHERE

Kirsten A. Foot, University of Washington, kfoot@u.washington.edu

Steven M. Schneider, SUNY Institute of Technology, steve@sunyit.edu

Abstract

This essay is grounded in mobilization theory and focuses on the online structure for social and political action created on the Web in the aftermath of the September 11th terrorist attacks. Our analysis of online structure and the actions it enables is guided by four questions. First, which types of site producers responded to the attacks via their sites? Second, what kinds of social and political actions did Web sites facilitate? Third, what kinds of site producers were most likely to facilitate what kinds of actions? And fourth, what forms of civic engagement were reported by Internet users in the weeks after September 11? To investigate these issues we employ feature analysis of 247 archived Web sites and data from a national telephone survey of Internet users. We suggest factors associated with the emergence of these online structures, and compare the kinds of social and political action enabled by the Web with the survey data on what Web users reported doing in response to the attacks. Findings are accompanied by exemplars of the online structures that facilitated each type of online action.

Introduction

The terrorist attacks in the U.S. on September 11, 2001, stimulated intense and widespread reactions by many around the world, some of which were shared via the Internet. Both online and offline news producers carried stories about the scope and scale of Web activity in the hours, days and weeks after the September 11 attacks. Hu and Sandoval (2001) were among the first to report on the increased traffic and resultant slowdowns in access to some Web sites produced by news organizations, government entities such as the Federal Bureau of Investigation and the Pentagon, and airlines on September 11. However, the increased traffic to these high-profile sites was only the tip of the proverbial iceberg of Web activity in the aftermath of the attacks. In an article posted on *News.com* the afternoon of September 11, Olsen (2001) notes that within hours of the attacks individual New Yorkers and others around the world created personal Web sites as well as used email and chat applications to check in with each

other. She also reports on the immediate use of corporate Web sites by several New York businesses affected by the attacks-- including Marriot Hotels, Morgan Stanley, and the law firm of Sidley Austin Brown and Wood-- to report on the status of employees and visitors. McCormick (2001), in a commentary on the efforts by information and communication technology companies to assist those affected most by the attacks, notes Prodigy Communication's National "I'm Okay" Message Center, (http://okay.prodigy.net), launched shortly after the attacks and designed to help people locate friends and family with whom they had lost contact during the attacks, as an example of Web features/sites created or adapted by corporations in response to the attacks to assist the affected.

The increased use of the Web for a range of purposes in the weeks following the attacks was noticed and commented upon by many, including the U.S. President and other federal officials. Guglielmo (2001) in an *Interactive Week* editorial published September 24, 2001, notes that although government sites initially offered scanty information about the attacks, President Bush urged Americans to use the Web to offer support and assistance after the attacks. She also quotes FBI chief John Ashcroft as having announced that the FBI received more than 47,000 leads through its "tips" Web site in the first ten days after the attacks. Although Goldsborough (2001) argues that television "trumped" the Internet in delivering breaking news in the immediate aftermath of the attacks, he notes that the Web provided several distinct advantages: more depth, a greater number of perspectives, including international ones, archives of visual images, and more first-hand accounts through personal Web sites or blogs and online discussion groups. He observes, "Perhaps what's most valuable about the personal nature of the Internet [in a crisis] is its capacity for community-building. During a disaster, it's a natural human impulse to reach out to others, and the Internet is nonpareil in bridging the distance that often separates us" (p. 19). Goldsborough's comments highlight the potential of the Internet for facilitating civic engagement.

Fisher and Porter (2001), writing a week after the attacks, catalogue some of the ways that Web producers responded to the events. Their list of producer actions includes the creation by hackers of mirrors of news sites to help Web users gain quicker access to breaking news, the posting by the producers of professional psychology associations of guidance on handling emotional distress and talking with children about the attacks, and the blacking out of Web sites around the world by many kinds of producers, temporarily replacing their sites' regular content with "a picture, a message, or a list of other sites doing the same." Some site producers - especially news organizations such as CNN.com and MSNBC.com - turned to content delivery networks such as Akamai to handle the dramatically increased demand for content (Mears 2001). Major search engines and portals reworked their approaches to serving Web users. Google, for example, transformed itself from a pure search tool to something closer to a destination or portal site, a significant departure from its carefully cultivated strategic positioning (Wiggins 2001).

The reports cited above can be read as fieldnotes from those who were observing activity on the Web in near real-time. They suggest that the days and weeks that followed September 11 featured unusually high levels of civic engagement, worldwide and especially in the United States. For some engaged citizens, the World Wide Web provided structure facilitating the social, spiritual, personal and political action that emerged in response to the terrorist attacks. This study focuses on the online structure for civic engagement created on the Web in the aftermath of the September 11th terrorist attacks. We identify the types of social and political actions facilitated on the Web, and the kinds of site producers most likely to facilitate various kinds of actions. Through this analysis we seek to understand the behavior of the Web producers and users in times of crisis, with a particular emphasis on the ability to rapidly develop and provide Web-based opportunities facilitating civic engagement. Our analysis of online structure and the actions it enables was guided by four questions: (1) What types of site producers responded to the attacks via their sites? (2) What kinds of social and political actions did Web sites facilitate? (3) What kinds of site producers were most likely to facilitate what kinds of actions? (4) What forms of civic engagement were reported by Internet users in the weeks after September 11? To answer the first three questions we studied archival impressions of 247 Web sites in the September 11 Web Archive. [1] We examined Web sites produced and modified in response to the attacks, ascertaining the type of organization responsible for the sites' production, and analyzed the online structure provided by Web producers to determine the kinds of user actions the Web sites enabled. Answers to the fourth question were based on survey data generated by the Pew Internet and American Life Project, on Web usage patterns and civic engagement in the month following the attacks. We demonstrate how Web producers potentiated and enabled social and political actions on the part of Web users, and conclude with an assessment of the Web's potential to foster civic engagement during a time of crisis.

The Web as Online Structure

This article builds on earlier work which the notion of "online structure" was introduced (Schneider and Foot 2002). This conceptualization of online structure is derived from the literature on social movements, and attempts to build on the work distinguishing between "structure" and "action" (Klandermans, Kriesi et al. 1998). Much theoretical work in the social movements literature focuses on the relationship between political mobilization, and formal organizations, external political processes, and internal organizational features (Mueller 1992; Johnston and Klandermans 1995). The so-called "new" social movement theorists have tended to emphasize what they have called "micromobilization" features related to the structures or contexts within which individuals enact political behaviors. Toward this end, McAdam (1996) provides a comparative analysis of different theoretical approaches to using the structure of mobilization processes as an analytic tool. This literature suggests the utility of distinguishing between the structure for action and the action itself, and draws attention to the characteristics of the "micromobilization contexts" (McAdam 1988), "free spaces" (Evans and Boyte 1986) and other associational forms (Oldenburg 1989; Cohen and Rogers 1995; Oldenburg 2001) that facilitate political action. Thus, we conceptualize "online structure" as an

electronic environment, comprised of various html pages, features, links and texts, within and through which an individual is given an opportunity to act.

In this study we analyze the online structure produced on the Web after September 11 within sites and between sites through hyperlinks, the kinds of actions enabled by this online structure in the post-September 11 Web sphere, and the actions reported by Web users as taken in response to the attacks. We use the term Web sphere to designate a dynamically defined set of Web materials, characterized and bounded by a shared object orientation or reference point, in this case, the September 11 attacks (Foot and Schneider 2002; Schneider and Foot In Press). We identify two modes of producing online structures: "on-site" and "co-produced." An on-site structure is one in which the site producer provides the content or feature directly and/or independently, while a co-produced structure is created when a site producer links to a site produced by someone else in order to facilitate a particular user action.[2] In the September 11 Web sphere, many site producers combined these modes of online structure, providing some of the content or features themselves and linking to another site for additional content or functionality. Linking is a form of co-production in that both site producers - the producer providing the link, and the producer to whose site the user is sent by the link - jointly (if not voluntarily) enable the action under consideration (Foot and Schneider 2002).

Methods

This article is based on two data streams, collected independently by different research groups. Our analysis of the kinds of Web site producers who responded to the terrorist attacks by adapting and/or creating Web materials, and of the online structures they produced to enable social and political action, is gleaned from a feature analysis of Web sites archived between September 11, 2001 and December 1, 2001. During this time, we worked with the U.S. Library of Congress, the Internet Archive, the Pew Internet and American Life Project, and volunteer Web users from around the world to identify and archive URLs that were likely to be relevant to the question of how Web site producers were reacting to the events of September 11. . Based on previous studies of political and social action on the Web, and a pilot study of post-September 11 Web sites, we identified nine categories of site producers that we expected might respond to the attacks on the Web. The analysis presented here is based on an examination of Web sites produced by these types of entities: 1.) news organizations such as CNN, the New York Times and Salon.com; 2.) federal, state and local government entities; 3.) corporations and other commercial organizations; 4.) advocacy groups; 5.) religious groups, including denominations and congregations; 6.) individuals acting on their own behalf; 7.) educational institutions; 8.) portals; and 9.) charity and relief organizations.

At the time this study was conducted, cataloging of the materials in the September 11 Web Archive was not complete, but the preliminary index of the archive available then indicated that the archive contained impressions of Web pages from at least four thousand Web sites, and provided a rough grouping of sites by genre or producer type. For this study, a sample of 247 sites was generated for analysis from the preliminary index. The sampling strategy, designed to include a broad representation of site

producers, and to focus on those sites that were captured closest to September 11, yielded a sample of three "impressions" or site captures of about 400 Web sites. A preliminary analysis of the archival pages eliminated those without content relevant to the September 11 events, as well as those not captured in a readable format by the archiving tools. The refined sample of 247 Web sites was then closely examined by trained observers to determine the site producer type and measure the range of civic actions enabled by each site.

Estimates of the Web behavior and attitudes of post-September 11 Internet users are based on analysis of daily surveys taken by the Pew Internet and American Life project. Our findings are based on data from telephone interviews conducted between September 12, 2001 and November 19, 2001 among a sample of 7,731 adults, 18 and older. The survey takers employed random digit dialing to reach adults across the continental United States. The data were then weighted according to a special analysis of the March 2002 Census Bureau's Current Population Survey to account for non-response bias in telephone surveys. Surveys of Internet users provide an estimate of the types of sites individuals recall viewing, and the kinds of activities in which they recall engaging. These data, when matched with data about the types of online structure created by site producers, allow us to estimate the congruence of structure provided and action taken on the Web in the days and weeks following the terrorist attacks.

Online Structure for Civic Action

Within minutes of the initial attacks, Web sites enabled users to get information about the events; within hours, structures enabling individuals to obtain assistance were available. Soon thereafter, a wide range of features and content facilitating social, personal, spiritual and political engagement were apparent in the rapidly emerging Web sphere. An analysis of the online structure created by Web producers that facilitated civic action in the days and weeks following September 11 is the focus of this section. Through a pilot study of sites produced by each of the types listed above, we identified the following set of user actions as having been facilitated through online structure within the Web sphere produced between September 11 and December 1, 2001: 1.) getting information; 2.) providing information; 3.) getting assistance/support; 4.) providing assistance/support; 5.) accessing others' expression; 6.) providing personal expression; and 7.) engaging in political advocacy. Research assistants were trained in coding Web sites for online structure and features that enable these seven kinds of social and political action, and conducted a systematic analysis of the 247 sites in the refined sample. In this section we describe each type of action and elements of the Web sphere that facilitated each action, and provide links to exemplar pages from the September 11 Web Archive for the purpose of illustration. We then present findings regarding the frequency of each action by site producer type, and the prevalence of on-site versus co-produced online structure.

Getting information

This user action was most immediately and most frequently enabled by all types of Web sites. Examples of getting information as a user action include obtaining news and

information about the terrorist attacks, and the subsequent rescue and recovery operations, civic response, criminal investigations, military response, terrorism in historic and political context, etc. Web content associated with this action includes news, information, photographs and the like produced by professional (for profit) organizations, nonprofit organizations, and individuals (amateurs). To illustrate, a religious site producer that enabled users to get information on the site was Crosswalk.com.[3] The front page carries a list of links to news articles. For Web users seeking information from a distinctly Christian perspective, this Christian portal site featured news items, mostly from the AP wire, with a focus on the economic and political ramifications of the attacks. A great variety of information and commentary on the ramifications of the attacks for Christians is offered in the news and culture section. An example of an individually produced site that facilitated information gathering was the World Trade Center Memorial Website.[4] This site emerged as a direct response to the public's desire for detailed information about the attacks. The site contained a comprehensive photo archive of the attacks gleaned from news casts and newspapers, or sent to the site producer by professional and amateur photographers. The photo archive presented a type of information that words alone could describe. It also contained some photos later deemed inappropriate to publish, such as those of people jumping from the upper levels of the towers.

Providing information

Many Web sites facilitated contributions of newsworthy information by site visitors. For example, several sites encouraged and enabled users to provide "tips" on the attacks by linking to the Federal Bureau of Investigation's Tips site.[5] Another example of online structure for civic engagement was produced by the Rewards for Justice program of the Diplomatic Security Service, U.S. Department of State, which added a page to its site labeled Most Wanted Terrorists.[6] The page displayed facial photographs of 22 men wanted "for numerous acts of terrorism worldwide from 1985 to the most recent Attack on America on September 11, 2001," and the request that site visitors with information about any of these individuals contact the site producers by email or in any other way. The U.S. Department of Justice site provided online structure for the provision of information on any fraudulent solicitations of donations for victims of the attacks.[7] Other sites produced by news organizations and others enabled individuals to post eyewitness accounts of the attacks and information about the rescue/recovery operations that were underway.

Getting assistance

Web users were facilitated in getting assistance through structures that emerged soon after the attacks to serve victims, and the families and friends of victims. We distinguished assistance-related Web content from general information on the basis of whether the information enabled the seekers to meet personal needs— on behalf of themselves or someone else. Some of the Web-based services provided assistance information for those in the immediate vicinity of the attacks, others provided aided people at a distance. The such as NYC.gov,[8] a site produced by the Office of the Mayor

for New York City featured several on-site services, including a "hospital patient locator system" developed in conjunction with the hospitals in the metropolitan area. This feature offered visitors the ability to search through multiple hospitals at once in order to locate relatives or friends who may have been injured at or near the WTC. Other Web services that facilitated getting assistance included registries of victims, lists of those missing in the attacks, lists of survivors, and resource and referral directories. One example was safe.millennium.berkeley.edu,[9] created by a student at the University of California, Berkeley, on September 13, 2001, and maintained actively for several weeks. This service provided Web forms for visitors to submit information under the headings of "I want to report that someone is safe," "I want to find out if someone is safe," and "I am looking for help in my local area, or I want to offer help to families of victims in my local area." A final example of one kind of professional help made available to Web users was advice on coping with trauma. For instance, sites such as WebMDHealth, whose usual business is providing health-related information to the public, simply expanded their services to include advice/information on coping with the aftermath of the attacks, as well as articles from various mental health experts and a message board that enables site visitors to connect with other individuals who have similar concerns. [10]

Providing assistance

The emerging Web sphere also enabled Web users to engage in a variety of online and offline actions in support of various public and private assistance activities, such as rescue and recovery efforts, counseling, education, criminal investigations, community organizing, and solidarity-building efforts. Some examples of the assisting actions supported by the online structure include contributing money to relief efforts; obtaining the information, direction and support needed by community organizers, service providers and educators; and obtaining symbolic merchandise (flags, shirts, etc.) and content (images, songs, texts) facilitating participation in solidarity-building efforts. For instance, on WorldTradeAftermath.com, the links in a vertical menu column on the left side of the site resolved to separate pages on which there was an overview description of a particular need, and then a list of ways that assistance could be provided, including a variety of Web resources to enable those who wanted to provide support. Site visitors could learn how to cheer on rescue workers at Ground Zero in New York, donate blood, clothing and food, and volunteer their time.[11] One unusual way that Web users were encouraged to show love and support to the families of victims was through quilting. The Quilt4America project provided site visitors with step-by-step instructions for making a quilt for a victim's family, including emailing a photo of the quilt to the project.[12] As a final example of another way that the Web facilitated the provision of assistance, the family of one of the passengers on a downed flight, Neilie Casey, produced a site to help channel and direct the support that was being offered to them.[13] This one-page site provided the time, date and location of Casey's memorial service, and contact information for a memorial fund established for Casey's infant daughter, for those wishing to demonstrate support for the family in either of those ways. Although less 'high tech' than sites offering links or secure on-line donation forms, this site still illustrated how the Web enabled a victim's family to both convey a tribute to their daughter and provide online structure for those who were mourning her death.

Providing personal expression

A surprising range of site producer types provided structure that enabled Web users to express their personal experiences, views and perspectives about the terrorist attacks, and the subsequent rescue and recovery operations and governmental and civic response. MyStory was one of many sites produced specifically to archive the stories of individual experiences on 9/11 and during the ensuing days. The site developers' stated purpose was to "show the world the impact of hatred." Stories and photos could be submitted by site visitors, and were then edited and posted by the site producers.[14] Expressive action also included joining in communal expressions of grief and mourning on the Web. One example of this was an individually produced site titled 911 that invited submissions from other Web users and created a long listing of more 'polished' stories, poems, commentary, artwork, etc.[15] The site producer is explicit about his/her intention that this should be a memorial and specifies that hate speech and foul language will be excluded. Another kind of online structure that enabled Web users to provide personal expression was the electronic condolence book, such as that produced by the Governor General of Canada.[16] A Web form was created that allowed site visitors to enter their names, locations, and messages to the U.S. in the language of their choice. Would-be inscribers were cautioned that all messages would be reviewed prior to posting. The window of opportunity to contribute to the Electronic Book of Condolences was brief, but the site producers pledged to keep the Book viewable on the site for two months. Some site producers that routinely solicit expression on their sites created new "spaces" dedicated to discussion about the attacks. Press sites, such as ABCNews.com for instance, created new message boards to foster interaction about the unfolding events.[17] In addition, some producers who did not previously support these types of actions became involved in providing some of the expressive structure that emerged, such as the Federal Emergency Management Agency.[18] On September 12, 2001 a feature labeled "Share Your Comments" feature to the site. Two days later the agency referred to this as an "unprecedented comment section," and reported that it had received over 100 messages from around the world within the first 24 hours. The FEMA director Joe Allbaugh remarked that "People were so anxious to share their sentiments of support that we wanted to provide them with a forum - as well as providing a place for all Americans to see the good wishes of the world, it's more successful than we would have expected."[19]

Accessing others' expression

Most site producers that facilitated visitors in providing expression also displayed at least some of the submitted comments for others to access. On some sites, however, the online structure enabled visitors only to access the expression of others, enabling Web users to enter into the experience and response of others to the September 11 attacks. Any site that allowed visitors to access the expression of others was coded positively for this action, whether or not the provision of personal expression was enable on the site. Sites that offered access to others' expression included some memorial[20] and tribute[21] sites, as well as sites consisting just of photo collections.[22] Many individually produced blog sites displayed postings in which the blogger reported his/her reactions to the attacks. One particularly moving illustration of this was a blog titled jish.nu.[23] Jish, a self-described

Canadian of Indian origin, posts a diary of his own experiences with the changing social climate and life after the attacks. He chronicled a range of emotions in the wake of the attacks, including those that accompanied an interaction in which he was mistaken for an Afghani. Xxx provided visitors with opportunities to examine the expressions contributed by other Web users.

Political advocacy

Finally, Web producers developed forms of online structure that allowed individuals to engage in political advocacy, which we defined as conveying a policy preference to an elected official. In response to the attacks, site producers created or adapted features that enabled visitors to sign online petitions, send email to government representatives, read or post views in online discussion groups, or contribute money to interest and advocacy groups. For example, one of the new links created on this [individual's site](#)[24] after September 11 was to the Worldwide Petition Against Terrorism, addressed to the UN Secretary General. This petition along with many others was hosted on a site called [PetitionOnline.com](#).[25] By including a link to the petition from his/her personal site, the site producer created a structure that facilitated political action by other Web users. As another example, the author [Michael Moore](#) enabled advocacy via his site by providing the email addresses of elected officials, (some directly and some through links to other sites that index them), and urging site visitors to express their opposition to war in Afghanistan.[26]

Analysis

Not surprisingly, the type of site producer was strongly related to the types of user actions for which online structure was provided, as indicated in Table 1. Getting information was the most common action facilitated by the Web sites examined, possible on 63% of the sites examined. Press and government sites were considerably more likely than the overall group of sites to facilitate this action; charity and religious sites were much less likely to do so. The second most common action – accessing others' expression - was possible on 55% of the sites examined; most commonly on individual and educational sites, and least often on government and portal sites. In general, individual sites were much more likely than the overall group of sites to facilitate providing expression, providing assistance, providing information, and engaging in advocacy. Press, business, advocacy, and portal sites were considerably less likely to provide structure for many of the kinds of actions examined than the set of sites in general.

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Table 1: Percent of Sites, by Producer Type, Providing Online Structure for Action

| | Type of Site Producer |

Action for which structure is provided	News	Government	Business	Charity	Advocacy	Religious	Personal	Educational	Portal
Get Information	100%	95%	50%	28%	73%	32%	49%	76%	63%
Provide Information	4%	26%	3%	6%	0%	0%	15%	29%	5%
Get Assistance	17%	45%	10%	22%	9%	32%	31%	47%	16%
Provide Assistance	25%	42%	13%	44%	18%	42%	46%	47%	47%
Access Expression	54%	16%	47%	50%	55%	53%	86%	76%	37%
Personal Expression	50%	42%	23%	44%	32%	26%	69%	47%	26%
Engage in Advocacy	4%	0%	0%	0%	36%	0%	10%	0%	0%
Number of Sites	24	38	30	18	22	19	59	17	19

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In addition to analyzing which types of site producers enabled which types of civic engagement, we also took note of the mode by which online structure was produced on the Web, whether independently on-site or co-produced between sites. Table 2 illustrates the mode of production for each of the actions enabled. Structure for providing assistance was most likely to be co-produced; features that enabled getting expression and providing expression were most likely to be provided on-site. Seventy percent of the sites that facilitated providing assistance did so using co-production; 80% of the sites that allowed visitors to access expression, and 75% of the sites that allowed visitors to provide expression, did so on-site.

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Table 2: Mode of Online Structure Provided by Sites Enabling Different Actions

	Percent of Sites Providing Structure Among Those Enabling Action						
Type of Structure Provided	Get Information	Provide Information	Get Assistance	Provide Assistance	Get Expression	Provide Expression	Engage Advoc
On-site	51%	40%	31%	12%	80%	75%	
On-site & Co-produced	24%	52%	24%	19%	13%	15%	
Co-produced	25%	8%	45%	70%	8%	11%	

Based on Analysis of 247 Sites

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The tendency of different types of site producers to enable actions on-site versus co-producing actions through links is presented in Table 3. Personal sites were much more likely to co-produce online structure than any other type of site producer. Business and advocacy producers were much less likely to do so. Advocacy, religious, educational and business producers were most likely to produce on-site structure to facilitate social and political action by their site visitors.

Table 3: Mean Number of Actions Enabled by Site

Type of Structure Provided

Producer Type	On-site	Co-produced	Number of sites
News	1.00	0.67	30
Government	1.50	1.00	19
Business	2.10	0.27	24
Charity	1.91	1.46	38
Advocacy	2.33	0.33	22
Religious	2.25	1.25	18
Personal	2.11	2.63	17
Educational	1.60	1.10	59
Portal	1.75	0.63	19
Total	1.76	1.14	247

Civic Engagement by Web Users

Before examining the social and political actions engaged in by Web users in the wake of September 11, it is useful to first set the context of reaction to the events of September 11 by reviewing patterns of behavior in the offline world during that time. As reported by Rainie and Kalsnes (2001), the online response among the American people to the September 11 attacks was part of a larger collective experience. The Pew Internet survey asked respondents if they had engaged in any of five different offline activities related to September 11: attended a religious service, tried to donate blood, attended a meeting to discuss the attacks, flown an American flag outside their home, or given money to relief efforts. By September 19 - the first day for which a representative sample is available -- the mean participation rate in offline September 11-related activities had climbed to 1.36; by September 25, the mean had reached 1.99 activities. Among those respondents surveyed between September 12 and October 7, nearly 30 percent had participated in three or more activities, 56 percent in one or two activities, and 15 percent in no activities. In the discussion below, the online behaviors among respondents are contrasted with their level of participation in offline activities.

The social and political actions engaged in by those using the Web in the days and weeks following September 11 were analyzed using survey data collected by the Pew Internet & American Life Project. More specifically, the level of Web usage reported, the types of sites Web users reported visiting, and the types of action in which Web users report engaging are discussed below. Differences among users based on the level of Web usage are reported, as well as the amount of reported offline activity related to September 11.

Rainie and Kalsnes (2001) report that the overall number of people using the Internet in the two weeks following the attacks declined by about 5-8%, before returning to established levels by the beginning of October. This decline in overall usage was noted among all types of Web users, including the most frequent and most experienced groups. However, while overall Internet usage declined, those reporting using the web for news increased considerably, as the percentage of Internet users reporting getting news from

the Web on a typical rose more than 25% -- to 28% after the attacks from 22% in the four weeks prior to the attacks.

Survey respondents were asked about their visits to different types of Web sites, seven of which correspond with the producer types examined in the site analysis discussed in the previous section. [27] As shown in Table 4, all but 11% of the respondents report visiting at least one of the seven types of Web sites prior to September 11, and 26% report visiting four or more of the site types. In the 6-week period following September 11, 46% of the respondents report visiting at least one of the types of sites. However, it is clear that most Web users focused their efforts on relatively few types of sites: fully one-third of those who visited any of the types examined reported visiting only one or two or three of them. At the same time, it is clear the more frequent users of the Internet visited a somewhat wider variety of sites as a result of September 11.

Table 4: Number of different types of sites visited

	Visited prior to September 11				Visited as a result of September 11			
Number of Web Sites	All Online Respondents	Frequency of going online			All Online Respondents	Frequency of going online		
		Not Every Day	Every Day	Several times per day		Not Every Day	Every Day	Several times per day
None	11%	17%	11%	6%	64%	74%	70%	52%
1	20%	26%	21%	15%	23%	20%	24%	26%
2 or 3	42%	40%	46%	40%	10%	5%	6%	17%
4 or more	26%	16%	22%	39%	2%	1%	1%	4%

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Most Web users visited press sites. Nearly one quarter of all users report visiting a press site as a result of September 11. None of the other types of site producers were visited by more than ten percent of the users as a result of the terrorist attacks. This suggests that although the Web enables virtually anyone to be an information provider, in times of crisis, press organizations still dominate. More frequent Web users were more likely to visit every type of site than less frequent Web users. However, there was little relationship between participation in offline activities related to September 11 and visiting sites produced by most types of site producers. These findings are presented in Table 5.

Table 5: Types of Web Sites Visited as a result of September 11 Events

Type of Web Site	Visited for September 11	Visited for other purposes	Never Visited	Frequency of going online			Level of Offline Activity re September 11		
				Not Every Day	Every Day	Several Times Per Day	None	Low	H
Press	24%	43%	32%	18%	21%	33%*	23%	22%	
Government or Military	8%	24%	68%	5%	3%	14%*	15%	7%	
Business	6%	52%	42%	2%	3%	10%*	0%	6%	
Charity	7%	10%	83%	6%	4%	11%*	0%	7%	
Interest or Advocacy	3%	12%	85%	2%	2&	4%*	0%	4%	
Religious	4%	14%	82%	3%	3%	5%*	0%	4%	
Personal Site	3%	36%	61%	2%	1%	5%*	9%	1%	
Total	100%	100%	100%	38%	26%	36%	15%	56%	

* Indicates statistically significant relationship (p < .05).

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With an understanding of the types of sites visited by Web users following September 11, we now turn to an assessment, presented in Table 6, of the specific actions in which users engaged.[28] Nearly half of all users report using the Web to find news about the terrorist attacks. More than one-third of the users report using the Web to find information about the reaction of the financial markets to the attacks. About a quarter of the users sought out information about Osama bin Laden or Afghanistan. More than a quarter of users used the Web to post or read the opinions of other individuals. About one fifth of the users downloaded a picture of the American flag, or sought information about victims or survivors. Not surprisingly, more frequent users were more likely to engage in every single action examined than less frequent users. However, engagement in offline activities related to September 11 was related only to online actions associated with expression; online actions related to information, advocacy or assistance were not associated with offline activities.

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Table 6: Percent of Survey Respondents Engaging in Online Actions Related to September 11

	All Online Respondents	Frequency of going online			Level of Sept
		Not Every Day	Every Day	Several Times Per Day	Low
Get Information					
General News	46%	28%	46%	65% *	40%
Information about reaction of financial markets	35%	20%	35%	48% *	33%
Information about Afghanistan	27%	16%	24%	39% *	24%
Information about Osama bin Laden	26%	15%	26%	37% *	28%

Information about Islam	15%	8%	12%	24% *	11%

Political Advocacy

Signed petition online	6%	4%	3%	10% *	0%
Contacted elected official by email	6%	2%	6%	9% *	3%
Participated in online polls	11%	5%	14%	14% *	6%
Information about local rallies or demonstrations	6%	3%	4%	10% *	3%
Information about getting involved politically	4%	2%	5%	7% *	0%

Expression

Post or Read others' thoughts about attacks	28%	24%	25%	34% *	14%
Visited commemorative site	16%	10%	16%	20% *	5%
Downloaded picture of flag	19%	13%	23%	23% *	4%

Obtain Assistance

Information about victims or survivors	17%	10%	19%	23% *	12%
Check flight information	14%	7%	11%	22%	8%

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Conclusion

In summary, the social and political actions engaged in by Web users are, in part, a function of online structures provided by producers. This study illustrates some of the synergies afforded researchers by using both data generated from systematic analysis of Web sites and surveys of Internet users. While the data presented in this analysis do not account for the frequency with which users visited sites offering different online structures - which would allow a full analysis of the relationship between online action and online structure -- some preliminary estimates can be made. For example, the percent of users who report getting information from the Web in the days and weeks following September 11 may have been a function of the number of sites that facilitated this action. Similarly, the relative paucity of sites facilitating advocacy or enabling the provision of information would have accurately predicted the relatively few users who reported engaging in this action. While the provision of structure does not guarantee action, it is clear that absent online structure, online action is not possible.

Although a sample comprised of 247 Web sites is substantial for this kind of study, the number of sites per each type of site producer included in this analysis is relatively small, thus these findings should not be presumed to be fully representative of any one category of producer type. Further research should be conducted using a larger sample stratified by producer type, to verify and extend the findings presented here. Even so, the findings presented above are significant for the following reasons.

First, these findings provide additional evidence of the emergence and development of online structure for action. Conceptually, this study extends previous work on online structure and online action in two ways: 1.) by distinguishing between structure produced on a single site, and structure produced through links; and 2.) by identifying a set of

actions that were manifested on the Web in response to a crisis. Both of these may be useful for future analyses of other Web spheres. The differences among site producer types with regard to the co-production of online structure are intriguing, and invite further investigation and analysis.

Second, the findings from this study illustrate the importance of the Internet, and particularly the Web, as a significant component of the public sphere, enabling coordination, information-sharing, assistance, expression and advocacy-- all forms of citizen engagement in a crisis situation. In addition, they demonstrate the value of the latent capacity of the Web production community as a resource to be deployed in a time of crisis. Hundt (2002) observes that one lesson to be drawn from the events of September 11 is that in order to maintain an effective communications system in the face of any calamity, the Internet should be protected and promoted as a primary network, encouraging the private sector and using the resources of the public sector to make it faster, more robust, ubiquitous, and better integrated with other media. This policy would be consistent with the Internet's original development as an aspect of national security.

Finally, the methodological, technological and legal challenges entailed in this study are worth noting. Conceptualizing the Web in terms of online structures that enable and/or constrain social and political action required innovative operationalizations. Retrospective analysis of online structure and action required a high quality and accessible Web archive, consisting of retrievable page and site-level records that preserved hyperlink structures between sites, with which human-generated metadata could be associated electronically. In addition, the processes of creating such an archive and securing scholarly access to it had to be managed with respect to evolving interpretations of intellectual property law. Scholars must identify and meet these challenges in order to complete the robust analyses necessary to fully examine the role of the Web as a venue for civic engagement.

Endnotes

[1] http://september11.archive.org/ accessed February 27, 2004.

[2] Although we consider techniques such as the appropriation of text from one site to another and collaboration on the production of a feature to also be co-production, in this study we focused solely on the co-production of online structure through links between sites. For broader analyses of co-production see Foot & Schneider (2002), Forte (2003 and In Press), Schneider & Dougherty (2003) and Schneider & Foot (In Press).

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[6] http://web1.archive.org/web/20011101020229/www.dssrewards.net/, archived November, 1, 2001.

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[11] http://web.archive.org/web/20010925192004/worldtradeaftermath.com/wta/help_out/, archived September 25, 2001.

[12] http://web1.archive.org/web/20011101021140/www.quilt4america.com/, archived November 1, 2001.

[13] http://web.archive.org/web/20010921064918/http://www.neiliecasey.net/, archived September 21, 2001.

[14] http://web.archive.org/web/20010921220119/mystory.inter.net/index.php, archived September 21, 2001.

[15]http://web.archive.org/web/20010918214841/www.crosswinds.net/~starnine/911/911.htm, archived September 18, 2001.

[16] http://web.archive.org/web/20010920074344/www.gg.ca/books/us-attack/index-1000689515_e.html, archived September 20, 2001.

[17]http://web.archive.org/web/20010913041746/boards.abcnews.go.com/cgi/abcnews/request.dll?LIST&room=terror010911, archived September 13, 2001.

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[19] Quoted on http://web.archive.org/web/20010915045246/www.fema.gov/nwz01/nwz01_106.htm, archived September 15, 2001.

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[21] http://web1.archive.org/web/20011101020006/america911.mybravenet.com/, archived November 1, 2001.

[22]http://web.archive.org/web/20011103190026/remember.worldatwar.org/main.mhtml/images, archived September 3, 2001.

[23] http://web.archive.org/web/20010917011257/http://jish.nu/2001_09_01_archive.php, archived September 17, 2001.

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[26] http://web.archive.org/web/20010921064926/http://www.michaelmoore.com/, archived on September 21.

[27] Although we worked with researchers in the Pew Internet and American Life Project to help create questions for their post-September 11 survey, it was not possible for them to employ exactly the same categories of producer types and kinds of social and political action as response options in the survey that we employed in analyzing archival Web materials. Seven of the nine producer types we used in analyzing the Web materials were included as response options in their survey.

[28] Five of the seven types of action we used to analyze the Web materials were included as response options in the survey conducted by the Pew Internet and American Life Project.

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