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# GOING ELECTRONIC WITH THE AIR FORCE BASE NEWSPAPER

By

STEPHANIE A. HOLCOMBE

A THESIS PRESENTED TO THE GRADUATE SCHOOL
OF THE UNIVERSITY OF FLORIDA IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS IN MASS COMMUNICATION

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To my family and friends, especially those in Oklahoma, Texas, Florida, Tennessee, and South Carolina.

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Abstract of Thesis Presented to the Graduate School
of the University of Florida in Partial Fulfillment of the
Requirements for the Degree of Master of Arts in Mass Communication

GOING ELECTRONIC WITH THE AIR FORCE BASE NEWSPAPER

By

Stephanie A. Holcombe

May, 1996

Chairman: Dr. Ralph L. Lowenstein
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This case study examines the basic design of an existing online newspaper and applies that knowledge to designing an electronic Air Force base newspaper by studying the form and function of Sun.ONE, a joint electronic newspaper venture by the Gainesville Sun and the Interactive Media Lab at the University of Florida's College of Journalism and Communications. Studying Sun.ONE provides a baseline guide to help determine the feasibility of an electronic Air Force base newspaper, and whether a bulletin board system based or World Wide Web-based system would best serve the needs of the Air Force. Because of the rapidly-changing nature of the Internet and the World Wide Web, definitions were established for key terms to provide a common basis for discussion. This thesis provides a brief history of electronic publishing as well as the events leading up to Sun.ONE. The last two chapters focus on military base newspapers, and applies the information learned from the study to how an electronic Air Force base newspaper might achieve those same goals.

# CHAPTER 1
# INTRODUCTION

Not a day passes without new doors opening to the vast electronic world known as cyberspace. This new computer technology has far-reaching effects on the world of newsgathering, as print and electronic media converge to form a new medium. Perhaps fearful of being left behind in the rush to go online, many conventional newspapers are venturing onto the Internet with electronic versions of their printed products (Schweitzer 689). Depending on the source, numbers indicate more than 105 electronic newspapers have materialized in the United States, with more planned each day (Hakala 132-141). This number has grown from 20 in 1993 to 391 in 1995 (Outing, "Online Newspaper Services FAQ").

## Traditional Newspapers

Grolier's Multimedia Encyclopedia defines a newspaper as "an unbound publication issued at regular intervals that seeks to inform, analyze, influence, and entertain" (Merrill). Like the nation itself, America's newspapers have evolved throughout this country's 220-year history. Beginning with its arrival in the colonies, the newspaper played a key role in shaping American society. The growing pains of an awakening nation were expounded through the colonial press, politically influencing and encouraging the independence later won through the Revolutionary War. After years of use as a political propaganda tool, the newspaper evolved from an elite, political press to a source of information available to the common man in the mid 1800s. Through the "penny press," mass communications took great strides, bringing all economic classes into the ranks of newspaper readers (Becker 109-110). Following the Civil War, newspaper

magnates such as Joseph Pulitzer, William Randolph Hearst, and E. W. Scripps took journalism in a new direction, creating fierce competition among the industry's leaders. In the late 20th century, more than 150 group-ownership conglomerates form some of the largest newspaper chains in the industry. Gannett, Knight-Ridder, and Scripps Howard, just to name a few chains, are responsible for providing Americans with their daily dosage of news and information.

Newspapers offer readers a varied collection of information covering a range of interests, such as news (local, national, and international), weather, sports, editorials, business and finance, and entertainment, as well as photography, art, and of course, advertising, without which the newspaper would cease to exist. A newspaper receives about 80 percent of its revenue from advertisers with the remainder coming from subscriptions (Lail 40). Newspaper content, a product of an internal decision-making process, identifies key issues of the day, and in many instances, helps to influence the public's perception of the importance of those issues (Severin and Tankard 220).

Each day, newspapers are physically delivered to newsstands, homes, and businesses (discounting weeklies, biweeklies, monthlies, and other periodic publications). This laborious process has no real beginning or end; it operates as one continuous loop. As the day's ration of daily news hits the streets, the next day's portion heads for the presses. Deadlines are strictly followed. However, the nature of the newspaper process makes it difficult to compete with more timely media such as television and radio. A key drawback of operating a newspaper is the high cost of production—rising costs of energy and paper, and delivery costs. The infrastructure needed—presses, design and layout equipment, means of delivering the paper—as well as the employment base, make operating a newspaper an expensive business. Nearly 60 percent of newspaper costs are due to printing and distribution (Aumente 36).

Expense not withstanding, the newspaper continues to fill an important need in today's society. Even with the all-news television channels available, people still turn to

the newspaper to stay abreast of current events. Providing more in-depth information than broadcast media's "news bites," newspapers dig deeper into an issue, analyze it, and capture feelings and opinions, painting mental pictures through vivid writing. It is this sense of community created by the print medium where people turn, reinforcing their ideas with shared viewpoints. The newspaper becomes an assemblage of key events, thoughts, and opinions shared by the community it represents. Through editorials and letters to the editor, newspapers comment on events affecting their communities, helping to bring members together as they discuss what is read each day. Nowhere else in the world is the press held in such high esteem that a nation's constitution guarantees its freedom (Becker 103). Electronic newspapers are an extension of that freedom of the press.

## Electronic Newspapers

Differing radically from their print counterpart, electronic newspapers do not suffer from the same constraints. Space is no longer limited to the "news hole" available amid the advertising found in print; space on the Internet is limited by the storage space of the host computer. While money becomes the driving factor behind most journalistic institutions, providing news electronically is considerably less expensive. No longer needed are the infrastructure and employment base used by print products. A computer configured to handle incoming telephone calls or network connections, a system operator, and a limited staff to upload information can provide an interested user with another source of news.

Electronic newspapers come in a myriad of forms—limited only by the imagination—through a variety of systems. A number of newspapers have agreements with online services such as America Online, Prodigy, and CompuServe. For instance, USA Today is available through CompuServe. The Atlanta Journal and Constitution is available on Prodigy, and the San Jose Mercury News and the Chicago Tribune are

available on America Online. Other online newspaper projects such as the Tulsa World, the Baltimore Sun, and the Sacramento Bee, to name a few, are reported to be working on electronic products available within the next year or so (Outing, "Newspapers Reported to be Working on Online Projects").

Rather than using an existing online service, more than 35 newspapers are available as stand-alone products by creating their own electronic bulletin board services (Outing, "Newspaper Local Dial-up Services/BBSs"). The Albuquerque Tribune, known as the Electronic Trib, and the Gainesville Sun's Sun.ONE (Sun Online News and Entertainment), are two electronic newspapers available through bulletin board systems (BBSs). These systems offer dial-up access to anyone with a computer, modem, communication software, and a telephone line. For added screen enhancement, specially designed communication software is available.

Electronic newspapers typically offer the latest information on what is transpiring in the news. Unlike print journalism, breaking news virtually is instantaneous in the electronic world. For example, William W. Burrington, assistant general counsel and director of government affairs of America Online (AOL), Inc., testified before a Senate judiciary committee,[1] that within minutes of the Oklahoma City bombing April 19, 1995, the news department at AOL set up a special Oklahoma City news section on the service. Burrington testified that "hundreds of thousands" of AOL members entered this special news area on the day of the disaster and in the weeks that followed. He described the area as featuring "up-to-the-minute news and information, 15 chat rooms for members to exchange news and views about the tragedy, a message board, and live coverage from NBC's Oklahoma City affiliate" (Burrington). Availability of electronic information is limited only by the speed of the writers.

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[1] Title of the committee was the Subcommittee on Terrorism, Technology, and Government Information.

## Air Force Newspapers

Typically a weekly publication, the Air Force base newspaper is designed as a communication tool for the installation commander (hereafter referred to as the commander). It is used to inform as well as to build morale by covering the unit's mission and the people who accomplish that mission. The base newspaper is designed to strike a balance between Air Force command news and local news and to meet the needs of the audience—officers, enlisted, civilians, retirees, and family members. A military installation is run much like a small city with its own stores (grocery, department store, convenience store, dry cleaners, etc.), recreation centers, and housing facilities. The newspaper serves this community.

The base newspaper consists of military news—local, command, and in this case, Air Force news service—features and sports articles, as well as editorials, news briefs, announcements, photographs, and artwork. Although there are no letters to the editor, there is what is generally called a "hotline" column where answers to direct phone-in questions are provided by the commander and printed in the paper. Readership surveys conducted through the years have shown the commander's hotline column to be the most popular section of the paper (The Editor's Bible 4).

Most military newspapers, regardless of the branch of service, are published as commercial enterprise (CE) publications. After a civilian publisher is awarded the government contract based on a bid, the contract is signed for up to two years with one- or two-year renewal periods for a total of up to six years (U.S., Dept. of the Air Force Instr. 6; Dept. of Defense Instr. 5120.4). Under the terms of the contract, the publisher is guaranteed first publication and distribution rights of the editorial content of the newspaper. The responsibility of creating the base newspaper falls to the base Public Affairs (PA) office. Under the terms of the contract, the PA office's newspaper staff provides all copy, photos, and artwork to the publisher who bears all costs and depends on

sale of advertising to make a profit (U.S., Dept. of the Air Force, Instr. 35-301 4). Most publishers provide the PA office some type of desktop publishing capabilities, and in some instances, they not only provide the hardware and software, but also provide a layout technician on newspaper production days.

Although the primary use of the base newspaper is as the commander's communication tool, the newspaper is held to standard newspaper guidelines. It follows current layout trends, news values, deadlines, and the Associated Press stylebook rules with some modifications. Probably one of the biggest differences between a military and civilian newspaper is the coverage of "news." Military editors are charged with ensuring locally originated material

> reflect the policies of the commander and are in the interest of the Air Force. Editorials should help readers understand Air Force policies and programs. They must not imply criticism of other Governmental agencies, or advocate or dispute specific political, diplomatic, or legislative matters. (U.S., Dept. of the Air Force, Instr. 35-301 4)

As with most weekly publications, late-breaking news sometimes becomes too old for coverage, except as a news note mentioned in the next week's edition. Another issue affecting "news hole" decisions is the "must run" article or editorial from the commander or higher level, required to run in a specific issue. Although referred to as a newspaper, the ultimate purpose of a military base newspaper is for the commander to relay important information. Used in this capacity, the newspaper may bear a closer resemblance to an internal house organ rather than a "news" source.

The public affairs officer (PAO) is responsible for enforcing all deadlines, ensuring contractual agreements are met, and reviewing advertising prior to publishing.[2] Because

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[2] Air Force Instruction 35-301, Sec. 3.3.2.5 and 3.3.2.6 state: "An Air Force newspaper must not carry any advertisement that implies discrimination." "... it is Air Force policy to conduct its affairs free from unlawful discrimination and sexual harassment. It provides equal opportunity and treatment for all members regardless of their age, color, national origin, ethnic group, race, religion, and sex except as prescribed by statute or policy. An Air Force newspaper may not carry paid political advertisements."

the publisher's income comes from the sale of advertising, the commercial enterprise newspaper may not always be a viable option at some bases, especially overseas where the advertising market may not be sufficient to attract a commercial publisher. In those cases, appropriated Department of Defense (DOD) funds are used to publish a base newspaper.

Members of a public affairs staff are trained in newspaper production, to some extent. All PA personnel are required to attend a DOD-operated PA technical training school at Fort Meade, Maryland. The Defense Information School, or DINFOS as it is called, trains enlisted members, officers, and civilians in basic journalistic skills, newspaper trends, and limited photography skills. Officers are trained more on management skills, while enlisted members are given extensive journalism training and attend a follow-up editor's course later in their careers.

The basic Air Force base newspaper staff (usually enlisted) consists of an editor and perhaps one or two staff writers. The job of compiling the material for each week's edition falls on the editor who makes story and photo assignments to staff writers—and sometimes to other PA staff members—collects submitted copy and designs the layout. Not only is the editor faced with the same pressures of deadlines and decisions as civilian editors, but the editor endures considerable arm twisting from clubs, base organizations, and other units to get submitted stories and photos published, including those items with questionable news value. Staff writers spend time chasing down story ideas, conducting interviews, and setting up photo sessions, as needed. The staff writer also helps with layout design, photo editing, and verification of facts. At times, the staff writer may step in as editor if vacation time is planned or the editor is sent off on a temporary duty assignment.

The person ultimately responsible for the base newspaper is the commander. Many commanders recognize the critical nature of the newspaper and pay particular attention to what appears in print. As such, it is not uncommon for the editor to have a standing weekly meeting with the commander to discuss the contents of the upcoming

edition. The PA officer, who works directly for the commander, attends regular staff meetings and often is called in when key issues, especially those with potential for news media attention outside the gates, are discussed. Often these issues provide newspaper story opportunities and the information is passed along to the editor who assigns a staff member to cover the story.

## Need for Study

As the world becomes more computer-oriented, and more services and information become available electronically, more people will turn toward the computer as an information source. Although computers once were available to a privileged few, the surge in computer popularity and innovations within the computing world have opened doors to people of all social economic backgrounds. The military is no exception. The Air Force now maintains a presence on the World Wide Web. AirForceLINK, the Air Force home page on the Web, launched in March 1995. The site, providing fact sheets, biographies of key officers, command information, news releases, job listings, and links to more than 150 other Web sites, is updated throughout the day.[3] With this surge in popularity of electronic communication, creating electronic Air Force base newspapers is a logical next step.

News articles written about the Internet, the World Wide Web, database information, online services, and to some extent, electronic newspapers, appear daily. For the most part, these articles cover specific events, such as another big-name newspaper tossing its electronic version on the doorsteps of the computing community. However, not much has been written about the mechanics of creating an electronic newspaper. This

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[3] The Web site, URL address http://www.af.mil is operated by the Office of the Secretary of the Air Force Public Affairs in the Pentagon. DefenseLINK, a gateway to Department of Defense information, is available at http://www.dtic.dla.mil/defenselink/.

thesis will attempt to outline the considerations involved when designing an online newspaper.

The method chosen to accomplish this task is an in-depth case study of Sun.ONE, a jointly produced electronic newspaper developed for the Gainesville Sun by the University of Florida College of Journalism and Communications' Interactive Media Lab. The selection of this newspaper for study is based on several facts. Sun.ONE was designed as an experimental interactive newspaper "to serve as a prototype for community newspapers interested in exploring the world of electronic publishing at reasonable cost" (Carlson, "About Sun.ONE"). Sun.ONE provides traditional newspaper services such as news, sports, weather, entertainment, and advertising as well as online services such as electronic mail, chat, and teleconferencing. For subscription users, Sun.ONE also provides Internet access. As such, a study of the design and implementation of this electronic newspaper can provide a valuable guide to use for designing an electronic version of an Air Force base newspaper. This thesis will examine the decisions that need to be made in developing an online newspaper.

The following hypotheses will be explored.

1. Air Force base newspapers can feasibly follow their civilian counterparts and create a successful electronic version of their printed product within the next three to five years.

2. If found to be feasible:

   a. a stand-alone bulletin board service will be the means for providing base news electronically; or

   b. a base can create a World Wide Web-based information site to provide base news via electronic communication.

Exploring these hypotheses should provide logical steps in making educated decisions on whether to start an electronic Air Force base newspaper, and if so, how to proceed with the task.

# CHAPTER 2
# LITERATURE REVIEW

> . . . by the time this ink is dry, something will have changed. That's the way it is in cyberspace (Taylor 2).

As the quotation by Chuck Taylor in Quill magazine states, the world of computers almost changes too fast for conventional print publications to keep up with it. A report by the Freedom Forum Media Studies Center reported there were seven newspaper, news magazine, and television broadcast stories about the information superhighway in February 1992. Two years later, that figure increased to 1,400 by February 1994. No singularly accepted name exists for this new medium created by the merging of computers with communication technology. Take for example, the terms "electronic media" and "new media." John Schweitzer defines "new media" as "microcomputers, teleconferencing, teletext, videotext, interactive cable television and communication satellites" (691).

Severin and Tankard's definition of new media mentions home computers and satellite transmission, and adds video cassette recorders, "electronic delivery of information (videotex and teletext), hypermedia (a new medium that combines publishing, television, audio, and computers), CD-ROMs, and high definition television" (7-8). Severin and Tankard point out how this new technology is blurring the distinction among communication technologies, confusing the definitions. They exemplify this by pointing out USA Today's use of satellite communication as the success behind the delivery of "the Nation's newspaper." Also, feature films, another communication medium, are available on HBO or at the local video store as well as in "a theater near you." To make the lines even fuzzier, newspapers are turning to online delivery of the news.

Just as the differences among communication media blurs, so do their definitions. Electronic publishing, for instance, referred to the use of computers in design and layout instead of using the traditional method of type-setting and paste-up. Today, the term electronic publishing can refer to newspapers, magazines, journals, books, and other "printed" products available online.

## Definitions

The dynamic characteristics of cyberspace make it necessary to define some of the basic terms and ideas used in this thesis. To help clarify the subject matter, the following terms and their definitions will be used. Definitions of more commonly used computer terms can be found at the end of this thesis.

Collectively, the system of delivering textual and graphical information electronically to the home television set, computer, or special terminal via a broadcast signal, telephone line, coaxial cable, or fiber optics, falls under the generally accepted term of videotex. Breaking this definition down further, teletext is associated with one-way communication services, while videotex denotes two-way services (Tydeman, et al. 2). These forms of delivery systems depend on computer-based systems such as electronic databases—banks of data stored in computers—as their source of information. Other terms used interchangeably with videotex are viewdata, videotext (spelled with a "t"), and interactive videotex. Teletext can be referred to as teletex (spelled without a "t") and broadcast videotex.

Today's electronic newspaper certainly fits the description except for requiring special equipment for reception of information. Any home computer system equipped with a modem and communication

software is capable of accessing most electronic newspapers. John Ahlhauser defined an electronic newspaper as

> any method which electronically transmits directly to home terminals information which has traditionally been printed in newspapers. The electronic newspaper (sic) must have the capability of appearing on a video screen, be available on demand, and capable of remaining on the screen as long as the viewer chooses (1).

Top news stories, current news topics, weather, sports, entertainment and feature articles, opinion and editorial columns, classified advertising, and in some instances, comics—those elements found in a typical print product—are provided via the computer.

As goes computer technology, so goes the vernacular used to describe it. Yesterday, the term "electronic newspaper" referred to any online product designed to provide news, weather, sports, and entertainment directly to the home via computer and modem. Today, that term is being replaced with "interactive newspaper." This term denotes a news product provided through direct communication back and forth between the user and the information-providing computer through some form of interactive delivery system, allowing the user flexibility in the selection of information. Because of this shift in meanings, members of the online world prefer to describe electronic newspapers as a one-way, pre-configured, unalterable document delivered to the home each day via electronic mail or fax, much like the New York Times "TimesFax" service or a product prepared in Adobe Acrobat format. Tomorrow, there may be another preferred term to describe news and information providers. Although a semantic difference exists between the two terms, for the purpose of this thesis, interactive and electronic will be used interchangeably when referring to online newspapers.

Online services, another form of information providers, fall into four main categories: consumer online services, commercial online services, bulletin board systems, and the Internet. Consumer online services provide computerized information and entertainment to personal computers for a fee. Designed for use in the home, three of the largest and most popular services, and certainly most competitive, are America Online,

Prodigy, and CompuServe. Commercial online services, designed for business use, provide information to businesses and business users. These services consist of full-text databases, financial and legislative information, clipping services (continuous searches for articles of interest to businesses), and information delivery such as faxing and electronic mail. Some examples of the are LEXIS/NEXIS, a searchable, full-text database service of legal and news information; Harvard Business Review Online; Dow Jones News Retrieval; and WestLaw, a computer-assisted legal research database.

With the advent of the modem and communication software, the home computer has become another avenue of communication. Electronic bulletin board systems are computer systems running special programs that allow other computers to call them over regular telephone lines. Run mostly by hobbyists on personal computers, BBSs have been operating since the 1970s. They provide virtual meeting places where people of all ages and backgrounds can "congregate" to retrieve information, share software, play games, and interact with others. Bulletin board system callers can "post" or respond to other messages, or "chat" with each other in real time. Other features of a BBS include electronic mail and, in some cases, Internet access.

In its simplest form, the Internet is a worldwide inter-network of computer networks, a "patchwork of commercial, educational, government, and public and private networks all cooperating to achieve an open, interconnected communications system" (December). Made up of physical links to other computers, the Internet uses a series of computer protocols, or communication rules, that manage the flow of information among these different computers. Together, these linked computers form the world's largest computer network.

## Electronic Newspapers

Scholarly journals and publications are behind in publishing anything directly addressing the subject of electronic newspapers. There are, however, numerous studies on areas such as the cognitive effects of computer software (Salomon), how computers are used in the home and the social impact of home use (Dutton, Rogers, and Jun), women in the workplace who use computers (Brunet and Proulx), the demographics of computer users (LaRose and Mettler), communication research's role in defining the early stages of a new medium (Biocca), and media's use of computer technology (Schweitzer). These studies predict trends, define terms, and identify areas for further study. Perhaps the lack of information specifically about online newspapers is due to the renewed interest in electronic delivery of news and information into the home. Whatever the reason, this is bound to change as the trend of bringing newspapers online continues to grow.

## Videotex

The idea of transmitting news and information into the home over a telephone line is not a new innovation. In the late 1970s and early 1980s, teletext and videotex began to gain popularity in Europe as new types of information media. Numerous studies were conducted to determine the effects these media had on the intended audiences, and many of the earlier writings touted the potential of electronic delivery of text and graphics. Much like John Lennon's song "Imagine"—"Imagine there's no heaven/it's easy if you try/no hell below us/above us only sky. . ."—the authors attempt to demonstrate the potential of this medium by appealing to the reader's imagination of what news and information would be like without print on paper, but easily accessible any time day or night via computer. However, as Ralph Lowenstein and Helen Aller point out in their Technology Review article, "History suggests that each new medium carves out its own niche while at the same time changing—but not replacing—older media" (29). By the mid

1980s, after it became evident United States videotex systems were not going to experience the success of their European counterparts, many experts delved into studying the lessons learned from the high-priced experiences: availability was limited, equipment and services were expensive, and delivery via two-way cable was unrealistic (Lowenstein and Aller 27).

While many of the early studies heralded videotex as the "communication technology which will usher in the 'information society' of the future" (Atwater, Heeter and Brown 807), Tony Atwater, Carrie Heeter, and Natalie Brown directed their study toward potential users and the skills needed to access this new medium. Their findings showed both men and women equally skillful at using videotex (814). They also found those individuals with prior computer experience less intimidated by videotex systems than those who had little-to-no computer experience.

A thesis written by Helen Aller assessed the potential impact of Viewtron on newspapers and whether the relentless march of computer technology would eventually replace print products. She points out that even though newspaper companies led the way in development of videotex services in the United States, they did so out of fear of losing advertising revenues to the new electronic medium (5). Companies such as Knight-Ridder, AT&T, Los Angeles Times-Mirror, Time Inc., and the Tribune Co., to name a few, all developed versions of videotex. Little did anyone realize that by the end of 1986, most videotex projects would shut down after losing millions of dollars. Knight-Ridder's major videotex experiment, Viewtron, cost the company $50 million, while the Times Mirror Co. lost an estimated $30 million on its project, Gateway (Potter 12).

David Weaver published the results of his European study of the "impact of videotex systems on journalists and their work, on the flow of news and information in a society, and on other media and their policies" (2). His study provides a concise historical background of technology developments such as the telegraph, the telephone, the Linotype machine, the vacuum tube, and the television, and the effects of these

technologies on journalists and their preparation of the news. Weaver found teletext and viewtex systems were quicker to update than other media, but not much different in news content as most information was provided by wire services and news agencies. Since these systems did not contribute much to the diversity of news, he stated that "teletext and viewdata are not 'electronic newspapers' because they contain only a small portion of the content of a newspaper, most of it not local in nature" (78). Combining this statement with the definitions of videotex and electronic newspapers as stated earlier, it is safe to say all electronic newspapers can be classified as videotex, but not all videotex can be classified as electronic newspapers.

In the textbook Teletext and Viewtex in the United States, the authors discuss the state of this new media in 1983 and predict what the future would hold. Unfortunately, Tydeman, Weaver, and others did not foresee the impending doom of this innovative technology. It would seem videotex was ahead of its time and technology, depending on equipment that was cumbersome (specialized terminals and decoders), pricing schemes that were too complicated for the average American to understand, and a system that competed directly with normal use of the television and telephone.

## Electronic Newspapers

Though not as pervasive in academic journals, the subject of electronic newspapers has become a favorite topic of communications trade publications and newspapers, and many have devoted considerable space to this growing trend in providing information. For instance, the January/February 1994 edition of Quill magazine dedicated more than half its issue to the subject of the "information superhighway" as was the May 1995 issue of the Public Relations Journal. Editor&Publisher produced a special supplement to its February 12, 1994, issue devoted to the topic of newspapers in the electronic age.

News note columns of journalism magazines such as Quill, Editor&Publisher, presstime, and Columbia Journalism Review, as well as news magazines such as Time, Newsweek, and U.S. News and World Report, are littered with news briefs announcing newspaper companies planning on going online and partnership deals between newspaper companies and online services. One such announcement in the April 22, 1995, issue of Editor&Publisher reported that eight of the largest newspaper companies plan to form a company designed to help small newspapers get online as fast as possible. The New Century Network, a union of Gannett Co. Inc., Knight-Ridder Inc., Times Mirror Co., Tribune Co., Cox Newspapers, Hearst Corp., the Washington Post, and Advance Publications Inc., will "advise on everything from hardware to marketing to programming," for a fee, and invites all U.S. dailies to join (Garneau 15).

Partnerships are not limited among newspapers or between existing online services and newspaper companies. An article in the December 10, 1994, issue of Editor&Publisher offered the advice of Tom Thompson, alliance manager for US WEST (one of the "Baby Bell" companies formed after the breakup of AT&T), to those newspapers considering an alliance with an online service: "Choose your partner carefully" (Stein, "Choosing an Interactive Partner" 16). The telephone company decided it was time to expand its horizons into electronic classified advertising. It sought out Denver's Rocky Mountain News based on the strength of its advertising market. While the News pulls in the advertising, US WEST provides all the technology. The bottom line in this partnership, as in all, is making money.

Rather than discussing the merits of online publishing as many articles do, Melinda McAdams gets down to the nuts and bolts of an electronic newspaper: design. She insists the differences between text on screen and text in print warrant an entirely new thought process toward designing a news product ("Molding the Medium" 30). News stories can be enhanced with descriptive graphics, overviews, timelines, and background information. With hypertext—highlighted words or phrases within a document that lead to more related

information—the reader can get more in-depth details of the story or perhaps the previous day's story and photographs. The key, McAdams insists, is to keep the interface simple. "When you give people something that is hard to use or annoying or inadequate, they won't use it" ("Molding the Medium" 33).

The unlimited space afforded online newspapers means more information can be offered. Many analysts see this as an enhancement to the printed version. David Carlson explains that the electronic service is a way to add value to the newspaper (Lail 40). The creator of the Albuquerque Tribune's electronic newspaper, the Electronic Trib, now directs Sun.ONE, a joint electronic newspaper project of the Gainesville Sun and the University of Florida's Journalism and Communications college. Advertisements in the Gainesville Sun direct the reader to Sun.ONE for more in-depth information. Likewise, the Electronic Trib offers free access to its service with a password found in each edition of the Albuquerque Tribune (Potter 15).

## Military Base Newspapers

If little-to-no writings exist in scholarly journals specific to interactive newspapers, there is even less written about traditional print military base newspapers. A search through Journalism Abstracts reveals less than 20 theses and dissertations with military newspapers as the topic. However, rather than focusing on the structure of the base newspaper itself, these writings focus more on specific topics such as gatekeeping decisions, the military and the media, readership surveys, career news and information after the advent of the all-volunteer force, and the Stars & Stripes, among others. De Forrest Ballou, a University of Florida graduate, completed a 1957 thesis where he studied the missions of Army newspapers and the general performance of those missions. The thesis reviewed the opinions of Army editors and reviewed the editorial performance of the newspapers with the thought of establishing newspaper standards (1-2). Although the

Air Force is a sister service to the Army, having evolved many of its traditions and regulations from the Army Air Corps after World War II, many of the ideas expressed in this thesis are no longer relevant. While this thesis is informative, it is outdated due to the changed nature of military news in general.

Air Force regulations and instructions provide the most information in regard to military newspapers. By the nature of the military, guidelines are fairly strict, without much leeway, a much different world than that presented in the 1957 thesis. Ballou stated "little official written policy dictates how the newspapers should be run, or what their specific missions should be" (1). Department of Defense instruction number 5120.4 provides overall guidelines for all DOD newspapers and commercial enterprise publications. Topics covered in this instruction include purpose, policy, and procedures for DOD newspapers. This instruction provides the basis for Air Force Instruction 35-301, Air Force Base Newspaper and Commercial Enterprise Publications Guidance Procedures, recently revised from Air Force Regulation 190-1, Section B, "Air Force Newspapers." As does the DOD instruction, both documents cover purpose, policy, and procedures for operating an Air Force base newspaper.

Because regulations and instructions can be difficult to understand at times, many commands develop newspaper guidelines, as did the internal information branch of the Air Mobility Command public affairs office. Not taken as hard-core regulations to follow "to the letter," The Editor's Bible provides guidelines to assist the newspaper editor to achieve the internal information goals as outlined in the regulations and instructions. This pamphlet is filled with helpful hints and reminders of good newspaper reporting, layout, and design.

The Defense Information School, the "schoolhouse" for all public affairs specialists, published a quarterly magazine, the Military Media Review until the late 1980s. This periodical provided added information, guidance, instructions, and suggestions for publishing a military newspaper, among other topics. Military newspapers are considered

"a timely, accurate and modern source of command information," demonstrating a commander's concern for his people by getting the message out to them (Carr 2).

With this thought in mind, this thesis will attempt to assimilate the current information available on electronic newspapers, organize it, and adapt it within the frameworks of an Air Force base newspaper to create guidelines for creating an online product.

# CHAPTER 3
# ELECTRONIC COMMUNICATION

Today's electronic hysteria began to take root in the late 1970s and early 1980s, according to the authors of The Online Journalist (Reddick and King 31). Since then, the use of personal computers has grown at staggering rates. However, getting a grasp on accurate statistics appears to be a difficult task. Because this medium changes daily, only a best "guesstimate" is possible. Whether people agree on total figures regarding the Internet or not, there is one consensus: Internet growth is exploding, approximately doubling in size each year.

## Trends in Computer Use

In the mid-1980s, there were only a few thousand Internet users. Less than 10 years later, the New York Times reported 15 million Internet users (Leccese 24). An October 1994 survey by Matrix Information & Directory Services (MIDS), a market research firm in Austin, Texas, specializing in Internet demographics, indicated there were 13.5 million Internet users at the end of 1994 (Matrix). By 1996, figures average between 20 to 40 million, depending on the source. Even then, information conflicts within the pages of a single publication. Take for example the May 1995 issue of the Public Relations Journal. Devoting nearly its entire issue to discussion of the online world, two articles gave two different figures for the number of Internet users: 40 million and 25 million (Major 24; Ross 36). Table 1 shows some of the discrepancies found throughout the readings.

Table 1. Number of computer users.

| Year | No. Users | Source |
|---|---|---|
| 1985 | few thousand | Quill |
| Nov 1993 | 15 million | New York Times |
| Jan/Feb 1994 | +20 million | Quill |
| Sept 1994 | 25-30 million | Time |
| Oct 1994 | 15 million | American Journalism Review |
| Nov/Dec 1994 | 25 million | Columbia Journalism Review |
| 1994 (end) | 13.5 million | MIDS |
| Jan 1995 | 20 million | Gainesville Sun |
| 4 March 1995 | 20-40 million | Editor&Publisher |
| May 1995 | 25 million | Public Relations Journal |
| May 1995 | 40 million | Public Relations Journal |
| 16 May 1995 | 20 million | PC Magazine |
| June 1995 | 20-30 million | Public Relations Tactics |
| 1 July 1995 | +40 million | Interactive Public Relations |
| 5 Feb 1996 | 9.5 million | Newspaper Assn. of America |

If the number of users is a difficult one to pin down, it is even harder to establish the number of modem-equipped personal computers in American homes. In the August 1991 issue of presstime, the results of a year-old study by Link Resources identified 22 million households with personal computers. Of them, about 29 percent were equipped with modems, equating to about 6.3 million modems (Potter 13). Quill magazine devoted its January/February 1994 issue to the electronic evolution. One article reported 12 million households with modem-equipped personal computers (Lail 39). A year later, Editor&Publisher reported 12 percent of American households had personal computers with modems (Fitzgerald 36). Of the 250 million households on record with the U.S. Census Bureau, that equates to about 30 million PCs with modems.

Susan Fry Bovet, writing for the Public Relations Journal in May 1995, listed the growth rate of the number of Internet users at 10 to 15 percent per month (33). Frank Biocca in his Journal of Communication article provided astronomical figures: "From 1980 to 1990, the annual consumption of personal computers increased by approximately 900 percent. Expenditures on PCs rose by 1100 percent during that same decade and in

1991 the computer industry was a $43.2 billion industry" (Biocca 61). Reddick and King state that "by some estimates, the number of users is growing by 50 percent per year and the amount of traffic is growing at a rate of 20 percent per month" (61). John S. Quarterman, editor of the Matrix News, makes a bolder prediction: at the current growth rate, everyone on the planet will be connected to the Internet by the year 2003 (Quarterman).

In addition, host computer numbers are climbing along with Internet growth. A host computer is one that provides information or access to a network to other computers. It is believed by many Internet observers that each host computer serves three to 10 users. An accurate count of hosts in August 1985 revealed 213 computers connected to the Internet. By July 1995, using the same counting methods, that number had increased to 6.6 million computers connected to the Internet world wide with about 4.25 million of those computers located in the United States (Rickard, Dec. 1995). Bovet predicts Internet hosts will reach 100 million by the first quarter of 1999, based on the average growth rate over the past four years (33).

The Internet is dominated by students, academicians, defense, and research users. This predominately white, male group is between the ages of 18 to 45, has some post graduate study or degrees, and earns an income of $50,000 or more (Galifianakis 15). A MIDS press release stated the gender balance between men and women at the end of 1994 to be slightly below 2 to 1 (Matrix). Greg Stevens described Internet users as "educated, savvy customers who expect more from the new digital communications platforms than what they get currently from either print or electronic media."

Figures for electronic bulletin board systems seem to be less ambiguous than those of the Internet. According to John Hedtke in his book, Using Computer Bulletin Boards, since 1978, "the number of BBSs has grown from a handful to more than 60,000 public and 180,000 private BBSs," with more than 20 million BBS users signing onto these systems (3). Popularity and growth of BBSs continue despite the explosive popularity of

the Internet and the World Wide Web (Web or WWW). Hedtke predicts there will be 40 to 50 million BBS users in the United States by the year 2000 (3).

## Electronic Newspapers

Just as Internet figures and the number of computer users are difficult to pin down, so is an accurate count of electronic newspapers. Credible sources list different figures for both United States and world wide electronic publications. See Table 2. for a small comparison of these figures.

Table 2. Number of electronic newspapers.

| No. Online Newspapers U.S. / World wide | Source | Date |
|---|---|---|
| 20 / – | Steve Outing | 1993 |
| 100 / – | Steve Outing | 1994 |
| 62 / 105 | Boardwatch Magazine | June 1995 |
| +85 / – | The Net magazine | Sept. 1995 |
| – / 580 | Steve Outing | Nov. 1995 |
| 175 / 775 | Newspapers Assn. of America | 5 Feb. 1996 |

Steve Outing, a daily contributor to Editor&Publisher's online journal, noted that at the end of 1993, there were only 20 newspapers operating online services. A year later, the number had grown to about 100 services either in operation or under development. As of November 1995, his figure increased to some 580 commercial newspapers world wide that provide an online service or are in various stages of development ("Online Newspaper Service FAQ"). Outing's November 1995 figure seems quite a jump from Boardwatch Magazine's 105 worldwide electronic newspapers identified in its June 1995 issue (Hakata 132-141). Adding the 62 U.S. electronic newspapers brings the total to 167.

It should be noted that no defining characteristics determine what is and is not classified as an electronic newspaper. For instance, more than 100 World Wide Web

(WWW or Web) sites operate under the umbrella of "local newspapers" (Outing, "Electronic Serials"). Some Web sites, such as the Birmingham Post-Herald, the Arizona Daily Star (Tucson), and the Arkansas Democrat-Gazette (Little Rock) actually offer daily local, national, and international news. Others operating under the guise of a newspaper name fall short of being electronic newspapers. The Daily Oklahoman (Oklahoma City) home page has a compilation of articles and photos of the 1995 federal building bombing. The Dayton Daily News' Web page, Access Dayton, consists primarily of other Web sites with a small sampling of national and international news highlights. These examples illustrate that practically anyone can publish practically anything on the Web and label it an electronic newspaper.

Online newspapers operate in one of three ways: as a dial-up bulletin board service, an Internet-based service, or an affiliate of a consumer online service. Of the 580 electronic newspapers, 37 are BBS systems and 46 are affiliated with commercial online services. The remaining 505 are Internet-based services with the majority of them available on the Web (Outing, "Online Newspaper Services FAQ").

The oldest online newspaper is the Fort Worth Star Telegram's StarText, launched in 1982. It celebrated its 10-year anniversary in 1992, enjoying "steady growth, national and international recognition, and success" (Barker 46). One of several newspapers to launch on a consumer online service was San Jose Mercury News. Mercury Center, launched on America Online in May 1993, set another first when it began operating its Web site in 1995. The Web page, updated throughout the day, "offers the complete news and editorial text of each day's paper, arranged by sections with headlines and summaries" (Stein 32). News and feature stories are free, but popular items such as the daily comics and "breaking news" are for subscribers only and require a user name and password to access them.

Neil Randall describes the Web as a system of both communication and publication (December and Randall, 5), key elements of a newspaper. The Web lends itself nicely to

publication of electronic newspapers. As yet, no one has determined what form these electronic publications will or shall take. In an article she wrote in June 1995, Melinda McAdams described the work behind bringing the Washington Post online (McAdams, "Inventing an Online Newspaper"). She discussed the similarities and differences between the traditional print product versus an online version.

An electronic newspaper is a bi-directional communications medium. Not limited by conventional restrictions, it has a bottomless news hole for articles that may never make it into the print version. This information can be archived indefinitely and linked to other documents to provide background and added information. Most importantly, it can be updated immediately.

A print newspaper, conversely, is a one-way form of communication with a limited news hole. Once an article appears in the paper, that information is all but lost to the reader unless the story is clipped and filed away, or the reader goes to the trouble of searching through rolls of microfilm or sheets of microfiche.

Using the traditional newspaper as a basic guide, the staff at Digital Ink, the Post's online service, began building an electronic newspaper. Organizing the paper along traditional newspaper sections proved to be difficult. Section A, normally national and international news, editorials and opinion-editorial pieces, became National, International and Comment! (opinion) sections online. Business and Sports made the transition rather easily.

The Washington Post's Style section, a defining feature of the paper consisting of profiles and interviews; features on people in the news; stories on trends and gossip; Ann Landers and Miss Manners; movie, book, theater, and music reviews; and the Weekend section on Friday, proved to be a bigger problem to convert. The solution was to divide out and create separate sections called Movies, Music & Concerts, Theater & Dance, Books, etc.

Adhering to the basic principle of user interface design, the Washington Post staff of limited the screen to five navigable options, the front screen of the online newspaper was designed to feature only one or two Post stories, leaving room to highlight other topics. Late-breaking news stories, such as the bombing of the Alfred P. Murrah federal building in Oklahoma City, can be uploaded and presented in minutes.

To satisfy customers looking for the familiar Washington Post, the staff at Digital Ink designed a section called Today's Newspaper where readers can browse through all the articles—organized by headline and byline—appearing in that day's papers. Immediate response proved this to be a preferred format for many customers.

The Washington Post Digital Ink debuted July 17, 1995, on AT&T Interchange.

## The Internet

During the late 1960s, fear of a nuclear missile attack during the Cold War drove the Department of Defense to ensure that a military command and control information system (military jargon for communications system) continued to function. The Advanced Research Projects Agency of the U.S. military developed a communications network based on the assumption of unreliability: Any portion of the system could disappear at any moment, such as during a nuclear missile strike. In 1969, the ARPAnet, as it was called, was launched, linking scientists, researchers, and military organizations across the country working on government research. Beginning with four computer sites, or nodes, in 1969—at UCLA, the Stanford Research Institute, University of California at Santa Barbara, and the University of Utah—by 1971, there were 19 nodes shared by 30 universities backed by DOD funding (Reddick and King 62).[1]

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[1] The first ARPAnet connection was between Stanford University and UCLA in 1969 (Geller 48).

Because it was based on the idea of withstanding a nuclear blast, the Internet was designed without a central computer or command authority. Its physical infrastructure is not centrally located and information is not hierarchically organized (December 40). There is no master switch to turn the system on and off. No one owns the Internet and no one runs it. As one person put it, "it's the closest thing to true anarchy that ever existed."[2] There is, however, a group of volunteers who determine the Internet's future. Known as the Internet Society, its purpose is to "promote global information exchange through Internet technology" (Krol 16). The organization appoints a council of elders, known as the Internet Architecture Board (IAB). The IAB is responsible for the Internet's technical management and direction.

While the Organization for International Standardization struggled to create a standard system that allowed communication among computers, more and more research universities and institutes connected themselves to the network. Network developers created their own addressing system allowing every computer to communicate with every other computer on the network. Then in 1985, the National Science Foundation (NSF), a U.S. government agency, created five supercomputer centers at major universities around the country, linked them through its own network, NSFnet, and eventually took over the Internet from ARPAnet (Ellis 20). The NSF encouraged the formation of regional networks to link into the supercomputing centers, thus creating multiple layers of networks, the basic structure of the Internet.

The High-Performance Computing Act of 1991, originally introduced to congress by then-Senator Al Gore in 1988, created the National Research and Education Network (NREN). NREN's goals are "to establish and maintain high-speed, high-capacity research

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[2] Clifford Stoll, a Berkeley astronomer famous for having trapped a German spy trying to break into U.S. military computers, as quoted by Philip Elmer-Dewitt, "Battle for the Soul of the Internet," Time, July 15, 1994, 3 (downloaded America Online, Jan. 11, 1995).

and education networks, while helping to develop commercial presence on the Internet" (December and Randall 12).

## The World Wide Web

An absolute definition of the World Wide Web is a difficult one to pin down. It may be easier to begin by saying what it is NOT. The Web is NOT a tool, program, service, or system. The Web is not limited to a location or a particular operating system. It crosses all platforms: DOS, UNIX, VMS, etc. The Web IS global, dynamic, interactive, and graphical. It is an outgrowth of the Internet, designed as an overlay for the Internet where hyperlinks and multimedia come together to make the Internet easier to navigate. Based on a system known as hypertext, the structure of the Web allows a person to "surf" from one Internet site to another with little difficulty. The user-friendly, visually attractive qualities of the Web contribute to its growing popularity.

The concept of the World Wide Web was outlined in a proposal by Tim Berners-Lee at Switzerland's European Laboratory for Particle Physics (CERN) in 1989. Berners-Lee's original proposal suggested using key words to hyperlink documents to make it easier to navigate the sea of information and resources found online. Before the WWW, the Internet was available only to those who could muddle through the complicated programming language of mainframe computer operating systems, such as VMS and UNIX. Later, when graphics capability was developed, researchers could then present their research complete with tables, charts, graphs, and eventually graphics, sound, and motion.

Like the Internet, no one owns the World Wide Web. The vast number of independent sites prevent any one organization from determining guidelines or setting rules. However, there is a WWW Consortium (W3C) based at the Massachusetts Institute of Technology in the United States and the French National Institute for Research in

Computing and Automation (INRIA) in Europe. Like the IAB, the W3C "works with the global community to produce specifications and reference software." It exists "to develop common standards for the evolution of the World Wide Web" (W3C home page).

Access to the Web is dependent on an Internet connection, which can be one of two types: a dedicated Internet connection or a dial-up connection. A dedicated connection requires a computer to be hard wired to the network and gives access to all Internet services. The computer becomes part of the network and can contact every other computer hooked into the network. This type of connection is expensive and is used by universities and major research facilities. A dial-up connection is not a direct connection to the Internet. A typical connection is made by a personal computer (called a client) via a telephone line to an intermediary system, called a server. The server is directly connected to the Internet. While connected to the server, the client operates as part of the Internet. The server acts upon commands given from the client. For instance, a request for information from the client flows through the server to the host computer that contains the requested information. The information then flows back through the server to the client. The interactive nature of the Web requires input from the user to operate. Information does not flow unless requested by the user.

Information on the World Wide Web consists of hundreds of thousands of "home pages." Visiting a Web home page is like walking through the front door of a home. By opening the door, a user steps through a gateway to rooms of information about who resides there, whether the resident is an individual or a company. The information presented on screen can be displayed simply as text or as sophisticated graphics. Elaborate onscreen displays with text, graphics, photos, and in some instances, sound, motion, and interactive features, prove to be the most popular sites. A well-designed WWW page will receive more visits from Internet surfers than those consisting of straight, boring text. For instance, the National Football League's Web site, operated by Microsoft and NBC, recorded six million "hits" Superbowl Sunday, Jan. 28, 1996. "Hits" are the

number of times a Web page transmits its text, video, graphics, or audio files. Additionally, the Oscar site was overwhelmed Feb. 13, 1996, as Academy Award nominations were announced (Snider and Maney). The Department of Defense's Web site, DefenseLINK, began operating in October 1994. A year later, it received about 185,000 hits a week (Hudson, "Enter the Web"). AirForceLINK, the Air Force's home page, receives about 70,000 hits a week while the Air Force Military Personnel Center's home page gets about 6,000 hits a day or 42,000 hits a week (Hudson, "Get Wired").

To take advantage of the visual experiences of the Internet requires a Web browser, a graphical, mouse-based hypertext program. The more popular Web browsers are graphical in nature; however, a few browsers exist that require only text-based displays (December and Randall 4). Web browser documents are written in Hypertext Transfer Protocol (HTTP) language, allowing documents to be linked to other documents on the Internet. The idea of hypertext, introduced in the late 1970s and later developed at CERN, was to enhance research information by providing text with graphics, illustrations, sound, and video, known as hypermedia. Hypertext is a non-linear method of providing more information by allowing the reader to skip from one point to another. Documents written with HTTP language provide "links" to related information either within the same document or another document located on the Web. These links are identified by highlighted words, a system similar to Microsoft Windows'™ help feature. These links can be identified as boldface, underlined, reversed text, differently colored text, or some combination. Clicking on a highlighted word or graphic takes the user to another location and additional information. It is these hyperlinks that make the Web easy to navigate.

The popularity of the World Wide Web continues to grow, as companies and individuals establish a presence on the Internet. In October 1994, there were 800 to 1,000 Web sites. By August 1995, that number had grown to 60,000 sites (Rickard 8). A USA Today story cites as many as 17 million Web users (Snider and Maney). Like Internet

users, tracking Web sites is difficult because sites come and go with the blink of an eye (or the click of a mouse).

## Bulletin Board Systems

Bulletin board systems have been operating since Ward Christensen and Randy Suess launched the first BBS in the late 1970s. Called CBBS (Computer Bulletin Board System),[3] the system was designed to act like an actual cork bulletin board. This "bulletin board" acted as a local message center where people electronically posted messages for others to read (Hedtke 3).

The idea for developing a message board came to the computer hobbyists as they noticed the many 3 x 5 index cards posted on the columns where they met with other members of the Chicago Area Computer Hobbyist Exchange (CACHE) club. After spending the better part of the morning trying to dig himself out from under the snow one cold January day, Christensen approached his friend with the idea of developing a system to transmit files between computers over a telephone line using a modem. Christensen wrote the software and Suess built the hardware. Using a Hayes modem designed by Christensen's friend Dennis Hayes, the first microcomputer-based BBS was launched Feb. 16, 1978, in Chicago.

The first BBS ran on a North Star Horizons Z-80 CP/M 8080 computer system, modified with a heavy-duty power supply and a few extra fans to keep the blinding speed of 4 megahertz from overheating the system. Data storage was on two 8-inch floppy disks with a capacity of 243 kilobytes each (Freed). The 5-megabyte hard drive is a stark contrast to the 1-gigabyte hard drives found on many home computers today. File transfer

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[3] Other sources cite the name as CBBS/Chicago for Computer Bulletin Board System Chicago and CBBS for CACHE Bulletin Board System. Informally, it was known simply as "Ward and Randy's Board" (Balz, Peterson).

capability was possible, but was limited to system maintenance. Christensen insisted that the system be used as a message board, not as a download board (Petersen C1).

The program Christensen developed to allow CBBS users to exchange messages became known as XMODEM. This simple program was a "set of operating instructions permitting the orderly, error-free flow of information between two computers linked by phone" (Balz, SD53). As the name Hayes is forever linked to modems, XMODEM is synonymous with telecommunications packages. A simple program, XMODEM only transfers a single file at a time and works well at slower modem speeds such as 1200 and 2400 bps. When transmission rates became faster, XMODEM was modified many times. These modified transfer protocols—YMODEM, ZMODEM, and Kermit, to name a few—operate with a standard modem.

There are more than 60,000 BBSs serving around 20 million people in the United States (Rickard, Aug. 1995). Most are confined to small, local markets; however, some operate nationwide services. Like the Internet, BBS users are predominately male between the ages of 30 to 39. About 40 electronic newspapers operate as stand-alone BBSs in the United States and Canada (Outing, "Newspaper Local Dial-up Services/BBSs").

## Bulletin Board or Web?

Patrick McKenna, in the September 1995 issue of The Net magazine, cites that more than 85 U.S. newspapers are online, either through the Web, as a commercial online service, or as a private network (21). With everyone striking out in different directions, the question of the day becomes one of which way to go. What are the advantages of creating a stand-alone BBS electronic newspaper over a Web version?

The BBS

Before the popularity of the WWW, a BBS provided the best platform to deliver an electronic newspaper. Online newspapers such as StarText and the Electronic Trib began, and still operate, via a BBS platform. Some of the advantages of a BBS are easy access, ease of communication, and control.

Bulletin boards are easily accessible. Anyone with a modem-equipped computer and some type of communication software can access most BBSs via a local telephone line. Systems can "talk" with the communication software provided. BBSs can be cross-platformed, that is, they can be accessed by different operating systems such as DOS and Macintosh. However, for systems operating a graphical user interface, or GUI, that requires additional software, the GUI must be written for each different operating system. This can increase BBS start-up expenses by adding costs to the design of the software. The other option is to design a BBS GUI for either an IBM or Macintosh system at the risk of alienating the "other side."[4]

Communication between users plays a key role in a BBS environment. Once logged onto a service, users can join the virtual community created by other BBS users. Additionally, communication among members is relatively easy. Electronic mail and postings to file boards are but two ways users keep in touch. Other services such as teleconferencing and chat allow users to communicate in "real time." These services are typically the most popular, and most BBSs offer all four features to registered users. The use of these services helps to establish a virtual "neighborhood" where others come together to share ideas, express opinions, or "just hang out."

Unlike the WWW, computer users can only rarely anonymously pop in and out of a BBS. First-time users may be asked to complete a registration process before gaining

[4] Other older operating systems running on Tandy, Commodore, and others still exist, but designing a system to encompass all computer systems is unproductive and cost prohibitive (except for text-only displays).

access to the BBS. Registration information requested typically consists of name, address, telephone number, type of computer system used, and method of payment for services rendered. Users then can access the system using their registered user names and passwords. Access to a BBS is monitored by a system operator, or SYSOP. The SYSOP, the person responsible for running and maintaining the service, keeps a watchful eye over the system, and responds to requests for assistance or complaints, such as abusive behavior by another user. If persistently abusive, a user may be issued a warning or even banned from the system. Although the job of SYSOP is to function behind the scenes, it is sometimes necessary for the operator to step forward to maintain the peace in the virtual neighborhood.

There are some disadvantages of operating a BBS, most of them expense related. Although most can be accessed with any communication software, some BBSs require proprietary software. To experience all the BBS has to offer, such as graphics or "point and click" capability, may require software written specifically for the system. For the user, this may mean downloading and installing the software. For the operator, this becomes a much larger expense.

The type of BBS setup determines a great deal of the expense. BBSs run as two basic types of operating systems: multi-line or multi-node. A multi-line system consists of multiple telephone lines connecting to a single computer running some type of BBS software. In a multi-node system, each incoming telephone line is hooked to a single computer with each computer running a separate copy of a BBS software program. The number of computers and software packages required makes the multi-node system much more expensive to operate than the multi-line. Its advantage is that one computer crash will not take the whole system down as would the single computer used in a multi-line system.

Another expense to consider is that of telephone costs. Since a BBS operates on incoming calls, long distance service is not a factor, unless an 800 number service is

considered. Local telephone expense can be reduced by applying for either a message rate or measured service. A message rate service allows 30 free local calls per 30-day period and charges extra for any calls over 30. A measured service allows 30 free minutes of local calling per month. Anything over the allotted time is then charged by the minute. These services and costs vary with location. Once again, since virtually all calls associated with a BBS will be incoming calls, telephone billing is minimized.

An additional telephone consideration is to install a "hunt group." This works like "call forwarding" and is supplied by the local telephone company. One main telephone number is listed as the BBS number. As calls come in on the main line, they are routed to the next available number. Two types of hunt systems are available: series (or sequential) hunt and circular hunt. With a series hunt, an incoming call attempts to connect on the first phone line in a series of telephone numbers. If the line is busy, the call continues to the next telephone line until an available line is found. If no free lines are available by the time the call reaches the last line in the series, the call is not completed and the modem receives a busy signal. A drawback to this system is an incoming call always connects to the first modem in the series. This not only causes one modem to wear out faster than the others, but should the modem go bad, the incoming call will constantly try to connect to this bad modem. The result will be a continuous ring, no connection, and a frustrated user.

With a circular hunt, an incoming call is sent to the modem in the series that has been unused for the longest period of time. An advantage to this system is that a "bad" modem is hit less often. The call continues through the lines until a free line is available or it reaches its original incoming line. If no phone lines are available, it sends a busy signal to the modem making the call. It is conceivable that all incoming telephone lines could be used at one time, resulting in a busy signal and denied access to the service. Access to a Web page also can be denied due to the number of visitors, but it usually requires hundreds of thousands of visitors to tie up the system.

Communication with a BBS typically falls into one of three categories: open, proprietary, or a combination of both. In an open system, anyone can access the BBS using any kind of basic communication software. The interface is typically text based. A proprietary system uses dedicated or special communication software designed specifically for the BBS and is required for access. An advantage of using proprietary software is a fancier, more attractive BBS. The disadvantages are developing the program, making installation simple, packaging it, and getting it to potential users. America Online, Prodigy, Microsoft Network, and other consumer online services, though not classified as BBSs, spend hundreds of thousands of dollars packaging and distributing their free software. Without this proprietary software, customers cannot access the service; without customers, the online services fail.

The third category of communicating with a BBS consists of a combination of both open and proprietary. Using standard communication software, a user can access text-based information. To improve the interface between computer and BBS, users can download a program that may improve the interface, usually by adding graphics. Regardless of the method used, BBSs have a long-established history of providing information electronically.

## The Web

The newest kid on the virtual block, the World Wide Web, is opening doors to new possibilities in online publishing. One of the key features of the Web is the capability to use sound, video, and full-color graphics. For an electronic newspaper, this gives added emphasis, enhancing the presentation of a straight-text news story. Graphics allow a more traditional look and feel to the electronic versions.

Another advantage of the Web is the ease of navigating from one site to another. A mouse click will take the user from link to link, page to page, across sites and servers

around the world. All requested information is maintained by the host computer, therefore, no information is installed on the client's computer. In this manner, the Web reaches across platforms and is not limited to a particular operating system such as DOS, Macintosh, or UNIX, but is available to everyone everywhere, regardless of which operating system is used.

The simplistic nature of surfing the Web can become its greatest downfall, however. It is easy to become "lost" in cyberspace while randomly surfing the Web. Often, a user must "back out" or retrace the steps to return to a previous location. Bookmarks—a method of recording a Web location—aid users in finding their way around their favorite Web locations.

Like a BBS, WWW access has certain software and communications requirements. An Internet account and some type of Web browser program are required to tap the Web's full potential. Internet access can be acquired through one of several ways: a local area network (LAN), an Internet service provider (ISP), a commercial online service, or through a local BBS. A LAN, typically found in the workplace, links computers together to share software, data, or perhaps peripherals, such as a printer. In this instance, the LAN may have an Internet connection and a user merely taps in to the LAN to gain Web access.

Another avenue to Internet access is through an Internet service provider. Many such services exist and costs vary. Internet service provider fees for unlimited access average around $20 a month. In its July 1995 issue, The Net magazine provided a list of ISPs. These included four free service providers, seven nationwide providers, 17 toll-free providers, and more than 530 regional ISPs ("Providers" 61-61).[5]

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[5] The latest version of this list provided by The Celestin Company is available at ftp://ftp.teleport.com/venders/cci/pocia/pocia.txt.

However, Internet service providers may become a thing of the past in the next few months following AT&T's announcement Feb. 28, 1996. Beginning in March 1996, AT&T will begin offering five hours of free Internet service a month for a year to its telephone customers (Lewis). This means the 16 to 20 million AT&T phone customers can have instant access to the World Wide Web if they have modem-equipped computers.

Commercial online services such as America Online, Prodigy, CompuServe, and others offer electronic newspapers as part of their myriad of services. Although a viable source for commercial newspapers and magazines, commercial online services are not a practical avenue for military base newspapers, nor would be accessing an existing BBS Internet gateway.

A glancing comparison between a BBS-based newspaper and a Web site for a user is offered at Table 3. Table 4 provides a breakdown of the differences between these two systems for an operator.

Table 3. Comparative qualities for an online newspaper user between a bulletin board system and the World Wide Web in an Air Force Base Environment.

| BBS | Web |
|---|---|
| Requires a computer, modem or LAN connection, communication software, and telephone line | Requires a computer, browser software, and an Internet connection (could require a modem if not connected to a LAN) |

Both a BBS and the World Wide Web have merits to consider when developing an electronic newspaper. Most Air Force base newspapers are weekly publications printed by a commercial publisher. Other publications are monthly magazine-style bulletins printed with DOD funding. As more and more Air Force bases restructure their computer resources toward the use of LAN systems, it may prove more practical to establish an electronic base newspaper through a World Wide Web site rather than as a stand-alone bulletin board service. This may be especially true in light of government

cuts to military spending over the last few years and the lack of funds available to develop and maintain a BBS. To aid in the decision-making process of whether to develop a BBS-based newspaper or a Web site, a breakout of costs is offered.

Table 4. Comparative qualities for an online newspaper operator between a bulletin board system and the World Wide Web in an Air Force Base Environment.

| BBS | Web |
|---|---|
| Can operate with basic communication software | Can be hooked to base LAN |
| Total control of access by SYSOP. Can limit users and monitor | Limited control of access by Webmaster |
| Secure | Inherently insecure |
| Internet access varies | Unlimited access to other Web sites |
| Limited to 256 simultaneous users at peak hours | Virtually unlimited availability |
| Costly telephone lines | Multiple telephone lines not necessary Requires Internet connection for server/users |
| Supports e-mail, chat, forums, teleconferencing | Does not support interactive communication between audience |
| Limited graphics, audio, and video | More sophisticated graphics, audio, and video |
| Requires separate stand-alone computer | Could be integrated with existing Web server, if LAN is connected to Internet and hard drive space is available on existing computer system |

Breakout of Costs for a Bulletin Board-based Newspaper

Personnel (Per year)

| | |
|---|---|
| 1 Non-commissioned officer (staff sergeant, six years service) | $17,244 |
| 1 Airman (senior airman, less than 2 years service) | 12,672 |

| | |
|---|---|
| Hardware (One-time only expense) | |
| 1 Pentium 90 MHz, 1.3 GB hard drive w/16 MEGs RAM | $3,500 |
| 50 External 28.8 bps modems ($130 ea.) | 6,500 |
| Software (One-time only expense) | |
| The Major BBS bulletin board software, including 50-user license | $3,500 |
| Services (Per year) | |
| 50 telephone lines with hunt service ($18/line/month) | $10,800 |
| Total | $54,216 |

Note: The above information is based on the assumption that the computer comes pre-configured with DOS and Microsoft Windows™.

Breakout of Costs for a World Wide Web-based Newspaper

| | |
|---|---|
| Personnel (Per year) | |
| 1 Non-commissioned officer (staff sergeant, six years service) | $17,244 |
| 1 Airman (senior airman, less than 2 years service) | 12,672 |
| Hardware (One-time only expense) | |
| High tech 2 gigabyte hard drive | $1,500 |
| Software (One-time only expense) | |
| Server software | $3,500 |
| Browser program (shareware), registration fee | 35 |
| HTML editor program (freeware) | 0 |
| TCP/IP modem program (shareware), registration fee | 40 |
| Graphics program (shareware), registration fee | 35 |
| Total | $35,026 |

Note: The above information is based on the assumption of an existing Internet connection, based on the more than 220 Air Force Web sites already in existence.

While manpower cost is constant for both types of systems, the total costs for developing a BBS-based newspaper and maintaining it for one year are nearly $20,000 more than that of a Web-based paper. For an operational BBS newspaper, additional equipment and services such as a computer, modems, and telephone services will be needed, thus increasing the costs. For a Web newspaper, the costs incurred are greatly reduced. As noted, more than 220 Air Force Web sites already exist on the

AirForceLINK Web home page. These sites have existing Internet connections as well as the computer equipment already in place. To ensure there is adequate storage space for the newspaper on the system, it is recommended that an additional high tech 2 gigabyte hard drive be added to the server. Regardless of these cost differences, the focus of this thesis will continue to examine a BBS-operated electronic newspaper by studying the development and operation of Sun.ONE.

# CHAPTER 4
# SUN.ONE

Many examples exist to study ways of launching a newspaper into cyberspace. Information about the different ventures is splashed in the legion of computer magazines littering the newsstands. Examples of electronic newspapers range from the oldest, StarText in Fort Worth, Texas, to the newest (fill in the name here—new ones originate daily). A newspaper delivered via a more traditional platform—for tradition denotes an element of time—was chosen as the case study for this thesis: Sun.ONE.

## Why Gainesville?

Gainesville, Florida, is a logical choice and provides an ideal environment to conduct an experimental online newspaper project like Sun.ONE. All of Alachua County is considered to be the Gainesville metropolitan area, according to the Chamber of Commerce. The population of Alachua County is more than 190,000 and is expected to surpass 200,000 in 1996 (Keoun 4). According to the 1990 Census information, average age of the county is 28.3 years of age. Gainesville is home to the University of Florida (UF) and Santa Fe Community College, which have a combined student enrollment of more than 50,000. This predominately younger population makes the Gainesville market one of the highest ratios of modem-equipped computers per household in America, says John Fitzwater, publisher of the Gainesville Sun (Bartles 6A). The Gainesville media market supports a variety of news and entertainment sources, including one major daily circulation newspaper. A morning newspaper, the Gainesville Sun's Monday through Saturday circulation totals more than 57,000. That figure increases to 62,600 for its Sunday edition. The city also is served by several smaller publications, including a student

newspaper, the Independent Florida Alligator. Circulation for the Alligator's Monday through Friday publication is nearly 32,000 (Brann 434).

In addition to the print news services, Gainesville has a wide variety of broadcast services available. Four AM and five FM radio stations provide formats ranging from public radio, news, talk, and a variety of musical preferences. Two television stations—one commercial (an ABC affiliate) and one public—are operated in the Gainesville area. Not large enough to warrant more than one television network affiliate operating out of Gainesville, this smaller community has shown tremendous support of the newest electronic communications medium, the electronic newspaper.

## A Little History

Sun.ONE is the result of the development of videotex technology in the 1980s and the vision of then-dean of the College of Journalism and Communications at the University of Florida, Ralph L. Lowenstein. In 1969, while a professor at the University of Missouri, Lowenstein read an article in a British Broadcasting Company magazine about CEEFAX ("see facts"), Britain's new experiment in teletext. He developed a keen interest in this new form of communication and began writing and collecting articles on electronic communication, closely following the developments as they unfolded in Great Britain, Europe, and later in the United States. When the University of Florida hired him as dean of the College of Journalism and Communications in 1976, Lowenstein brought with him his ideas of beginning some form of electronic communication service.

As dean, Lowenstein pushed the journalism college into the computer age. Under his deanship, a special computer system designed and used in newspaper editing offices was installed in the newspaper editing labs. According to Lowenstein, the use of these video display terminals (VDTs) designated UF as the first college or university to implement the system into its teaching curriculum. When the College of Journalism and

Communications pulled its VDTs and installed a network of personal computers in the fall of 1986, the school became one of the first colleges to use PCs exclusively. [1]

In September 1981, with $15,000 worth of specialized equipment, the college established the Electronic Text Center under the direction of Helen Aller. The center launched two cabletext newspaper services July 1, 1982: Gainesville Cable Press and UF Night Owl. These cabletext news and information services were transmitted over, an unused public access television channel provided by Gainesville Cox Cable Communications, Inc. Operation of this channel, providing 100 pages or so of updated information, was staffed by journalism students working 18 hours a day. Each screen provided a headline news crawl at the bottom and the current weather conditions in the top corner in an attempt to attract viewers. This information was provided via a primitive form of videotex. The one-way communication system, defined earlier as "rotatext" by Lowenstein in a 1981 article, "automatically rotates pages, one by one, over a television screen, while the audience watches" (36). This simple system did not allow the audience to pick and view material of special interest; rather, the system provided text and graphics over a television screen on an automatically rotating basis (Aller 21). The 24-hour service was updated 18 hours a day. With this experimental cabletext system, UF became the first journalism school to operate such a system on a continued basis (Wilken 30). UF Night Owl was abandoned after six months to concentrate resources on Gainesville Cable Press (Aller 16). Determined to be a primitive system by the mid-1980s, Gainesville Cable Press was abandoned in June 1988 after running continuously for six years, first on channel 8 and later on channel 13.

With the cancellation of Gainesville Cable Press, the school no longer had a videotex project. Lowenstein began looking for ways to further the advancement of electronic communications. Aller and Lowenstein wrote grant proposal after grant

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[1] Personal interview with Ralph Lowenstein, 22 Jan. 1996.

proposal for a videotex-based electronic newspaper. In April 1993, the college submitted a $75,000 proposal to the Freedom Forum[2] to fund a professional-in-residence to teach a regular course in electronic publishing, deliver lectures on the new technology, and be keynote speaker at the fall 1993 meeting of the Florida society of Newspaper Editors ("New Media," 1). The proposal, "New Media – New Messages," was granted.

The proposal had outlined several qualifications for a visiting "professional-in-residence": someone currently working in electronic communication with a background in newspapers and who had a "technical grasp of hardware and software related to new media" ("New Media," 2). The emphasis, according to Helen Aller, was finding a qualified journalist, not merely a systems operator.[3] A representative from the journalism college contacted David Carlson, design editor for the Albuquerque Tribune and founding editor of the paper's successful electronic counterpart, the Electronic Trib. Carlson accepted the invitation, took a one-year leave of absence from the Tribune, and became the 1993-1994 Freedom Forum Journalism Professional in Residence at UF.

Carlson brought with him 20 years of journalism experience and a wealth of knowledge of electronic communication. Under his leadership, Albuquerque's Electronic Trib had gone from concept to reality. The Electronic Trib was launched December 12, 1990, operating on a $5,000 budget, one rented IBM computer equipped with four internal modems, and a bulletin board software program. This videotex system had no fancy graphics, full-motion sound, or video clips common with today's electronic communication; however, it received 400 users within the first 24 hours of operation.[4]

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[2] The Freedom Forum is a "nonpartisan, international foundation dedicated to free press, free speech and free spirit." (Taken from the masthead of a September 1995 insert in American Journalism Review.)

[3] Personal interview with Helen Aller, 24 Jan. 1996.

[4] Speech notes provided by David Carlson for a 1993 presentation.

In designing the Electronic Trib, Carlson and the Tribune's then-managing editor, Jack McElroy, took advantage of the expensive lessons learned from past mistakes made by earlier videotex experiments. The Electronic Trib was designed to run on a personal computer and operate with off-the-shelf software that allowed access with any computer, modem, and communication software. Not designed to duplicate the Tribune, but to complement it, the Electronic Trib was closely tied to the Tribune. A daily password was printed inside the paper that allowed users 45 free minutes of computer access a day. Electronic subscriptions were available to interested users that gave them three hours of daily access for $50 a year (Bartles 24). It was this background that Carlson brought with him to the University of Florida. After serving as Freedom Forum professor for a year, he was hired by the University of Florida under a three-year contract to direct development of the new electronic newspaper project, to establish an interactive media lab, and continue to teach courses in electronic publishing ("Sun.ONE Lights New Era," 1). University funds were allocated to establish the Interactive Media Lab.

Sun.ONE came a step closer to becoming a reality in early 1994 when Lowenstein was visited by Rob Oglesby, then-business editor of the Gainesville Sun.[5] Oglesby suggested a meeting between the dean and Sun publisher John W. Fitzwater to investigate the possibilities of beginning an electronic newspaper. However, the estimated cost of the project to the Sun, $32,906, appeared to the newspaper too steep for such an unknown venture.[6] Determined, Lowenstein found the needed money from the college's own sources, approached Fitzwater to involve the Sun as the advertising manager, and assured the publisher the electronic venture would not cost the paper a cent. Fitzwater agreed to the deal.[7] Oglesby, in the meantime, was chosen to give a short presentation of the new

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[5] The Gainesville Sun is a member of the Net York Times Regional Newspaper Group.

[6] The college's share of the project was estimated at $27,073 (Carlson, Personal interview, 3 March 1996).

[7] Personal interview with Ralph Lowenstein, 22 Jan. 1996.

project to Lance Primis, president and chief executive officer of The New York Times Company, during his visit to Gainesville. Impressed with the strides the Sun was making in the electronic communications field, Primis promised full financial support from the Sun and The New York Times Company for the project.

## Sun.ONE and the Interactive Media Lab

Sun.ONE is an experimental project between the Gainesville Sun and the Interactive Media Lab at the College of Journalism and Communications. Described as an experimental interactive newspaper, Sun.ONE was developed "to serve as a prototype for community newspapers interested in exploring the world of electronic publishing (Carlson, "About Sun.ONE"). Sun.ONE is a general interest newspaper designed to serve the Gainesville community and the surrounding area. This 50-50 partnership between the college and the Sun marks the first time any journalism school has either produced a commercial, continually updated online newspaper or entered into a commercial online partnership with a daily newspaper ("Sun.ONE Lights New Era," 1). Editorial copy, sale of advertising, and funding are provided by the Gainesville Sun, while the College of Journalism and Communications provides the facilities and staff, and limited reporting. The Sun.ONE newsroom is co-located in the Interactive Media Lab in Weimer Hall on the UF campus where journalism students select stories from the wire services and the Sun, edit them, write headlines, and upload the stories onto the system.

The Interactive Media Lab is designed to "help journalists and future journalists as well as newspapers, magazines, book publishers, radio and television broadcasters and other media make the transition to two-way communications" (Carlson, "The Interactive Media Lab"). In 1994, the Lab opened with seven computers. With the development of the lab, UF once again found itself on the leading edge of the electronic publishing

frontier. Undergraduate, graduate, and doctoral students receive hands-on instruction and practical experience in the growing field of electronic communication.

These students make up the staff of Sun.ONE. Each student works eight hours a week under the guidance of graduate teaching assistants who act as managing editors of the electronic newspaper. Night and weekend shifts, school breaks, and holidays are manned by paid staff members to ensure that the constant flow of news and information is not interrupted.[8] A trained technician is on hand for assistance for those occasions a user may experience difficulties with the system. The other UF-operated media—two television and three radio stations—also are staffed by students. To work at the stations, students must agree to work a portion of their breaks, whether it is over the Christmas break or Spring Break. Sun.ONE follows this practice.

Although the newsroom is located in the Journalism and Communications building and staffed with college students, Sun.ONE operates 24 hours a day, seven days a week, year round. News and information offered on this system is updated throughout the day from 8 a.m. until 2 a.m. the next morning. Sun.ONE's day, however, begins and ends at 4 a.m. when the BBS goes off-line for 15 to 60 minutes. During this time, network mail is imported and exported, users' time clocks are reset, and any other needed maintenance is performed.

Sun.ONE went through a three-week test period before opening its electronic doors to the public. Limited access during the beta test period was used to shakedown the system to find any glitches and work out any bugs before the online newspaper went public. One week before the official launch, the system was presented to Lance Primis, UF President John Lombardi, Journalism and Communications Dean Terry Hynes, and

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[8] Shifts began operating from 8 a.m. to 2 a.m. January 30, 1995, in preparation for the time the electronic newspaper would go public.

John Fitzwater while the news media documented the historical event. Sun.ONE made its public debut March 1, 1995.

Instantly popular, Sun.ONE logged more than 1,000 users the first 24 hours of operation. A week later, it reached the 2,000-user mark. By the end of the first month, calls totaled 25,500 for an average of 800 calls a day for the first 30 days of operation. Sun.ONE averaged about 50 new accounts a day with approximately 100 paid subscribers. By April 28, users totaled more than 40,000 calls. The paper reached the 100,000-call milestone in late August 1995.

As of March 1996, Sun.ONE has more than 5,500 regular users and has logged more than 230,000 calls. Accounts are dropped from the system if they remain inactive more than 90 days. Users get 30 minutes of free access a day, with average peak usage of the system at 10 a.m. and 10 p.m. Evening usage nearly doubles that of the morning with peak usage time between 6 to 10 p.m. For those who want more than 30 minutes of access time a day, Sun.ONE offers memberships that allow up to three hours of daily access time. Different membership packages include three months for $23.85 (averaging to $7.95 a month), $41.70 for six months ($6.95 a month), or an annual membership for $71.40 ($5.95 per month). An additional 7 percent sales tax is added for Florida residents. Internet access and other services, such as telnet and ftp, are available with the membership packages. The system is scheduled to receive an improved interface in late 1996 with a software upgrade that will support photographs and sound. At that time, Sun.ONE will eliminate its free access and convert to an all-pay system. All of Sun.ONE's basic services will be available with the $6.95 package (Oglesby 6).

## Nuts and Bolts

Sun.ONE is a stand-alone, BBS-operated newspaper, accessible by most types of computer systems (IBM, Macintosh, Apple, Commodore, Tandy, CP/M, etc.). The

service operates on an IBM-compatible pentium computer with an operating clock speed of 90 megahertz and 16 megabytes of RAM. A multi-line system, Sun.ONE lists one main telephone number to allow access to the system. If the main number is busy, a hunt group directs the call to the next available incoming line connected to one of the system's 50 modems. The U.S. Robotics, Practical Peripherals, and Hayes modems operate at speeds as fast as 57,600 bits per second (or 28,800 baud).

Sun.ONE, a multi-line system, operates with The Major BBS version 6.25 bulletin board software released by Galacticomm, Inc. In addition to operating the system, this software package also provides for forums, chat boards, and e-mail, popular services found in a BBS environment. Although The Major BBS allows for customizing the system, to accommodate all types of computer users, the newspaper service offers both a textual and graphical interface. Text-only access is available to any modem-equipped computer operating some type of communications software. To see Sun.ONE's graphical interface requires a copy of RIPterm, a freeware graphical communications program designed for use with the Remote Imaging Protocol. RIP graphics allows the use of a mouse to navigate the program. This software is available free of charge and can be obtained from First Union Bank of Alachua County. First Union agreed to freely distribute the software in return for placing their advertisement on the disk label. The software can be downloaded from the BBS or ordered from the Gainesville Sun through the mail. Shipping and handling fees are paid by the customer.

In addition to the incoming telephone lines that service the BBS system, a dedicated T1 telephone line connects the BBS directly to the Internet. A T1 line is a telephone line leased from the phone company dedicated to carrying data between networks. This special line allows Internet access from the system. A third type of interface to Sun.ONE is available to those with Internet access. A Web version, Sun.ONE Weekly, exists as an entertainment magazine, and provides highlights of the daily BBS-

based newspaper under the heading of "news." It also has area information about schools, local government, neighboring towns, and entertainment and recreation schedules.

The graphical interface of Sun.ONE is based on a hierarchy of menus. Once a user has signed onto the system, the main menu appears. This menu consists of a series of "buttons," a graphical, three-dimensional box that requires one mouse click to activate. The main menu gives the user a variety of choices. A mouse click can take the user to top headlines, e-mail, the chat lounge, forums, or help, to name a few areas. In most cases, selection of one of these areas reveals another screen of menu choices.

Eight subtopics are listed under the news and information area. Selecting "news" takes the user to a submenu listing local, state, national, and world news; Scene Magazine, a Friday weekly section of the Sun; politics; entertainment; health and science; Sun columnists; Week in Review, a recap of the week's top headlines; sports news; Sports Extra; business; opinion; and cyberspace news. A mouse click on each of these topics reveals another submenu that offers, in most cases, seven headlines covering that topic's news. The business and opinion choices offer a gateway to the money forum and the "Radio Ralph" forum, respectively. Scene Magazine offers four feature stories, movie listings, live music in the Gainesville area, and a calendar of what is happening during the upcoming week.

Selecting weather from the main menu takes the reader to a selection of forecasts and temperatures. The reader can check out the area forecast, the extended outlook, boating and beaches weather, or glimpse the entire Florida region. The temperatures list includes not only those for Florida cities, but for cities across the United States and around the world as well. When threatening weather blows in, a reader can go to the weather menu for shelter information or safety tips on lightning and hurricanes.

Advertising appears as anchored ads across the bottom of the menu screens. Some ads have a button allowing the reader a choice of viewing the ad in greater detail. Classified advertising also is offered. A click on the "classifieds" button takes the user to

a submenu that breaks the ads down into announcements, employment, financial, schools and institutions, farm and livestock, real estate for sale, real estate for rent, merchandise, automotive, and wanted (all sections). Selection of one of these areas reveals another submenu with more topics to narrow down a search.

## The Main Ingredient

Sun.ONE is not a dumping ground for whatever runs in the daily printed copy of the Gainesville Sun. To do so would serve no purpose to the user. It is not intended to replace the printed newspaper. Rather, Sun.ONE is designed to augment and complement the Gainesville Sun. An online newspaper has the capacity for a more in-depth look on a broader range of topics than offered by its print counterpart.

Content is the driving force behind Sun.ONE. Each day, the Gainesville Sun transmits its local and regional news stories to the Sun.ONE newsroom. These stories are edited to conform to online standards (i.e., removal of day references such as "today"), a headline is written, and they are uploaded onto the system hours before they appear in the newspaper. Besides offering local and regional news, the electronic newspaper offers national and international news, sports, weather, and entertainment information from news wire services. National news, features, editorials and opinion pieces, and sports stories are pulled from one of three newswire services: the Associated Press, the New York Times News Service, and Scripps Howard News Service. Journalism students select the stories, edit them, and write headlines before placing them on the system. Since these wire stories are available the evening before they appear in print, readers have the opportunity to get a jump on the day's news.

As news breaks out, such as 1995's Oklahoma City bomb blast, the bombing in Tel Aviv in March 1996, or even the results of the "final four" of the NCAA basketball playoff games, these stories are pulled from the wire services, edited, and uploaded immediately,

minutes—and in most cases, hours—before they appear in print. Rather than cutting the stories because of lack of space as a print newspaper may have to do, Sun.ONE has the luxury of running them in their entirety.

As an added incentive to entice paying customers, special news packages are created for those with paid memberships. For instance, a 1995 special football package was created consisting of an eight-menu group of stories, columns, statistics, and archival material ("Sun.ONE offers new Gator Football Service," 2B). Other areas exist within Sun.ONE that are limited to paying customers. Regardless whether a user signs onto the system for just 30 minutes a day or pays for added access, there is plenty of news and entertainment online.

A 1976 Gainesville Sun article quoted Ralph Lowenstein as predicting the elimination of the "paper" newspaper in 20 years ("Newspapers Will Be on TV"). While newsprint has not been eliminated within the last 20 years, the Gainesville area certainly has an alternative source for news and information.

# CHAPTER 5
# THE AIR FORCE ELECTRONIC BASE NEWSPAPER

The Air Force has a member force large enough to support an electronic newspaper. To demonstrate how force structure fits into the overall demographics of the online community, the following statistics are offered. As of Sept. 30, 1995, active duty force strength is more than 396,000 active duty people, with women making up 16 percent of the force. Air National Guard and Air Force Reserve personnel total more than 305,000 members, and the civilian work force adds another 190,000 people, bringing the total force strength to 891,000.

Average age of the officer force is 35 years old, while the enlisted ranks averages 29 years of age; 34.2 percent of the total force is younger than 26 years old. The civilian employee average age is 45 years old. Education varies among the officer corps and enlisted troops. Of the officer force, 54 percent have advanced or professional degrees. For the enlisted force, nearly 100 percent have a high school degree and 18.5 percent have an associate's degree or higher.[1]

As a reminder, BBS users are predominately males, ages 30 to 39 while Internet users are also predominately males, ages 18 to 45, with some post graduate education. While the Air Force work force does not fit into the demographics of cyberspace exactly, there are sufficient areas of overlap to justify the establishment of an online presence.

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[1] These demographics come from Air Force pamphlet "Air Force Demographics," Oct. 1995; the Air Force Magazine, May 1995; and Airman Magazine, Sept. 1995.

## Electronic Newspapers on the Military Front

The Air Force has nearly 90 major installations world wide, not including the Air National Guard or Air Force Reserve bases. All active duty Air Force bases publish some form of news publication. Air Force News Service (AFNS) at Kelly Air Force Base in Texas, oversees all Air Force base newspapers. AFNS's current count is 104 base papers in March 1996. Whether broadsheet, tabloid, or magazine format, the number of Air Force publications that have ventured into cyberspace is limited.

The Army and Navy launched the first military Web home pages in November 1993. There are 364 Army or Army-related home pages. Of the Army installations listed on the Army home page, three offer some type of post news.[2] The Courier, Fort Campbell's weekly post newspaper, is a simple, but effective newspaper Web site. The news, sports, community, and leisure sections are updated weekly. Two other post newspaper Web sites, the Mountaineer at Fort Carson, Colorado, and Essayons, Fort Leonard Wood, Missouri, post selected articles from their weekly newspapers.

There are 25 information "repositories" maintained by the Army. These information files are available through the Internet or via a direct dial-up to a bulletin board service. The repositories cover a variety of topics, including the American War Library, a data archive with information on American military missions. LingNet, a linguists' BBS, services the needs of military linguists. Foreign language programs, games, learning material, as well as a message service, forums, and teleconferencing are available. Chat is limited to communicating with the SYSOP.

News available on the Navy and Marine Corps' Web sites is limited. The Navy News Service, Navy Wire Service, Navy European News Service, and Marine Corps News are available via the Navy Public Affairs Library Web home page. Navy or Marine base newspapers are not represented on the WWW.

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[2] The Army uses the term "post" when referring to base installations.

AirForceLINK is the official home page of the U.S. Air Force on the World Wide Web. This home page receives 70,000 hits a week (Hudson, "Get Wired"). In addition to the fact sheets, photos, and public domain information, it offers links to other Air Force WWW servers, Airman Magazine, Air Force Radio News, and Air Force TV News Online. The radio program, updated every day at 3 p.m. CST, provides a five-minute Air Force news radio broadcast accessible with the RealAudio Player 1.0 by Progressive Networks, Inc. This software can be downloaded through a hyperlink to the RealAudio home page. Once the RealAudio software is installed, one click of the mouse and the user hears the latest Air Force news broadcast in real time over the Internet. Air Force TV News Online is a 90-second television news report from Bosnia, updated several times weekly. The television report is accessible with Apple® Computer QuickTime™ for Windows™ 2.11 software.

An extensive search of the installations, commands, and other operating agencies maintained by the Air Force on its Web home page in March revealed only three base newspapers that have made an attempt to go online. Aviano Air Base in Italy as recently as Feb. 16, 1996, began uploading the top stories from its base newspaper, the Vigileer. The Holloman Air Force Base Web page promises the electronic version of its base newspaper, Sunburst, to be "available soon." Moody Air Force Base's newspaper, Excalibur, shows only a small sampling of feature stories.

Publications other than base newspapers also are available. The Arnold Engineering Development Center (AEDC) at Arnold Air Force Base in Tennessee, keeps updated research projects posted in the AEDC Insider. Air Force Reserve Officer Training Corps headquarters' Leader also promises an active Web site in the future. The Air Intelligence Agency in San Antonio, Texas, electronically publishes its Spokesman magazine under the title cyberSpokesman. It is updated twice a month with comments from the commander, awards announcements, and news and information articles. Air Education Training Command's AETC Magazine On-line is listed as a newspaper, but

carries timeless material and is more of an introduction to the command rather than a regularly updated news publication. The Air Force Technical Applications Center is the sole DOD agency responsible for the operation and maintenance of a global network of nuclear event detection sensors. The Monitor Magazine, published by this field operating agency, provides news and feature stories.

One Air Force journal exists online. The Airpower Journal, a quarterly publication, is the professional journal of the Air Force. It is designed to "serve as an open forum for the presentation and stimulation of innovative thinking on military doctrine, strategy, tactics, force structure, readiness, and other matters of national defense."[3] Air Chronicles, the electronic magazine of the Airpower Journal, promises to have a searchable database of past issues available in the future.

One of the most ambitious online publishing projects is Airman Magazine. A monthly publication by the Air Force News Agency for the Secretary of the Air Force Office of Public Affairs, Airman is the official magazine of the U.S. Air Force. The magazine's cover story—usually a package of about eight mission-related stories and photographs—and other sections (people, heritage, technology), as well as the cartoon feature "Here's Jake," are uploaded each month on the Air Force Web home page.

There are no Air Force base newspaper BBSs. The Air Force Reserve, however, operates a BBS-based news service. The Public Affairs Management Network, PAMNET, provides news regarding a variety of DOD issues and offers access to the information on the PAMNET bulletin boards on the Web. More than 20 topics have their own bulletin board with anywhere from one to 130 articles, depending on the topic. Topics range from DOD, Air Force, and command news to federal job listings, DOD press releases, and news from other countries such as Croatia, China, and Russia.

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[3] Taken from the Airpower Journal homepage.

Other agencies run their own BBS news services. For example, Headquarters Air Mobility Command (AMC) runs an AMC News Service Bulletin Board where command bases can download AMC news stories, fact sheets, biographies, and other information. Stories are uploaded Tuesdays and Fridays. "Hot" news stories are uploaded immediately (The Editor's Bible 4). This information also is e-mailed every day to those bases that have electronic mail capability. This news service BBS serves two numbered air forces, 12 wings, and two direct reporting units for a total of 121,800 people. Authorized user accounts are required to access this system.

It is ironic that the military would be so far removed from the online world, especially since the Internet's origins are rooted in military defense. According to a story in Airman Magazine, only about one-third of Air Force members have access to the Internet at work, and not all bases have the infrastructure required to support a data-enriched computer environment like the World Wide Web (McKenna 35). Most of the visitors to the military Web sites are from outside the military community, dialing in with home computers through consumer services (Hudson, "Enter the Web").

The Department of Defense recognizes the potential of having an interconnected force, however. The Office of the Assistant to the Secretary of Defense Public Affairs created a working group of representatives from the military services and major components to develop the opportunities provided by the World Wide Web. One of the results of this effort is a series of guidelines for establishing and maintaining a DOD Web site, citing that the Web "gives the Department of Defense a new and powerful means of providing information to the public" ("Guidelines"). In an effort to keep everyone wired, Air Force generals are issued a laptop computer to help them stay in the loop via e-mail when they are away from the office (Hudson, "Get Wired").

As the trend in electronic publication swings toward the Internet and the World Wide Web, development of a Web-based interactive newspaper may be the better alternative, rather than a BBS-based newspaper. Regardless of the avenue chosen, a study

of existing examples of online news products such as Sun.ONE provides a firm baseline guide to use when developing an electronic newspaper, with a few modifications to encompass Air Force requirements.

## How it Normally Works

The Air Force base newspaper typically is distributed each Friday. However, the work does not end there. The process of putting out a weekly base newspaper is a never-ending one. Although the paper is on the streets, progress on the next issue has already begun. A Friday distribution day means the paper must be printed on Thursday. To be printed on Thursday, all copy, artwork, and advertising must be ready before going to the printer. That means deadline to put a Friday paper to bed (hand everything over to the publisher) should be by close of business Wednesday, Thursday morning at the latest. With all work on Friday's newspaper completed by Wednesday, work begins promptly on the next edition. Thus, Thursday is the beginning of the newspaper week.

News comes to the Air Force base newspaper office through a variety of sources. Each day, Air Force news, and sometimes command news, arrives in paper form via military message traffic. The messages are examined for news value pertinent to the base. Other news might arrive by way of electronic mail, as in the case of AMC News Service. Additional feature-story packages and art from Air Force News Service and Armed Forces Information Service are mailed to all newspaper staffs. If the office has access to the World Wide Web, the newspaper staff can search the various military Web sites for this information, rather than waiting for it to arrive in the mail.

Local story ideas come into the office from a myriad of sources. The commander's bi-weekly staff meeting with unit leaders often produces news tips, as does the weekly meeting between the commander and the newspaper editor. Public affairs representatives from units around the base may call the office with story ideas or submit a

written article to the newspaper for publication. Stories may be submitted on paper, disk, or electronically transmitted to the newspaper office. The trained journalists on base, the newspaper staff, may ferret out story ideas as well.

Once these stories have been written, the editor's job is to log each article on the run sheet (list of stories to appear in that week's newspaper) and edit each story, news brief, announcement, and article for newspaper style. At some point, the publisher must furnish the editor with information on where the advertising will fall within the paper. Using the run sheet, the editor begins to design the layout of the newspaper, placing the stories into the "news hole" left after advertising.

On newspaper production day (a Wednesday or Thursday for a Friday distribution), the paper is put together according to the editor's layout. Articles are placed into the designated pages using the dummy sheets (hand-drawn representations of where articles fall within the paper). Once the page layouts are complete, they are proofed for a final time, usually by the public affairs officer, before they go to the printer. The PAO makes one last check for style, spelling, and blatant fact errors as well as looking over the advertising for any ads that are against Air Force regulations. Using desktop publishing, this final proof can be done electronically. Once complete, the newspaper can even be transmitted to the publisher, if the capability exists. If more traditional methods of newspaper production are used, the editor and PAO may be required to make a weekly trip to the publisher's production office where each article of each page is manually placed by hand. The proofing is done directly to the pages using a cut-and-paste method before they are printed. Although not as common anymore, some military base newspaper contractors still produce a newspaper in this manner.

Barring any major catastrophes, the paper is printed and hits the streets before noon on Friday.

## Going Electronic with the Air Force Base Newspaper

When an Air Force base newspaper is being designed, the following tenets must be kept in mind. The paper belongs to the commander. It is an extension of the commander's voice, designed to reach, encourage, and guide the military community under his command. The paper is not a source for gossip, discriminatory remarks, or half-truths. It is produced by professionals trained to put out a professional publication.

Because it is a military publication governed by a defined set of regulations and instructions, the base newspaper must contain certain elements. Prior to the open environment of the World Wide Web, government BBSs and Internet sites displayed the following notice.

> Official U.S. Government system for authorized use only. Do not discuss, enter, transfer, process, or transmit classified/sensitive national security information of greater sensitivity than that for which this system is authorized. Use of this system constitutes consent to security testing and monitoring. Unauthorized use could result in criminal prosecution.

The "Guidelines for Establishing and Maintaining a Department of Defense Web Information Service" offers a gentler, kinder disclaimer on the DefenseLINK Web page and suggests revising the notice accordingly:

> DefenseLINK is provided as a public service by the Office of the Assistant to the Secretary of Defense-Public Affairs and the Defense Technical Information Center. DefenseLINK is intended to be used by the public for viewing and retrieving information only. Unauthorized attempts to upload information or change information on this service are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986. All information on DefenseLINK is considered public information and may be distributed or copied.

Though no mention is made in the guidelines of a disclaimer requirement. AirForceLINK offers the following at the foot of its "overview" page.

> Every attempt has been made to ensure the accuracy of the information contained in AirForceLINK; however, no warranty is made concerning the accuracy or timeliness of the information presented. Additionally, there is no implied warranty covering access to the DTIC WEB server.

> Improper usage of the AirForceLINK service may result in discontinuation of service to an individual or group.

Other guidelines have been developed or tailored to cover the electronic release of information. The DOD policy for clearing electronic information for the public merely refers the reader to April 1982 DOD Directive 5230.9, Clearance of DOD Information for Public Release.

Not all information uploaded on a military BBS or Web page is for general public use. Although not classified, some information is sensitive in nature. For instance, all Air Force members can be located through the Air Force locator system. The locator service provides names, addresses, telephone numbers, and current assignments of Air Force members who have consented to release of this information. This information is restricted to military use and is inaccessible to non- military or government service accounts.

Content

As with Sun.ONE, content should be the driving force behind a military newspaper. The newspaper staff receives news daily in the form of message traffic, news releases, and the now-popular method of communicating, e-mail. Whole news packages are transmitted from the command level to base newspaper offices. Local stories, either written by the newspaper staff or by other members around the base, should provide the bulk of the news content. These stories should stress the mission and give equal coverage to all areas of the base. Other news sources, such as command- and Air Force-level news, contain information important to all Air Force members and should be included. Commercial news and opinion sources such as the Associated Press, New York Times News Service, and others are prohibited from stateside base newspapers, per DOD Instruction 5120.4 (C.7.). This inflow of information can add up, quickly filling a 20-to-24 page base newspaper. Take away 60 percent of the paper for advertising, and there is very little room left for editorial copy.

Lack of news space is not a problem with an electronic newspaper. The unlimited "news hole" afforded by an electronic publication can make the online newspaper a valuable communications tool. News packages can be presented to enhance the standard news articles. When key events unfold, such as U.S. military forces sent to Bosnia or Haiti, or humanitarian efforts following Hurricane Andrew, these items of like interest can be packaged together under a common headline. Accessing the package leads the user to more information on the selected topic. This same principle can be applied to a "news briefs" area of interest. Brief descriptions of the latest news can be highlighted under a common headline.

Like all newspapers, base publications carry editorial and opinion columns. These consist of the commander's column and editorials written by other leaders on base. Upon occasion, editorials, flagged as "must run" articles, are required to run in certain issues. These articles are typically from a higher command level and convey a particular message that requires widest dissemination possible. They may be a holiday message from the president or Air Force chief of staff, or an editorial defining a key issue, such as a no-tolerance drug policy.

Feedback from areas around the base, known as "letters to the editor" in civilian newspapers, is handled differently in military publications. Each installation has what is known as the commander's "hotline"—a direct link to the commander. A dedicated telephone number is connected to an answering machine where airmen, officers, civilians employees, retirees, or anyone else who wishes to do so, may leave a question or comment for the commander. The caller may leave a name and telephone number, if desired, but is not required to do so. These messages are transcribed and presented to the commander who assigns an action officer to investigate the complaint or suggestion and prepare an appropriate response. The commander then reviews the response before authorizing the "hotline" comments to be published in the base newspaper.

An electronic newspaper is particularly suited for the feature or in-depth news story. With no space restrictions, writers working on feature articles have the luxury of covering the entire story without fear of it being cut to fit a specific hole between advertising. On the Web, these stories can be linked to provide even more information. For instance, a feature story written on an airman who received the Medal for Humane Action because he rescued a drowning swimmer from a rough surf can be linked to more information about swimming safety guidelines, how to conduct cardiopulmonary resuscitation, or information about the medal itself.

Sports, an often neglected section of military base newspapers, has a chance to shine in an electronic publication. Usually limited to a page or two at the back of a base newspaper, sports stories have been particularly limited by space restrictions. Presented electronically, items normally omitted from the base paper, such as sports statistics, schedules, and scores, can be updated regularly. The absence of these items is routinely questioned by base members. Softball, basketball, volleyball, racquetball, and bowling, are some of the most popular base sports and deserve adequate coverage. An electronic newspaper allows for in-depth coverage of command and Air Force team sports news, tournaments, and other sporting events will no longer be left out.

Daily newspapers support the local community by publishing local zoned sections of their papers, usually one day of the week. Community calendars and other announcements are published within the folds of the zoned section to keep members of the citizenry informed of events happening around them. Like the community surrounding it, an Air Force base functions much the same way within its gates. The base newspaper has a responsibility to support this community as well as the mission of the base. To that end, the paper devotes a portion of its editorial space to base announcements covering topics such as family services, base movie and church schedules, picnics, youth functions, wives' clubs, blood drives, unit get-togethers, etc. The volume of announcements sent for publication in the base newspaper can fill an edition, and everyone's announcement is

more important than anyone else's. An electronic publication is better equipped to handle this over abundance of information to ensure all items of interest have equal exposure.

A key to building morale is the recognition of top performers. The military devotes a great deal of effort to ensure these performers receive the recognition they deserve. Awards are given at all levels—base, command, Air Force, and Department of Defense level. While base newspaper staffs generally balk at the "grip and grin" photograph of an award recipient clutching the award in one hand with the other hand locked in the handshake of the commanding officer, they realize the importance of these moments to building morale. An electronic newspaper affords the opportunity to ensure each award recipient gets his or her 15 minutes of fame.

What it Could Look Like

Regardless of the method chosen to bring an Air Force base newspaper online—BBS or Web—the basic layout is the same, with exception of the ability to link documents as afforded by the Web. As a user accesses the main page (either main menu or home page), a number of choices should be available: news, editorial, sports, entertainment, announcements, awards and decorations, and family news. By selecting news, the user has access to more choices: local, command, Air Force, and DOD news, as well as news notes and news packages covering key events. News articles are placed online according to the appropriate heading. A Web page can link the news page to the PAMNET bulletin board service for news on other DOD special-interest items.

Selecting the editorial and opinion option will take the user to another set of available options. The commander's column; "hotline" questions and answers; guest editorials from other base leaders; and command-, Air Force-, and DOD-level editorials and messages as well as the occasional "man-on-the-street" interview will fall within this heading.

An electronic sports page gives a user quick access to sports information based on logical organization. Topics can be broken down into sporting news, command and Air Force team news, sporting events, sports notes, intramural teams schedules, statistics, and the scoreboard. Bowlers looking for the latest team standings or softball players looking for the most runs batted in during the last game can find these figures in the sports section of the electronic newspaper. Sporting news updates can be found under sports notes. Golf tournaments, softball playoffs, and the special 5 kilometer run can be announced under sporting events, while coverage of last night's dual under the baskets is reported under sporting news. Local areas that offer professional sports also can be highlighted within the electronic sports page.

Heading back to the main page and selecting entertainment provides the user with the headings special events, base movie schedule, and things to see and do in the local area. Special events can include a story on the upcoming performance of Air Force's Tops in Blue, a professional entertainment troupe of active duty Air Force members who perform world wide. The movie schedule heading could provide the base movie theater schedule. The base theater shows first-run, feature-length Hollywood films two or more nights a week. Since these movies typically run one night only, a posted two-to-three week schedule would serve the customer best. As more chambers of commerce create community Web sites, the entertainment page of the electronic newspaper could link to the Web site of local area, if one exists.

The awards and decorations selection from the main page would reveal a sublisting of base level, command level and Air Force level awards, as well as a heading for military decorations, such as the Outstanding Unit Award, Humanitarian Medal, and the Air Force Recognition and Air Force Commendation Medals, to name a few. Another heading labeled "decorations news" could provide eligibility criteria for humanitarian operations or other campaigns and instructions on how to apply for certain medals.

Family news, another key to base morale, should never be neglected. Agencies on base such as the Family Support Center and Family Services provide a valuable service to Air Force members. These services provide support and comfort to family members separated during time of deployment, and conduct a myriad of programs ranging from managing money, to buying a house, to transitioning from military life to civilian life. Base youth programs play an important role in the development of Air Force children. Great care and attention are given in the development of programs directed toward the Air Force youth. Often, success of those programs depend on the level of advertising. A special subtopic devoted to youth programs will go a long way in helping to make these programs a success.

Information other than news can be offered on an electronic newspaper. Base guides—yearly commercial enterprise publications that provides base history, available services (youth center, child care, base exchange and commissary hours of operation), and local area information—can be uploaded onto the system. Base telephone directories are a logical extension of an online service as well. When limiting access is necessary, restricting access to certain information can be accomplished by identifying specific BBS account holders or allowing only Internet accounts with the domain name extension .mil or .gov.[4]

A bonus to developing a base newspaper for the Web—in lieu of or in addition to—a BBS is the ability to link documents together, as mentioned earlier. Not only can documents be linked together, but a Web page can provide links to all manner of military

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[4] On the Internet, a domain represents an area of interest, broken down into subdivisions. Within the United States, the domain name system consists of the host name, any organizations within the domain, followed by one of six extensions: .com–commercial organizations (businesses), .edu–educational institutions; .org–other organizations, .net–network resources, .mil–military, and .gov–government organizations other than military (example: nervm.nerdc.ufl.edu). Outside the United States, the domain extension is usually followed by a two-letter country code.

information. A tie to DefenseLINK provides access to the home pages of the other branches of the military; the Reserve and National Guard; DOD news releases; Defense fact files; publications such as speeches, directives, and instructions, as well as a way to search through DOD information online. Various news services (print, broadcast, and television via the Web), biographies, fact sheets, speeches, photography, and Airman Magazine are a mouse click away.

An electronic Air Force base newspaper cannot replace the print product at this time. With only 20 to 40 million Internet users out of 250 million households in the United States, not everyone has access to the electronic world. More importantly, not all Air Force members have access to a modem-equipped computer. Eliminating the printed base newspaper will effectively cut many Air Force members out of the information loop. An uninformed public becomes a breeding ground for gossip and rumor, both detrimental to the morale and effectiveness of the Air Force. Until everybody has access to the electronic base newspaper, a paper product is still needed.

However, the time to establish an online base newspaper is fast approaching. Although some bases have yet to move beyond stand-alone personal computer workstations, many Air Force installations are interconnecting within the base gates. As bases become connected to the online world, an electronic newspaper can serve this public as an additional source for information. A well-designed interactive newspaper can enhance the base mission and build morale, creating a better-informed military community.

# CHAPTER 6
# CONCLUSION

For an organization as geographically diverse as the U.S. military, being able to stay in touch electronically is a godsend. The Air Force community stretches beyond the base gates to points around the world. As more bases throughout the Air Force work toward interconnecting and reaching out into cyberspace, staying in touch becomes easier.

With the current trends in defense budget cuts and force drawdowns, it is unlikely that a strong enough argument can be made to develop, design, and install a stand-alone BBS-based electronic newspaper, which could cost a minimum of $54,000. In light of the growing popularity of the Web, development of a Web-based interactive newspaper would be the more logical avenue of choice, especially since most bases are now connected to the Internet. Since the Air Force is not primarily concerned with the BBS's commercial advantages, the Web offers much more capability to get the Air Force message to its world-wide audience.

In March 1996, there were more than 220 active duty Air Force, Air National Guard, and Air Force Reserve World Wide Web home pages.[1] For many Air Force members, those pages mean convenience. Deployed personnel will be able to find their home stations on the Web, check out the latest news on the home front, and e-mail loved ones back home. For those members being reassigned, a click of the mouse can fill them in on their new base and the surrounding community, even if their new assignment is located halfway around the world. A local BBS-based newspaper cannot offer the convenience provided by the Web. Even an 800 telephone number added to the system will only serve those Air Force members sent out of town within the United States.

[1] There are 228 home pages on the AirForceLINK Web page.

Locations like Bosnia, Haiti, and even Germany can be out of touch with a BBS newspaper.[2]

## Discussion

The first hypothesis in Chapter 1 stated that "Air Force base newspapers can feasibly follow their civilian counterparts and create a successful electronic version of their printed product within the next three to five years." This statement has been found to be true The potential audience is now here. A significant portion of Air Force personnel and civilian employees have or will have access to an online system, such as a base-wide LAN, or can access an online service from home through a modem-equipped computer and an Internet service provider. For bases already connected to a local area network—70 percent—the resources needed for creating an Air Force base Web newspaper already exist.

The second hypothesis suggested that the electronic newspaper, if feasible, should be either a BBS or a Web site. As stated earlier in this chapter, the Air Force would be better served by a Web-based newspaper. With this assumption in mind, the newspaper could be staffed, designed, and maintained in the following manner.

### Need for an Experiment

To test the viability of an online base newspaper, the Air Force should establish a pilot product using an existing active duty base newspaper at a base with an existing Web site. Time frame for the trial should be a one-year period to allow for a broad range of news opportunities and situations such as deployments. This experiment should determine:

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[2] Some BBS-based newspapers have an established Web site allowing a text-based access to the BBS via the Internet service telnet.

1. the need for this kind of news delivery system by local and deployed members;

2. the procedures necessary to design and maintain such a system;

3. the costs associated with design, operation, and maintenance of an online newspaper; and

4. guidelines for developing, managing, and maintaining such a product, as well as editorial guidelines.

The results of this experiment should provide the Air Force with enough information to determine if electronic delivery of base news will provide a useful service for both its deployed members and those at home. For the purpose of this thesis, the Airlift Spirit, the base newspaper at Charleston Air Force Base, South Carolina, will be used as an example to illustrate how this experiment should proceed.

Site and Structure of the Experiment

Charleston Air Force Base is aligned under Air Mobility Command. As a mobility wing, the men and women at Charleston have been known to spend many a holiday season separated from families and friends while deployed to areas around the world, whether providing humanitarian relief to starving Africans in Somalia or organizing airlift support in Bosnia. This world-wide mission makes Charleston an excellent choice to test the Airlift Spirit as a World Wide Web base newspaper.

Staffing. To produce a Web-based newspaper, the Charleston Air Force Base Public Affairs staff will need to assign two office members the duty of designing and maintaining the Web site. They should be as follows.

Non-commissioned officer (NCO): This staff member, in addition to his or her regular duties, would be assigned the duties of "Webmaster." This job will require 50 to 75 percent of the NCO's time during the design stage of the newspaper. Once the design is completed, this time can be reduced to 20 percent (or one to two days a week) to

maintain the Web site. Basic computer knowledge and word processing skills are mandatory to accomplish this job. Additionally, the NCO must know or be willing to learn the mechanics of Web page design as well as graphics design. If the NCO is lacking knowledge in computer graphics, the base graphics department has qualified personnel to handle this task. Likewise, help in Web design is available through a paid consultant or a volunteer on base.

Airman: In addition to his or her regular office duties, this staff member would be assigned to work with the Webmaster. This job will require 30 percent of his or her time to assist the Webmaster with gathering, sorting, and formatting the material to be placed on the Web site. Like the Webmaster's duties, skills needed for this job include basic computer knowledge and word processing skills as well as knowledge of hypertext markup language.

Equipment. The equipment needed for this job will already be in place: two computer workstations equipped with a word processing program, a Web browser program, an HTML text editor, and a graphics program or image file editor.

Content. As stated in Chapter 5, content for the online newspaper will come from news articles, feature stories, editorials, and other information from the printed base newspaper; wire services (command, Air Force, and DOD); submitted information from units and organizations around the base; and local stories written specifically for the Web paper. Daily newspaper headlines should be included for deployed personnel.

Recommended elements, specifically the "Government System" notice as stated on page 62 of this thesis, must be included somewhere within the Web site. Other information sources can be added into the Web page. A Web counter can record the number of times the page is accessed to give the Webmaster and other members of the PA staff an idea of the amount of use the page receives. Links to other Air Force and DOD information sites can be designed into the Web page, such as Air Force Radio News, Air Force TV News Online, and Airman Magazine. Other base information such as the

telephone directory, fact sheets, commanders biographies, assigned description of units, the base guide, and even the Air Force song can be linked within the newspaper web page. All these elements can work together to create an innovative electronic base newspaper.

## Areas for Further Study

Areas for further study on the subject of electronic newspapers, specifically Air Force online base newspapers, are boundless. Knowing the computer knowledge base of Air Force members, their families, civilian employees, and the retired military community, would greatly benefit future studies in the area of electronic newspaper development. A random survey could be conducted to Air Force personnel to find out

1. the number of Air Force members, civilian employees, family members, and retirees who have access to computers, whether at home, at work, or both;
2. how many families have computers at home;
3. how many computers are equipped with modems;
4. how many bases are connected to a local area network, or are working toward that end;
5. how many bases have Internet access;
6. how many Air Force members subscribe to a) a local BBS; b) an online service; c) an Internet service provider; or d) all of the above; and
7. the level of computer knowledge of Air Force members, civilian employees, family members, and retirees.

This survey could be extended to cover the Department of Defense. A survey of this magnitude would require the backing and financial support of the Air Force and DOD to be successful.

On a smaller scale, further studies could examine the new electronic technologies that are being developed daily and how they will affect future online publishing projects.

For instance, one of the newest innovations for the Internet is HotJava, a World Wide Web browser that promises to radically change the Web. The Java programming language allows animation and interactivity on the Web. Since most base newspapers are published under a commercial enterprise, government contract, a future study could examine the feasibility of developing an electronic newspaper under a CE contract. Base guides, another CE project, could be developed for the electronic medium, also. Current CE contracts do not mention electronic delivery of base news. A study could be performed to examine the legal issues of operating an online newspaper, specifically, first run of publication rights. The results of such a study could mean the revision of the standard base newspaper contract to provide for an electronic newspaper.

Public Affairs has been given the responsibility for overseeing development of Air Force Web sites. In light of the new innovations occurring in the online world, it is imperative for the public affairs career field to stay up to date on latest developments. Specialized training in the areas of the Internet, the World Wide Web, and specifically electronic newspapers would greatly benefit PA practitioners. The Defense Information School is responsible for all PA training, but adding a sufficient training course on developing and maintaining electronic base newspapers would unnecessarily extend the two-and-a-half month course. A better solution would be to develop a two- to four-week electronic newspaper course at a civilian institution, such as the University of Florida, a leader in electronic publication education. This program could be developed much like the precedent set by the American Forces Information Service Short Course in Communication taught at the University of Oklahoma.

Commercial companies like TMS Inc., a provider of high-quality document imaging and full-text retrieval software, are developing custom, "off-the-shelf" Web newspaper "modules" for business weather, television listings, and health and fitness information. Using a pre-formatted Web module greatly simplifies the process for creating or enhancing an online presence. A Web-based electronic newspaper merely has to place

its contents within these pre-formatted modules rather than starting from scratch. Such a Web module could be developed for Air Force base newspapers. A Web module could be further developed for all DOD Web newspapers for the DefenseLINK Web site. These modules could be downloaded from the AirForceLINK or DefenseLINK Web sites.

The limited number of electronic Air Force base newspapers, as well as Army, Navy, and Marine Corps newspapers, indicates a need for further development in this area. Just because there are more than 500 commercial newspapers operating some form of online product is not reason enough for the Air Force to play follow the leader and jump on the electronic bandwagon. Wanting to stay in touch and wanting to keep Air Force members who are separated from their home base and families better informed, and to better serve the Air Force community are very good reasons for further development in the area of electronic newspapers. The guidelines discussed in this thesis, coupled with the area for further study, should provide the Air Force with a good start down the information highway.

# GLOSSARY

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|---|---|
| BBS or electronic bulletin board system | A computer system equipped with a modem using a special program allowing another computer to call it over a standard telephone line |
| bits per second or bps | Speed data is transmitted |
| client | A computer that requests information from a network. A consumer of services (see server) |
| clock speed | Speed of the internal clock that regulates the rate of the microprocessor that controls the computer. The clock is used to cynchoronize information flow through the computer |
| commercial enterprise newspaper | A newspaper published by a civilian publisher under a no-cost governmental contract. The publisher bears all costs involved and depends on the sale of advertising to make a profit |
| communication software | Software designed to allow computers to communicate through a modem and telephone line |
| cyberspace | A general term applied to the online world; first coined by William Gibson in his fantasy novel Neuromancer to describe the virtual world of computers and the society that gathers around them |
| database | Information organized in some systematic manner on a computer's hard drive that can be accessed online |
| dial-up access | A computer connection made over a standard phone line |
| electronic mail or e-mail | A method of sending personal messages among people via computers |

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| electronic newspaper | An interactive service providing news, weather, sports, and entertainment (among other topics) to the home or office via a computer |
| freeware | Free copyrighted software programs available for public use |
| ftp | File transfer protocol. Internet service that allows the exchange—or transfer—of files between computers across a network |
| funded newspaper | A newspaper printed by a commercial publisher under a governmental contract or with government printing equipment |
| hardware | Computer components such as monitor, central processing unit, keyboard, modem, etc. Hardware can be internal or external to the computer case |
| hit | The number of times a Web page transmits its text, graphics, video, or audio fiels. Transfer of a file from a Web site to a user |
| host | A computer that makes data or program files available to other computers (usually a server) |
| hypertext | Highlighted words within a document that lead the reader to more related information |
| information superhighway | Term coined to represent the vast resources of information available via computer and modem |
| installation commander | Highest ranking officer on a military base, usually a colonel or lower-ranking general officer. The commander is ultimately responsible for everything that happens in regards to the mission, the equipment and the people assigned to the installation |
| interactive | Ability to send information back and forth between host computer and client; in the case of newspapers, customers able to tailor the news to their interests |

| | |
|---|---|
| interface | Exchange of information between the user and computer, between computers, or between programs |
| Internet or Net | Collection of worldwide computer networks, together creating the world's largest computer network |
| local access network or LAN | Series of computers connected together to share peripherials and exchange information and data stored in a dedicated computer |
| modem | Short for modulator/demodulator. A modem transfers electrical impulses of information from a sending computer into tones so the information can be transmitted over a telephone line where it is converted back by the receiving computer |
| multimedia | A method of presenting information using a combination of text, graphics, sound, and sometimes motion, with an emphasis on interactivity |
| network | A linking of two or more computers in order to share/transfer information or resources |
| newsstand | A collection of electronic publications available online. Electronic newsstands are much like the magazine rack in a grocery store |
| online service | Commercial enterprises that provide electronic news, information, and entertainment services for a fee. Commercial online services are usually a national rather than a local service |
| RAM | Random access memory. Temporary storage area for program instructions and data. Any information stored in RAM is lost when the system is turned off |
| server | A computer that provides information or access to a network to other computers. A provider of services. Can service many clients at one time (see client) |
| software | Computer programs |
| surf | To jump from one hypertext link to another, skimming the document, much like television channel surfing, or browsing book titles on the library shelves |

| | |
|---|---|
| system operator or SYSOP | Person responsible for operating a bulletin board system |
| teletext | Recognized as one-way text and graphics delivered via a broadcast signal (air waves) or coaxial cable to a specialized video terminal located in the home |
| telnet | A log-on Internet service that allows access to other computer systems on the Internet |
| videotex | Generic term used to denote two-way communication device used to deliver text and graphics via a cable or telephone line to the home for viewing on a special terminal, computer screen, or modified television set |
| World Wide Web or WWW or W3 | Internet navigation system designed to link computer resources through key terms using hypertext |

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# BIOGRAPHICAL SKETCH

Stephanie A. Holcombe was born in 1960 in Mobile, Alabama. She graduated from Oklahoma State University in May 1989 with a bachelor of science degree in photojournalism and a minor in political science. A captain in the United States Air Force, she received her commission through the Air Force Reserve Officer Training Corps program at Oklahoma State University where she was a distinguished graduate.

After graduation, Stephanie worked during the summer at the 71st Flying Training Wing Public Affairs office at Vance Air Force Base, in Enid, Oklahoma. Beginning active duty in late September 1989, she attended the Public Affairs Training Course at the Defense Information School (DINFOS) at Fort Benjamin Harrison in Indianapolis, Indiana.

Upon graduation of DINFOS, in December 1989, Stephanie was assigned to the 437th Airlift Wing Public Affairs Division at Charleston Air Force Base, South Carolina. While there, she performed duties as deputy chief of the office, chief of the Internal Information Branch, chief of the Media Relations Branch, and C-17 public affairs officer. Her duties took her to locations around the world escorting news media, and reporting and photographing events for military publications: Panama, Saudi Arabia, Kuwait, Spain, Germany, England, Bosnia, Croatia, Azerbaijan, Tajikistan, Russia, Turkey, Guam, Okinawa, and Japan.

She was selected by the Air Force to attend the University of Florida to earn her master's degree in journalism under a highly-competitive graduate program by the Air Force Institute of Technology. She was graduated from the University of Florida with a Master of Arts in Mass Communication in May 1996.