Adapting the Theories of Online Education to Online News Sites

A Master's Research Project Report submitted to the Kent State University Master's Program in Information Architecture and Knowledge Management and the Kent State University Master's Program in Journalism and Mass Communication in partial fulfillment of the requirements for the degrees of Master of Science in Information Architecture and Knowledge Management and Master of Arts in Journalism and Mass Communication

by

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Introduction

Innovations in technology are creating the next generation of learning and communicating. Research in various disciplines is helping to discern the impact of these innovations. Although research is often focused on a specific discipline, the insights gained can be applied across a wider spectrum. Specifically, the pedagogy being developed in online education may be useful for understanding the dynamics of a new breed of journalism emerging on the Internet. In this paper, an overview of relevant educational theories is presented along with how they relate to innovations occurring on the Internet and how they can be incorporated into an online news site.

The intersection of technologies and practices emerging on the Internet and principles being developed in online education research can be important assets in the creation of online news sites. This paper addresses how research in online education can be applied to online journalism. The online portion of this project will demonstrate how some of these concepts and information architecture practices can be incorporated into an online news site. The project site contains basic tutorials for creating an online news site.

The literature review presents educational theories that are being incorporated into online learning and digital content creation. The literature review consists of an overview of changing information acquisitions trends and the necessity of adapting to these changes. The effects of these changes on teaching in higher education are then explored. An overview of some theories that have had a major influence on the development of an online teaching pedagogy is also included. These theories and practices are then applied to the online news environment. The emphasis is on practices and technologies emerging in the online environment that overlap or incorporate the educational theories. This

includes an analysis of how these online educational theories and current technology innovations are being or can be applied to an online news site. The conclusion of the paper includes elements from the online portion of the project (website) that illustrate the implementation of these theories and innovations in an online news site.

Project Purpose Statement

The website associated with this project is intended to serve as an instructional resource for anyone wishing to create their own online news site. The website is a prototype online news site with information about planning and building an online news site. It also contains tutorials and links to tutorials on how to develop a website with a content management system or with Adobe's web design tool, Dreamweaver.

Many of the content elements identified in the paper are displayed in the website along with instructions on how to create these. Podcasts, videocasts, blogs and RSS news feeds are some of the elements that are described on the site, along with information about their development. The educational theories and practices identified in the literature review are incorporated into the website with the goal of encouraging an engaged news audience. The website may be viewed at: http://joomla.slis.kent.edu/vkelly.

Literature Review

Information Acquisition Overview

There has been a shift in how information is accessed by young adults. According to a study by The European Interactive Advertising Association, 15 to 24 year olds across

Europe are spending less time watching TV and listening to the radio as a result of using the Internet and this target audience is spending almost a quarter of the their media time (24%) online (Brown 2005).

The American household also has moved significantly toward a digital world. According to the Pew Internet and American life Project, nearly 9 in 10 teenagers (87%) are Internet users. The proportion of U.S. households with broadband Internet connections more than doubled from 9.1 % in September 2001 to 19.9 % in October 2003. These high-speed connections allow the user to access and relay information quickly. Broadband users are more likely than other Internet users to use the Internet frequently and engage in a wider variety of online activities, such as entertainment and information gathering. (Lenhart & Madden, 2005)

The computer has become a primary tool for acquiring media. According to a survey conducted by Burst Media (2006), college students spend more time with the Internet than on any other media. Four out of five (80.0%) respondents say they use the Internet to find information that will help them at home.

A report by the Kaiser Family Foundation (Rideout & Hamel, 2006) makes clear that even young children have a substantial amount of experience with electronic media. According to the study, more than three-quarters (78%) of children 6 years and under live in a household with a computer, and about three in ten (29%) live in a household with two or more computers. Additionally, nearly (69%) have Internet access in the household, including 42% who have high-speed Internet access (26% have dial-up access). Among 4 to 6 year olds, in a typical day 26% will use the computer (for an average of 50 minutes). One in eight (13%) use the computer every day, and 43% use it

several times a week or more.

As youth migrate to alternative media, their information acquisition needs change. A study commissioned by the Carnegie Corporation of New York, "Abandoning the News" (Brown, 2005) lends credence to a revolution in news consumption. A survey of 18 to 34 year olds finds that just 19% read a newspaper daily and 12% say they have "never" read a paper to get their news. However, 44% in that age group visit a Web news portal every day.

According to a survey conducted by the Pew Research Center for the People and the Press, their Online Audience report (2006) revealed 67% of American adults read newspaper websites, while 76% of teens got news online. The report also notes that these numbers may undercount news consumption, since nontraditional news sources like electronic newsletters and portal sites likeYahoo, might not be included in responses.

The desires of online news consumers may vary significantly from the traditional consumer base. The future of news lies with its future consumers - namely youth who are shown in surveys to favor digital news outlets. Traditional forums for disseminating information have to adapt to the widespread adoption of computers and digital devices.

The Pew Center for the People and the Press identified major trends shaping the transformation of the media landscape in their 2005 "The State of the News Media" report. One of those trends was stated thusly:

> Despite the new demands, there is more evidence than ever that the mainstream media are investing only cautiously in building new audiences. That is true even online, where audiences are growing. Our data suggest that news organizations have imposed more cutbacks in their Internet operations than in their old media, and where the investment has come is in technology for processing information, not people to gather it. One reason is that the new technologies are still providing relatively modest revenues. The problem is that the traditional media are leaving it to technology companies – like Google – and to individuals and entrepreneurs –

> like bloggers – to explore and innovate on the Internet. The risk is that traditional journalism will cede to such competitors both the new technology and the audience that is building there. (Five Major Trends, 2005)

Although statistics clearly indicate a move toward viewing news on the Internet, traditional news providers have not always been quick to respond. Research by Clayton Christensen, professor of business administration at the Harvard Business School, who writes about disruptive technology in his book, The Innovator's Dilemma may help explain why. He puts forth the *principle of disruptive innovation* to explain how good companies following accepted management policies fail to stay atop their industries. Disruptive Technologies are those that redefine a market landscape. They are products that first invade the low end of the marketplace, but eventually move to displace high-end competitors (Christensen, 1997).

In the educational realm, Christensen has noted that while growth in four-year universities is slow at only one-half percent over the past decade, growth in distance learning and corporate universities is explosive. Advances in technologies that have enabled the growth of online training have caused a disruption in the established educational realm (Christensen, Aaron and Clark, 2001).

This principle might be applied to the business of journalism where advances in technology may be a disruptive force to traditional news outlets. Well-managed print and broadcast news outlets may very well be at risk of losing their leadership position in the news industry by concentrating on meeting the needs of their present customers. Christensen states that "there are times at which it is right *not* to listen to customers, right to invest in developing lower-performance products that promise *lower* margins, and right to aggressively pursue small, rather than substantial, markets" (Christensen, 1997).

Creative Construction is a term Christensen coined to denote disruption that starts by the creation of large, new growth opportunities, almost always by allowing a broader group of people to do things that only experts or the wealthy could do in the past. The Internet isn't free either to consumers or to producers, but computers have decreased production costs of information dissemination dramatically. Information is costly to produce, but cheap to reproduce, and in a digital world, once the first-copy is produced, additional copies cost essentially nothing (Shapiro & Varian 1999). An inexpensive channel of information dissemination has allowed news outlets to proliferate on the Internet. This broad group of independent journalists fits Christensen's model of creative construction and suggestions a *Disruption in Journalism* similar to the *Disruption in Education* that he has described.

Online Education

Information that has been traditionally disseminated through lectures and in printed textbooks is now being delivered through a digital medium. According to the Educause Center for Applied Research Bulletin, "Digital Content Delivery Trends in Higher Education" (Nelson, 2006), the shift from traditional print to digital content has significant implications for higher education. Creating more efficient learning modules requires that educators understand the dynamics of learning online.

As higher education institutions have expanded the use of internet-based classes, studies have been conducted to determine the most effective means of transferring knowledge through this medium. Advantages of online learning are that it provides educational opportunities to those that may have time or distance constraints that would

preclude them from educational opportunities (Daniels, 1996). It also introduces alternate forms of interaction such as student-to-student learning and increased student numbers through the use of virtual tutorials (Tolmie & Anderson, 1998). Other benefits identified by research are increased participation among students, increase in quantity of learner output, and increased quality of learner output (Smith 2003). Online learning provides an augmented environment for collaborative learning and teaching. It offers learners and teachers in higher education access to new ideas, perspectives, cultures and information, with group input enabling multiple perspectives on a topic (Harasim, Hiltz, Telles & Turoff, 1995). Online learning can have an equalizing effect, overcoming the hegemony of those who typically dominate a classroom, allowing more people to speak and may be a less threatening medium for non-native speakers (Chun, 1994; Pennington, 1996; Warschauer, 1996)

Institutes of higher education are not only interested in adopting new technologies, but also in determining the most effective means to teach and learn in these new environments and to develop best practices based on those findings (Chickering & Ehrmann, 1996).

Some theories and best practices relevant in the research on creating optimal learning environments with computer technologies are; 1) the social presence theory-the perception of actual presence among communicating participants (Short, Williams & Christie, 1976); 2) the media richness theory-a medium's capacity for immediate feedback, multiple cues, language variety and personalization (Daft, Lengel & Trevino, 1987); 3) Learning Styles-the way each individual begins to concentrate on, process, internalize, and remember new and difficult academic information or skills (Dunn and

Dunn, 1993; Burgoyne and Stuart, 1997) and 4) Active Learning-a process whereby learners are actively engaged rather than "passively" absorbing lectures (Driver, 1988; Kimonen & Nevalainen, 2002; Watts, 1991).

Social Presence Theory

The theory of "Social Presence" was developed to explain how one has the sense of being with another even though not in the same physical space (Short et al., 1976). "Social Presence is a significant factor in distance education" (Tu, 1999). Effective learning involves both intellectual and social-emotional behaviors. Educators have found that the successful management of social and interpersonal components, especially the formation of initial impressions, often influences both learning outcomes and student evaluations of the learning experience (Liu & Gaither, 2001). There are differences in the way people communicate depending on the mode of communication. People communicate thoughts and feelings using a wide range of verbal and non-verbal clues (Argyle & Cook, 1976; Short et al., 1976). A face-to-face interaction allows the participants to communicate not only through their spoken thoughts, but also through facial expressions, posture, physical closeness, gaze, intonation and myriad of other social interactions. Social presence is a dynamic variable where the degree of social presence is dependent upon the characteristics of the medium and the user's perceptions (Tu, 2001). Social presence through any medium can be cultivated (Johansen, Valle & Sprangler, 1998).

Educators are interested in how best to establish a social presence in an online environment as studies have shown that social presence is a significant factor in

improving instruction effectiveness (Tu, 2001). Johansen et al., (1998) showed that social presence can be cultured by teleconference leaders. It is important to the success of distance learning that social presence be fostered, as social presence can be a strong predictor of satisfaction within an online learning environment (Gunawardena & Zittle, 1997).

The acceptance of the social presence theory in many academic circles has prompted educators to work toward establishing a social presence online. This is done by creating a sense of intimacy (Argyle and Dean 1965; Short et al. 1976). This may include letting the students know more about you through a textual biography, a picture or video, choosing less sterile topics of conversation or commenting directly by name to a participant (Werry, 1996). Immediacy can also be important in establishing a social presence. Immediacy can take two forms; technological immediacy – transmitting the maximum amount of information in a timely manner (Heilbronn & Libby, 1973) and social immediacy –conveyed through speech, verbal and nonverbal cues. Emoticons (symbols representing emotions) are often used in online conversations to substitute for missing cues (Gumper, 1990). Discussion postings by students that receive timely responses establish a social presence of the professor. (Gunawenda, 1995) has argued that immediacy enhances social presence, thus an online environment that can increase immediacy should contribute to the development of social relationships that will enhance interaction in an online environment.

Media Richness

Media richness is the ability of a medium to relay information (Trevino, Lengel et al. 1987). Media richness theory argues that performance improves when team members use "richer" media for equivocal tasks (Dennis & Kinney, 1998). Media richness theory gives an understanding of the impact that different communication media types potentially have on the message.

Different media work better for certain tasks than others. Communication media have varying capacities for resolving ambiguity, negotiating varying interpretations, and facilitating understanding (Daft & Lengel, 1984). Types of communication might include; face to face meetings, video conferencing, synchronous audio, asynchronous audio, text based chat, e-mail and threaded discussion.

Trevino, Daft and Lengel (1987) present a media richness hierarchy, arranged from high to low degrees of richness. The criteria are: the availability of instant feedback; the capacity of the medium to transmit multiple cues such as body language, voice tone, and inflection; the use of natural language and; the personal focus of the medium. Face-to-face communication is the richest communication medium in the hierarchy followed by telephone, electronic mail, letter, note, memo, special report, and finally, flier and bulletin. The media richness theory suggests that effective choices of a particular communication medium be matched to a specific task or objective and to the degree of richness required by that task (Trevino, Daft, & Lengel, 1990).

Rich Media refers to the medium's data carrying capacity to transmit information and its ability to carry information about the information or about the communicator (symbol carrying capacity) (Sitkin, Sucliffe & Barrios-Choplin, 1992).

The criteria for ranking a medium's ability to carry information can be based on the ability of the media to, relay immediate feedback, provide feedback cues such as body language, allow the message to be created or altered specifically for an intended recipient, and transmit the feelings or emotions of the communicators. (Daft and Lengel 1984).

Much media richness theory points to the idea that the communication media type can be chosen based on whatever one would seem to offer the greatest efficiency and the greatest opportunity for the intended message to be conveyed accurately. Choice of communication medium for the information seeker is a rational choice and should be selected on the task appropriateness and the desired outcome.

Learning Styles

Learning Style is the way each individual begins to concentrate on, process, internalize, and remember new and difficult academic information or skills (Dunn and Dunn, 1992). People have intrinsic capabilities of developing and learning, and the task of the educator is to reduce the blocks and create the conditions to engender autonomous learning. Students learn best if they can choose from a collection of facilities that together make up a learning environment that is tailored to their individual needs and preferences (Burgoyne and Stuart, 1997).

A learning style represents an ability or trait that can be demonstrated to interact with a learning environment variable such as instructional method or type of learning outcome. (Cronbach & Snow, 1977). Cognitive abilities (intelligence and aptitudes) have

been acknowledged indicators of academic success (Anastasi & Urbina, 1997). More recently, it has been acknowledged that instructional methods may need to be adjusted for personality traits which are often viewed as adjunct and parallel factors to cognitive ability related to academic performance (Lemire & Gray, 2003). Learning Styles are a result of cognitive abilities and personality traits (Johanssen & Grabowski, 1993).

Learning Style Inventories; 4MAT System (McCarthy, 1987); Dunn's LSI (Dunn & Dunn,1992) and Renzulli and Smith's LSI (1998) have been developed so that students can determine their learning style. Although theories differ on the defining characteristics of various learning styles, there is a general consensus on the need to give students an opportunity to understand how they learn best and to be able to have some control in selecting a learning strategy. Various inventories have been developed to help people determine their learning style. The 4MAT system is based on the premises that students have major learning style and hemispheric processing preferences, and instruction and learning improve when teachers use multiple teaching strategies in systematic framework (McCarthy, 1987).

Universities' primary clients are young adults. Identifying the learning preferences of this group and creating an optimal learning environment for them is essential. According to a podcast by Richard T. Sweeney, New Jersey Institute of Technology (Sweeney, 2006) who has been studying information acquisition habits of the Millennials (those born roughly between 1980 and 1994), students want services customized to their personal preferences. This generation is used to having many choices in their consumer behavior. They want to be able to choose which learning options that work best for them. Sweeney suggests that a generation accustomed to digital/portable

technology, with an abundance of information choices in a multitasking environment have different expectations for how they should learn. They learn in a peer-to-peer environment and from other students as well as the teacher (Sweeney, 2006). Sweeney and other educators are pushing for innovative classrooms that incorporate more videos and video games, classes that meet electronically to fit students' schedules, students who choose to learn from each other rather than a professor, and courseware, search engines, and library databases that are animated, image-based, and interactive.

The goal of higher education is to provide the best learning environment for all of its students. Accepting that not all students learn best through the same methods of teaching, universities have strived to provide a variety of learning environments. This may be accomplished by taking into account accessibility issues and providing visual, audio and textual renderings of content and letting the student pick the best format for their learning needs. Giving an option of learner methods such as independent, collaborative, teacher directed or teacher facilitated environments can allow a student to learn under their best conditions (Hirumi, 2002).

Active Learning

In 1987, the American Association for Higher Education (AAHE) along with the Johnson Foundation (1987) published an article which stated that an important principle for good practice in undergraduate education should be an environment in which ‘active learning’ is encouraged.

In a passive learning environment in the typical college classroom, a lecturer expresses wisdom that students silently record in their notes. Active learning by contrast,

involves students actively doing something. They are expected to take the lead in thinking about what they are doing. Students are participants, rather than just receptacles of information. Active learning requires a greater depth of processing information resulting in greater comprehension and better retention, as well as an increase in student interest and attention. (Snyder, 2003). Bonwell and Eison (1991) state that students must do more than just listen; they must read, write, discuss, or be engaged in solving problems.

All systematic teaching and study is founded on a conception as to the nature of learning and of the learning situation. This conception is constructed, among other things, from notions about human knowledge and mental processes, from societal traditions and norms, and from the expectations set for teaching by society (von Wright, 1992).

"Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing prepackaged assignments, and spitting out answers. They must talk about what they are learning, write reflectively about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves." (Chickering & Ehrmann, 1996)

Active learning takes into account that knowledge is constantly changing and personal experience and structuring are required in order to comprehend such knowledge (Kimonen & Nevalainen, 2002).

In studies comparing classrooms using active learning with those using passive learning, active learning methods generally result in greater retention of material at the end of a class, superior problem-solving skills, more positive attitudes, and higher motivation for future leaning (McKeachie et al., 1987; Rhem, 1998).

Emphasis on pupils' freedom of choice during the learning process – allowing them to set their own objectives and observe them working gives them an active role in their studies, characterized by goal-oriented, self-assessment activity directed by metacognitions (Driver, 1988; von Wright, 1993; Watts, 1991). You are likely to learn the most, and enjoy the most, if you are engaged as an active participant, not a passive recipient (Bruner, 1963).

The Seven Principles of Good Practice in Undergraduate Education was created in 1987 by Chickering and Gamson with support form the Lily Endowment (Chickering & Gamson, 1987). This document has been important in many instructional design strategies on college campuses. One of the principles is that "Good practice uses active learning techniques."

Online learning can incorporate active learning strategies. One aspect of transformative learning is reflective learning based on deliberation and discussion (Argyris, 1996). Interactions are one of the most frequently discussed topics and a critical concern among distance educators (Saba, 2000). Interactions can be facilitated in an online environment through the use of a variety of tools and techniques.

Communication tools can be used to create an active learning environment (Hirumi, 2002). Students can initiate or respond to asynchronous messages such as email and discussion board and blog postings; real-time brainstorming or collaboration tools such as instant messaging, chat rooms and wiki (collaborative) websites. There has been a shift in education from the pretense of the "all-knowing" teacher dispensing wisdom to the "facilitator" teacher who stimulates discussion and encourages peer to peer learning. One of the principles of effective moderating that is being adopted by many instructors,

especially in the online environment, is that of the “Guide on the Side” rather than the “Sage on the Stage” (Collison et al. 2000). This pedagogical approach encourages participants to take control over their own learning. The teacher takes on the role of facilitator; helping to keep focus and broaden dialogue. The premise behind this pedagogy is that simply repackaging lectures for an online course does not fully utilize an environment that has synchronous communication technologies as well as asynchronous tools that allow learners to interact over a wide time frame in a variety of ways.

Interactives are an important addition to online active learning. Interactives are brief Web-based interactive visual explainers. They are designed to explain complex concepts or ideas. (Nichani & Rajamanickam, 2003). The important facet of interactives is that they require the reader to physically engage with the computer interface, either by choosing options, clicking on graphics, answering questions, navigating through the interface or participating in some way. Interactives are often created using Macromedia’s Flash or Director software. This type of software allows the developer to include video, audio, text or graphics in a format that can be manipulated by the user.

Computers can be used to encourage interactivity. According to Mitchel Resnick of MIT Media Laboratory, computers will not live up to their potential until we start to think of them less like televisions and more like paintbrushes. Resnick sees computers not only as information machines, but also as a new medium for creative design and expression. (Resnick, 2006)

Learning Objects

Educational institutions are engaged in finding new ways for educational materials to be designed, developed and delivered to take advantage of new technologies. An instructional technology of "learning objects" (LTSC 2000a) is being developed as a standard in creating reusable, generative, adaptive, scalable materials (Urdan & Weggen, 2000).

The term "learning object" derives from object-oriented programming in which bits of code are bundled and reused as discreet objects. Therefore, redundant code doesn't have to be rewritten. It also derives from "learning objectives" which offer simple statements of desired learning and performance outcomes (Johnson, 2003).

The concept of learning objects has been developed to enhance active learning in an online environment. Interactives including games, simulations, audio and video productions and other multimedia that allow for user choice and control are more time-consuming and expensive to produce than text based information. To make the production of these more rich online interactions, learning object principles stress the importance of creating libraries of reusable, transformable information pieces that can be reassembled for different purposes.

The definition of learning objects established by the New Media Consortium (Smith, 2004) is that a learning object is any grouping of materials that is structured in a meaningful way and is tied to an educational objective. The "materials" in a learning object can be documents, pictures, simulations, movies, sounds, etc. Structuring these in a meaningful way implies that the materials are related and are arranged in a logical order. These objects are digital in nature and incorporate standards of reusability,

interoperability, durability, manageability and accessibility.

Learning Objects Systems should integrate traditional perspectives on learning based in cognitive information processing and instructional systems design (Merrill, 1996), allow learners to associate instructional content with their prior knowledge and individual experiences (Bransford et al., 2000) and permit learner-driven activities using constructivist learning models (Bannan-Ritland et al., 2000).

Higher education has implemented successful learning object projects such as MERLOT (the Multimedia Educational Repository for Learning and Online Teaching), CLOE (the Co-Operative Learning Object Exchange) and the EOE (the Educational Object Exchange).

The learning object model is relevant for markets beyond higher education. Learning objects are also used in many corporate learning programs (Cisco, Microsoft, AT&T Business Learning Service, etc.) and by the Department of Defense for its training programs. Content is the key to creating a learning object economy (Johnson, 2003).

The adoption of higher education theories and practices may serve journalism well in their efforts to educate and inform. The assets of reusability and manageability helped to make feasible a business model of shared objects that can be resold and reused. The concepts of interoperability mean that objects will not be made for a specific platform and will offer some resistance to time-generated obsolescence. Online journalists should also note the learning object standard of generating content that is accessible to the hearing and sight impaired.

Online Learning and Online Journalism

There are commonalities between online learning and online journalism. They both involve the dissemination of information and are both potentially a forum for the exchange of ideas. Interpreting and disseminating information does not have to be the sole realm of a few scholars or journalists.

Online journalists have to make decisions on which media format best tells a story (multimediality), how best to interact with the public, allowing them to respond, interact or customize stories (interactivity) and how to connect a story with other available resourses (hypertextuality) (Deuze, 2001).

These decisions are very similar to an educator who is "telling a story" to teach certain principles. Incorporating distance learning tenets into the evolving structure of online journalism enhances the potential to reach audiences in ways not previously possible.

Several technologies and practices emerging on the Internet allow many of the educational theories and philosophies of online learning to be implemented more effectively in many different forums.

Web 2.0 is a set of principles and concepts originally set out by Tim O'Reilly and *MediaLive International* in 2004. They view the Web as a platform. That platform ties together sites that encompass a loose set of principles and practices that harness collective intelligence. One of the key lessons of the Web 2.0 era is this: *Users add value* (O'Reilly, 2005). This set of principles correlates with research coming out of the online education realm. The idea of an instructor acting as a "Guide on the Side" promotes the idea of the instructor as an online facilitator rather than a "Sage on Stage" (Collison et al

2000). Online forums are being constructed so that students or readers are encouraged to contribute as well as absorb information.

Dan Gillmor of The *San Jose Mercury* states that his audience "never shy to let me know when I get something wrong, made me realize something: My readers know more than I do." Gillmor views audience participation as an opportunity rather than a threat and has embraced this concept in his work (Bowman & Willis, 2003). Gillmor refers to participatory journalism as a disruptive force. He is optimistic, however, that it is a healthy disruption when people use the power gained from innovation in the pursuit of new ideas.

The democratization of information affects educators and journalists. Educators may feel threatened when students expect more choices, more viewpoints and are less willing to accept instruction delivered through an established format. Journalists may find their role as a gatekeeper of information undermined by untrained independent journalists. These independent journalists are engaging is new kind of journalism; participatory journalism which has evolved with the Internet. According to *We Media,* participatory journalism is the act of a citizen, or group of citizens, playing an active role in the process of collecting, reporting, analyzing and disseminating news and information. The intent of this participation is to provide independent, reliable, accurate, wide-ranging and relevant information that a democracy requires (Bowman & Willis, 2003). This vast audience willing to participate in the gathering, editing and dissemination of information could be an opportunity to enhance learning and understanding.

Web 2.0 concepts are taking place in many areas of the Internet. Practices such as letting users' tag content for future searches in databases instead of using taxonomy created by experts is an example of encouraging the user to be an active participant and exert control over their own environment. This can be seen in online sites like Flickr (www.flickr.com), a photo sharing site, and del.icio.us (http://del.icio.us/), a social bookmarking website used for bookmarking favorite sites online and sharing these with others. Digg (http:/www.digg.com), a technology news website that combines social bookmarking, blogging, RSS, and non-hierarchical editorial control also illustrates the power of the user. With Digg, users submit stories for review, but rather than allow an editor decide which stories go on the homepage, the users do. Rich media and rich user experiences can be seen in sites such as Google maps, PBS.org, the New York Times, etc. that regularly include video, audio and interactives on their news sites. User participation and control can also be seen in web sites such as, Amazon and eBay where user comments and activities are essential components in the ranking and review of products and sellers. It is also a critical part of the world of blogging and collaborative sites like Wikipedia. The type of information exchange in a blog is one of an individual sharing knowledge. Readers comment on the blog and add information, often in the form of links to other web sites and blogs. Wiki's are the result of the collaborative efforts of many. In the case of Wikipedia, it allows submissions by all. This assumes a level of trust of the public sphere that is not common. Mashups are websites that combine content or services from many different sources into one website. The classic example of this is the overlaying of Google maps on other data such as home sale sites. Mashups are another

example of users taking control of their own learning environment and assembling content that meets their needs.

Another good example of the power of collaborative effort can be seen at Pandora.com. Pandora.com, a spinoff of The Music Genome Project, is according to their website http://www.pandora.com/mgp.shtml, a group of musicians and music technologists with the goal of creating a comprehensive analysis of music. The group assembled musical attributes or "genes" into a very large Music Genome. The idea is that these attributes (melody, harmony rhythm, instrumentation, arrangement, etc.) taken together, capture the individual identity of a song. For the user, this means that the identification of a favorite song can lead to a personal online "radio station" playing songs with the same musical essence. Each song played on a personal radio station has song and artist information along with a direct link to iTunes or Amazon to buy the song. A new radio station can be created based on a new favorite song as you are listening to it.

The educational concept of building reusable, adaptive, scalable learning objects can also be seen in Web 2.0 developments. The idea of the Web as a platform supporting small, loosely joined components with users interacting with useful segments, fits with the same ideals that allow for flexible, reconfigurable information in online learning. Web content development applications are being geared toward the concepts of reusability and adaptability. Macromedia (now Adobe) has taken a leadership position in developing applications that support these concepts and have written several white papers on learning objects, e-learning, creating interactives and rich media (http://www.adobe.com/resources/elearning). Flash is one of the premier products for developing interactive content. The concept of reusable, reconfigurable, adaptable

content is useful in education where content can be reused in another class. But, even more importantly, if that content is created as a learning object, then pieces and parts will be useful in their own right. For instance, an interactive on World War II might be useful in its entirety for another history class, but the audio segment of a Tokyo Rose radio broadcast might be used in a psychology class. The online portion of this project contains an example of this learning object. If this interactive is built in Flash and organized so that each of the component parts is readily available as an independent learning object, then the value of the piece increases significantly. This can easily be related to content in journalism. A large production piece might be created, but other stories or other sites might be interested in only a small part of the production. If articles, videos, etc. are built with the concept of learning objects in mind, greater use and value may be built into each object.

Advances in technology are helping to bring to fruition many theories of learning (some articulated long before the advent of that technology). Foremost among those theories is the importance of actively involving people in their own education and information seeking. Giving control to the information seeker and permitting and facilitating interactions and information exchange between people reduces the traditional gatekeeper hierarchy of information dissemination. Facilitating active learning with rich media and open channels of communication is relevant not only to education but also to journalists.

Application of Theories

The online prototype website of this project incorporates a number of the educational theories reported in this study. Information Architecture practices and educational theories are integrated in this online news website. Information Architecture promotes website design developed around the needs and capabilities of the intended audience (Chirosca, 2006). The development of the website associated with this project incorporates this information architecture concept to demonstrate how to create a news site geared toward the active engagement of the reader.

Planning a Website

An important task in creating a website is to plan around the needs of your intended audience. The illustration shown below is a baseline assessment of an online news site. Throughout the process of planning, design and implementation, it is important to ask yourself "what's the point?" You'll need to decide what are you trying to accomplish, what your message is, and what really is the focus of the site.

Creating a baseline assessment can help keep your focus. The assessment answers the questions about what your site represents; a business, a department, a product, an individual, a social movement, etc. Is it a stand-alone site? Should it be a portal to other sites? Is it a reference site? Will it be part of a larger web site in the future? Who is the intended audience?

This baseline assessment maps how to create content for online dissemination (who are my sources, how do I collect and assemble/create news stories, how do I disseminate the news?) It is not a map of the web site (that comes later). This is

essentially an organizational chart of how content will be assembled, created and disseminated.

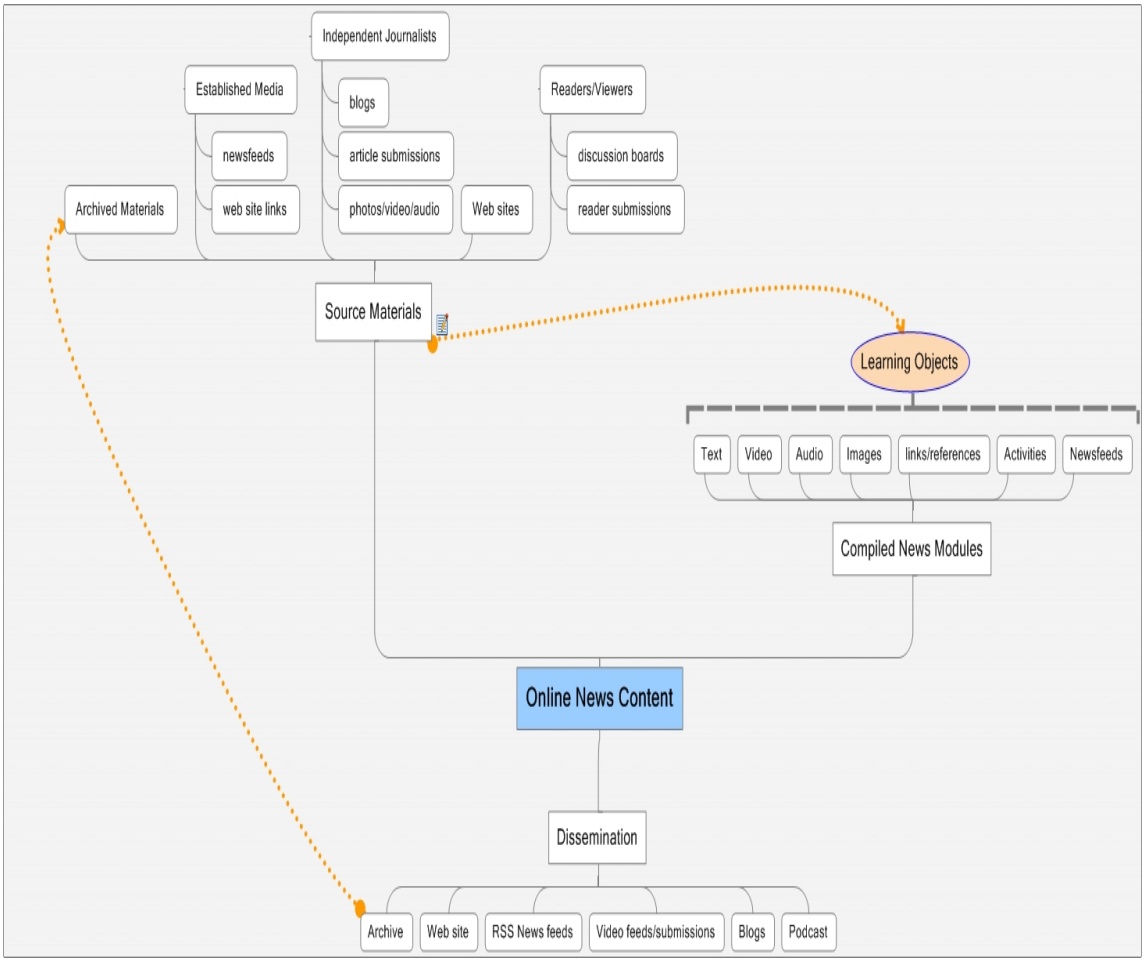

Figure 1: Baseline Assessment
Available Online:
http://www.personal.kent.edu/~vkelly/onlinej/website_creation/planning/OnlineNewsSiteBaselineAssess.jpeg

The source material for the online news content includes newsfeeds and links to established news media outlets, blog excerpts, submitted photos/video/audio/text from independent journalists (you or others), non-news web sites, and submissions from readers and also archived materials from previous stories.

These news pieces are the equivalent of learning objects - chunks or pieces of information that can be used by themselves or be included in a compiled, more

comprehensive story. I have chosen to organize these learning objects by physical type including text, video, audio, images, links, activities/interactives and newsfeeds. These are then compiled into news modules. These compiled news modules can be further organized by author, date or some other taxonomy. Even the early conceptualization of the website incorporates the idea of rich media. Creating content using a variety of media, such as video, audio and text will allow the user to access information based on their preferred learning style.

The next step in this map is disseminating the news content. It's important to realize that the website itself is not the only or ultimate medium. It may serve as an inclusive repository, but various news modules may be disseminated through other means. For instance, you may create RSS feeds for your news stories that are picked up by other bloggers or journal sites. Your video may go out for mass consumption in videocast sites such as YouTube or Channel One. You may have subscribers to the podcast only or specific sections of your news site.

Even when a baseline assessment is done and a plan is created, it is still necessary to constantly ask yourself "what's the point" throughout the development. Because there are many facets to a web site, many variations of processes, many interesting and new ways of doing things, it is easy to get sidetracked from your original goals and not allocate your time to aspects most relevant to accomplishing your goals.

Organizing a Website

The more planning you do at the beginning stages, the easier your web-build and maintenance will be. After you have conceptualized the project, you will want to think in

more detail about the content and how to organize it. Part of the organization will be to think about the user and how they will navigate around your site. The other important aspect of your organizational structure will be how you organize folders and files on your computer so that you can easily update and reuse component parts of the site.

The creation of a wireframe or content map can be very beneficial. Here is a content map for this site:

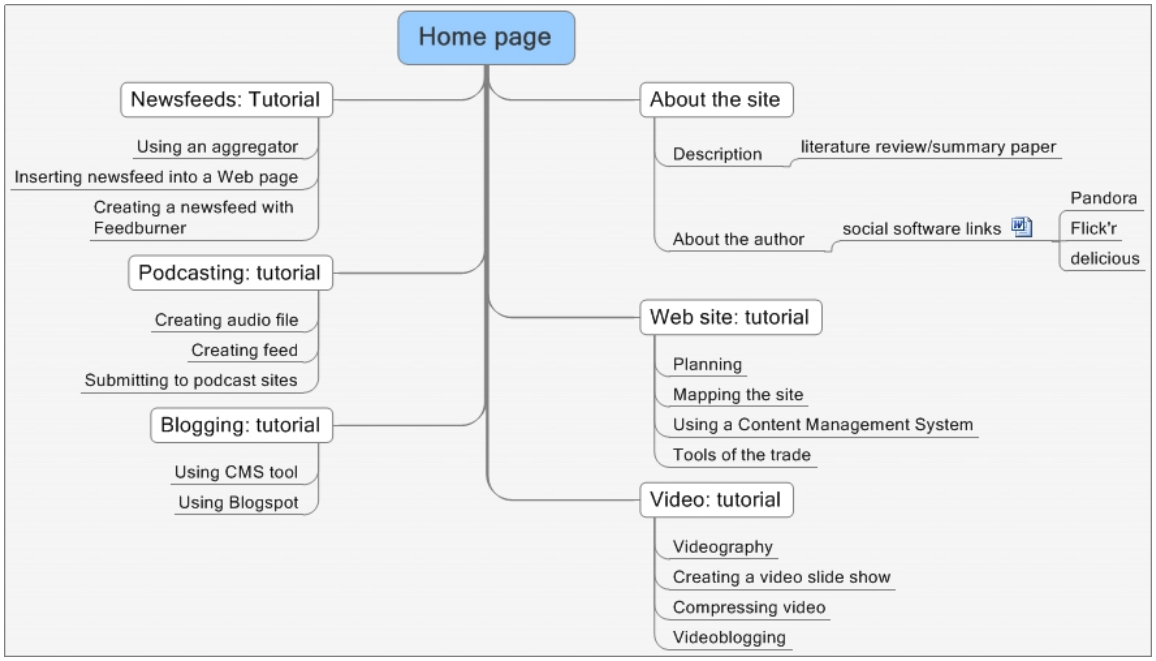

Figure 2: Content Map
Available online:
http://www.personal.kent.edu/~vkelly/onlinej/website_creation/planning/wireframe_homepage.jpeg

The white boxes on this map represent the main navigation buttons for the site and the text connected beneath each box represents the sub-navigation for each page. The main navigation can be seen in a screenshot of the actual website home page.

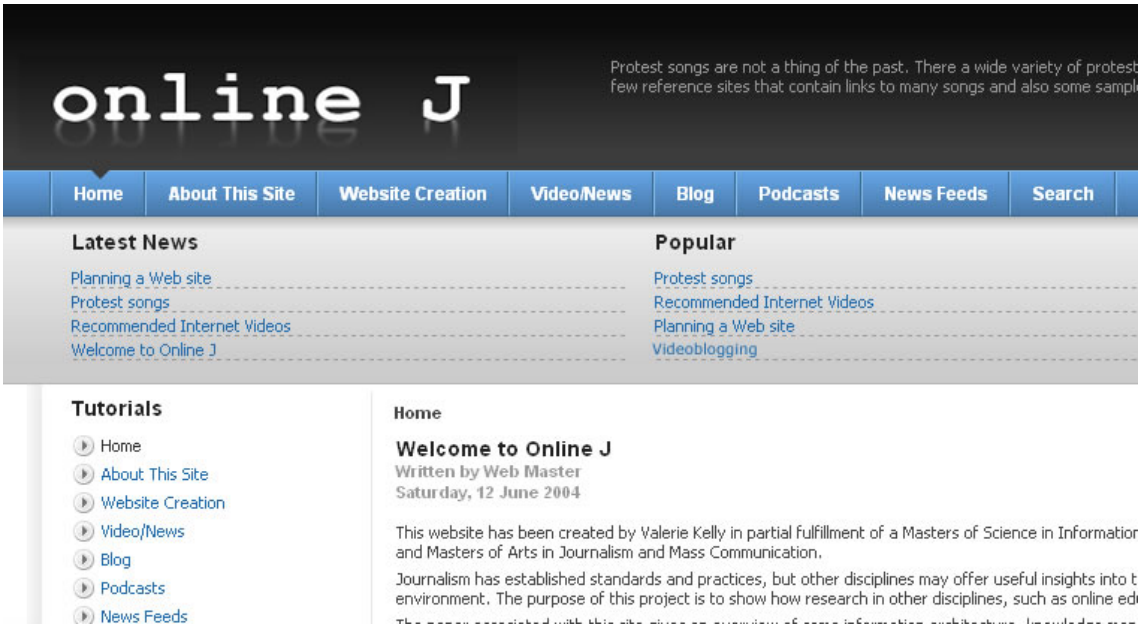

Figure 3: Navigation
Available online: http://joomla.slis.kent.edu/vkelly/

An important aspect of developing the navigation for your site is to give the user control. The ability to navigate easily and to find related information without difficulty gives the reader control over the depth and/or breadth of their information acquisition. If you bear in mind that users have differing learning styles, you can build in features that let the user make choices in the way they acquire information. A site that includes many different types of media and allows for online content to be easily converted to print is a rudimentary, but important feature for online sites.

Creating a Social Presence

Just as in an online class where the instructor may introduce themselves by posting a biography or an introductory video, journalists should let their readers have some sense of who is creating the news site. This is especially true for independent

journalists. A traditional news outlet generally has an established reputation built from years of news reporting and readers know that editors provide oversight of accuracy. Readers generally do not have this same assurance from independent news sites. A study by the Pew Center found that readers often turn to the Internet to get information from a wider range of viewpoints (Project for Excellence in Journalism: Online, Public Attitude 2005). The value of independent news sites for many readers is that these independent sites are often providing a variety of perspectives on the news.

First-person narratives are not uncommon forms of story-telling on an independent news site. This is quite different from a traditional news story. In the world of independent journalism, trust must be built from the bottom up. Credibility must be earned through the behavior and information provided (Bowman & Willis, 2003). Commonality of interests and purpose can help create a bond of trust. When opinion or individual perspective is provided in an online journal, it is important to let the reader know who is telling the story. Providing information about the author may serve as a mechanism to create trust.

Social software can be an interesting way to create a social presence. As the screenshot shows, I used Pandora.com to let readers hear what music I listen to, Flickr.com to see photos that I've posted and Del.icio.us to see what websites I've bookmarked.

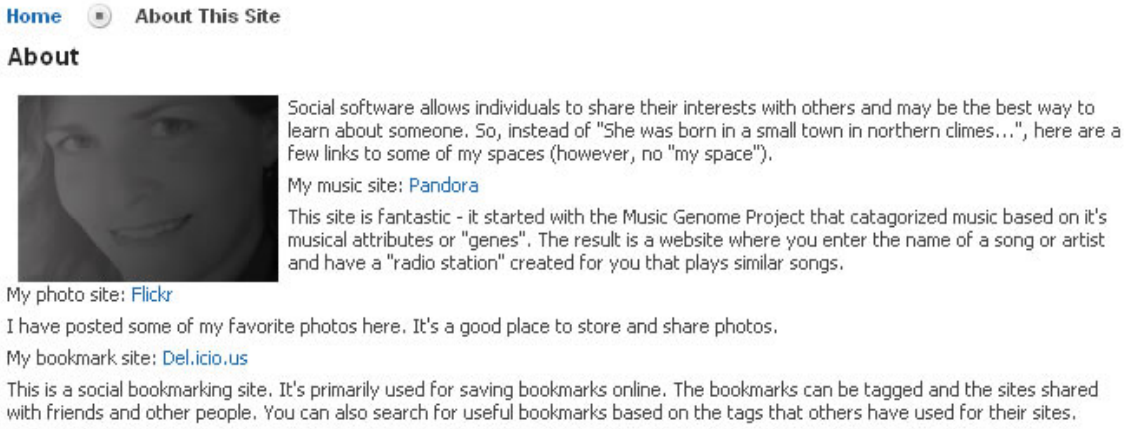

Figure 4: Social Presence
Available online:
http://joomla.slis.kent.edu/vkelly/index.php?option=com_content&task=section&id=5&Itemid=31

Giving the User Control

Another aspect of a news site is to allow the user to have as much control over their information environment as possible. One method of achieving this is to create lists of short story summaries and allow the reader to choose to read more or to skim the short summaries.

Figure 5: Story Lead-ins
http://joomla.slis.kent.edu/vkelly/index.php?option=com_content&task=blogsection&id=2&Itemid=34

These stories should also be available in various formats. In this screenshot, notice that there are icons for viewing the article as a pdf document, to print the article or to email it.

Really Simple Syndication (RSS) is a way to give users control over how they receive content. Readers can subscribe to your site or to portions (articles, podcasts, videocasts) of your site and automatically receive new content on the aggregator that they have installed on their computer or that they access on a web site. More detail about using an aggregator and creating RSS news feeds can be found in the project website. The importance of RSS newsfeeds is that they allow the user to create their own personal news site that is an aggregation of the sites to which they have subscribed. Instead of searching through many websites they can view their favorite news sources in one place.

Figure 6: Syndicating Content
Available online: http://joomla.slis.kent.edu/vkelly/

Another important facet of online news sites is encouraging user submissions. Most blogs allow user comments on text entries. Sites like *YouTube* exist because of user-submitted content. The project website includes a login area, where users can register and make submissions to the site.

A controlled entry will allow for subscription access to some parts of the site. It can also facilitate the collection of content from a variety of people.

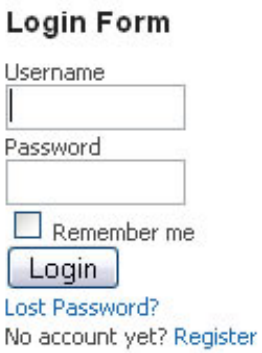

Figure 7: User Login
Available Online: http://joomla.slis.kent.edu/vkelly/

Contributions of content can be made available for registered users only. This type of contribution will allow the administrator of the site some control and oversight of content being submitted.

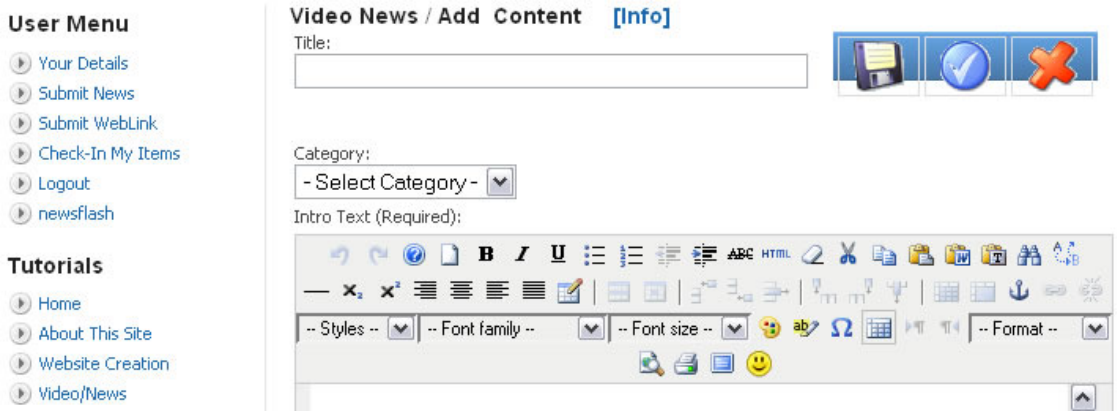

Figure 8 User Submissions
Available Online: http://joomla.slis.kent.edu/vkelly/

Just as in online education where the instructor may act as a facilitator or a "Guide on the Side" (Collison, et.al. 2000), on an online news site, a journalist can also act as a facilitator for the exchange of news.

Creating Active Learning Opportunities

Another method of giving the user control is to create active learning opportunities. User submissions, discussion forums, comment areas for articles and polls are a few ways of engaging the user and giving them control over their own learning environment.

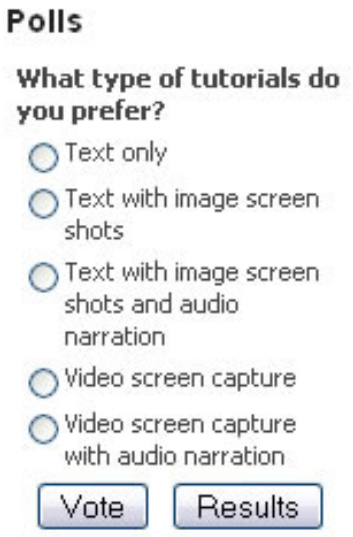

Figure 9: Polls
Available Online: http://joomla.slis.kent.edu/vkelly/

Interactives also allow a user to engage with a learning object. Interactives encourage the user to actively engage with the content. It is usually a multimedia piece that engages senses beyond sight and that allows the user to make choices about what is or isn't viewed. They can also engage the user with questions to answer or by allowing the user to rate or categorize the information. Many interactives are made with Adobe (formerly Macromedia) Flash. Flash is a product that allows developers to combine video, audio, animation, text and interactive navigation so that the user can manipulate or make choices in the multimedia piece. It may be as simple as a video player that lets the

user choose between various videos or it can be as complex as allowing the user to create their own story. Here is an example contained within this online news site. It is a Flash piece that lets the user choose a character and learn about World War II from their perspective.

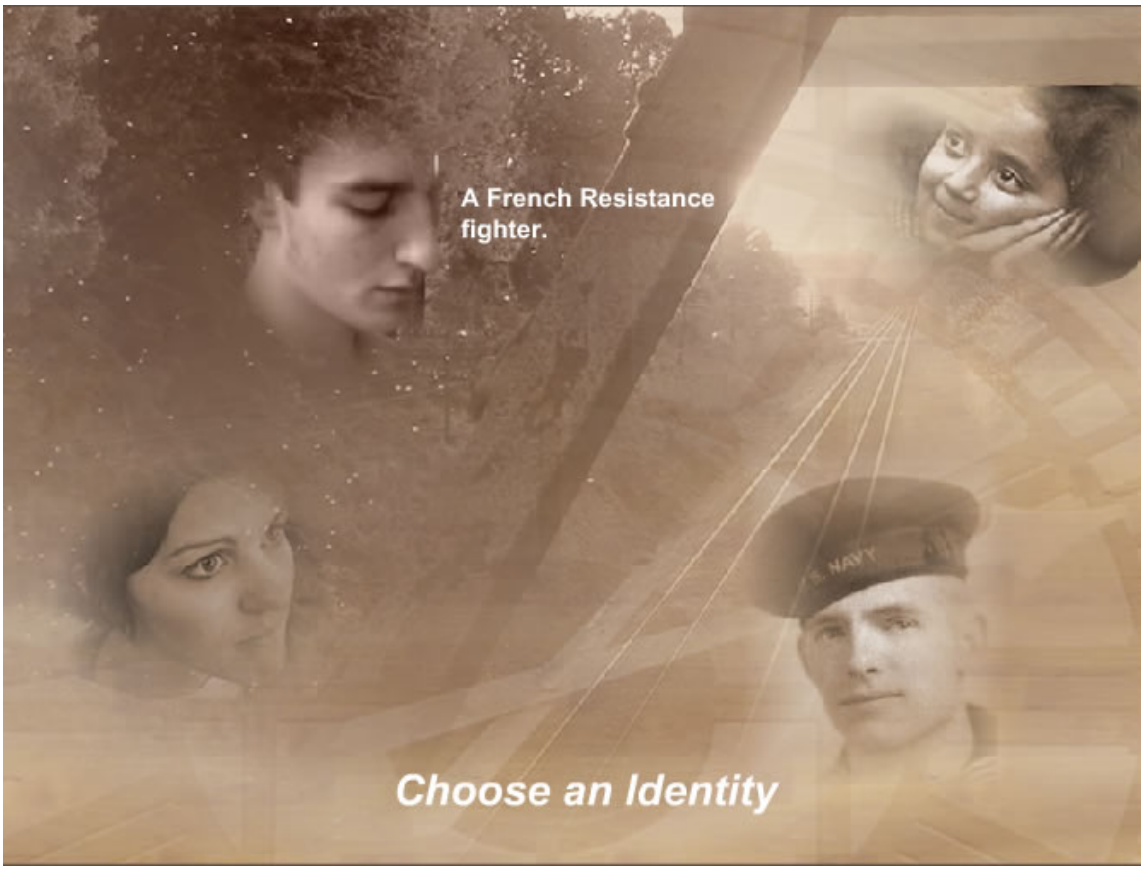

Figure 10: Flash Interactive

Available Online: http://www.personal.kent.edu/~vkelly/examples/test7.swf

Macromedia (now Adobe) has been on the forefront of interactive creation. They have promoted interactives integrated with the concept of learning objects. More information on their research can be obtained from: http://www.adobe.com/resources/education/whitepapers/.

Conclusion

The online portion of this project provides several tutorials for creating an online news site. The site was designed as an example of a news site that promotes engaged learning. It was developed using the content management system, Joomla. This open source, content management system (CMS) was chosen because it included modules, such as polls, syndicated feeds, and user logins. These types of interactions can be created by various means, but their inclusion in the CMS made it a logical choice in creating an online news site. In this particular CMS, interactivity and modularity are built into the design of the system. More information on web development using a CMS is included on the site.

There are many new products being created that help a content developer create interactives and content that promote active learning and engaged users. The goal for the website is to facilitate those wanting to get started in creating an online news site. By understanding the theories and practices of higher education, journalists may better comprehend how to create compelling presentations and engage their audience.

As more people join the online world and experiment with creating engaging information sites, innovative ideas will continue to flourish. The Internet offers an exciting opportunity for people to access information and also to create and share their knowledge.

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