

THE READERSHIP OF THE DAILY TAR HEEL ONLINE

By

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A Master's paper submitted to the faculty of the School of Information and Library Science of the University of North Carolina at Chapel Hill in partial fulfillment of the requirements of the degree of Master of Science in Information Science.

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A study of the Daily Tar Heel Online (DTHO) readership was conducted in February of 1999. The research initiative included a web based survey, and an examination of web counter data and summary server log file statistics. The survey generated 460 non-duplicate responses.

The results of the study provided insight into the demographic makeup of the readership of the DTHO, and shed light on the behavior and hardware and software capabilities of its users. The findings conclude that the readership of the Daily Tar Heel Online is centered in the Southeastern United States and is composed of men and women between the ages of 18 and 30. These men and women are mostly alumni and parents of UNC students who earn over \$30,000 a year and work in some type of professional occupation. Readers access the paper from work generally during the noon hour. Their favorite sections are UNC Sports and UNC News and they read the electronic edition three days a week or less. They possess more advanced technology in the way of hardware, software, and Internet connectivity than the average Internet user. The readership is very interested in purchasing products from the DTHO web site and is comfortable conducting credit card transactions over the Internet. If readers could change the Daily Tar Heel Online they would provide better archiving and search capabilities and would provide additional content beyond what is produced in the traditional paper edition.

Headings:

Newspapers – Electronic
Newspapers- North Carolina-College
Newspapers – Readership

Newspapers - Readership
Surveys – Readership
Newspapers - Surveys

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1999

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INTRODUCTION

In 1994 the Daily Tar Heel became one of the first college newspapers to develop a presence on the World Wide Web. It began as a simple text-based document and has developed into a multi-layered site with full graphical capabilities. Two part time employees are responsible for the paper's production five days a week, and a General Manager oversees the entire process.

Early in 1999, the Assistant Editor of the Daily Tar Heel Online (DTHO)¹ perused some of the 3,918 online newspapers within the United States². The result was the realization that the DTHO had fallen behind its contemporaries. Many of the sites provided a multimedia experience complete with up-to-the-minute polls, live video clips of current news events and reader discussion forums. These papers are adding value to the electronic product by capitalizing on the interactive features of the World Wide Web.

In an effort to stay competitive, staff decided to initiate a study that would gather information about the readers of the DTHO. By gathering information about the users, a better understanding of the readership's needs could be ascertained. At that time, very little was known about the readership of the online paper. What information was known stemmed from remarks that had been received from students, parents, alumni, and sports enthusiasts via a comment form that was available from the web site. In addition to the comments, a single question poll was run in every issue that would generate anywhere from 100 to 350 responses.

The overall goal of the study was to gather information so that the online readership could be better served by the DTHO web site. Within the context of this goal, there were several key elements that the study wished to determine. They were:

- What is the demographic makeup of the DTHO readership?
- What are the hardware and software capabilities of the DTHO's readers?
- What are readers' preferences and behaviors and what implications do these have for the redesign of the site?
- What are readers' attitudes towards purchasing products over the World Wide Web?

These elements were investigated through a readership survey, collection of web counter data and the analysis of server log file statistics provided by systems administrators at the University of North Carolina.

BACKGROUND

Electronic Newspapers

In "A Brief History of the Internet" (Semonche, 1998), a Framingham, Massachusetts newspaper is credited as the first to make an appearance online. The Middlesex News launched an information service on September 2, 1993 that allowed users to preview the next days headlines, look up reviews and listings of clubs, movies and restaurants, or search a database of answers to readers' questions on a variety of subjects.

Credit for the second online newspaper has been given to the San Jose Mercury News. The web site was launched on May 13, 1993 and was affiliated with America

Online. Approximately one-fifth of the site was free with headlines and short news summaries and the rest was available to paid subscribers only (Harper, 1997).

The third major newspaper to form a presence on the Internet was Raleigh, North Carolina's News & Observer. Semonche (1998), chronicled its rise from a basic bulletin board system in March of 1994 to a collection of several different web sites with full graphical capabilities six months later.

Steve Outing, president of Planetary News, reported that at the beginning of 1994 there were approximately 20 newspaper online services worldwide, by August of 1995 there were 313, not including over 100 college papers that had also established a web presence (Semonche, 1998). The industry grew rapidly and on April 9, 1999, Yahoo³ listed 5026 online newspapers worldwide.

As the industry grew, electronic newspapers struggled to find themselves within the new media of the Internet. John Pavlik, the executive director of the Center for New Media at the Columbia University Graduate School of Journalism in New York remarked that "newspapers are seeing the Internet as an opportunity to reinvent themselves" (Cohen, 1996).

The Newspaper Association of America sees new technology as one key to the future health of the newspaper industry. They reason that "whether these new channels include interactive TV, online computer services, CD-ROM technology or other emerging technologies, newspapers must ensure their place as the primary information provider regardless of the pipeline" (Consoil, 1994).

If electronic newspapers wish to become the primary information provider, it is important that they offer something more than other emerging technologies. They cannot

simply reproduce the content of the traditional newspaper in the web based product and stay competitive. Nora Paul, the director of programs at the Poynter Institute for Media Studies in St. Petersburg, Florida explains "too many electronic newspapers are simply shovelware, scooping up the old flat text used in the ink-on-paper product and throwing it on the screen" (Bucci, 1997). Added value can be given to traditional news stories via multimedia features such as links to streaming audio clips of speeches and interviews, and links to video clips of news events.

User Surveys

There is very little information about current Internet user demographics that is freely available on the World Wide Web. Statistics are constantly changing and data often becomes obsolete before it can be published. Georgia Tech's Graphic, Visualization & Usability Center⁴ is one of the few organizations publishing free up-to-date research on Internet user behavior and demographics. The Center has conducted WWW user surveys since 1994 and has collected a large amount of data.

GVU's 10th WWW User Survey (1994-1998) was conducted from October 10, 1998 through December 15, 1998 and was endorsed by the World Wide Web Consortium (W3C). Survey solicitations were made by placing announcements in popular media such as newspapers and trade magazines and on Internet related newsgroups. Banner advertisements were also placed on high exposure sites such as Yahoo and CNN.

Special pointers to the survey were provided by Yahoo, MindSpring, and DoubleClick. The survey received 5,022 responses from around the world. The GVU survey collected data on a variety of topics including, general demographics, technology demographics,

online privacy and security, Web and Internet use, software filters and content rating, everyday life, electronic commerce, and specialized questionnaires for Webmasters.

Sampling Methodology Background

In this Survey researchers discuss two types of sampling methodologies, random and non-probabilistic sampling. Random sampling creates a sample using a random process for selection of elements from the entire population. This way, theoretically, each element has an equal chance of being chosen as part of the sample. It is supposed that because each element of the population has an equal chance of being selected for the sample that the results obtained from the sample can be generalized and applied to the entire population. Random digit dialing, also called RDD, is a type of random sampling in which phone numbers are selected randomly and interviews are conducted over the phone. The second methodology, non-probabilistic sampling, does not ensure that elements of the population are selected at random. This makes it extremely difficult to ensure that all portions of the population have been represented equally.

Self selection is another issue discussed by the Gvu Survey. It occurs when entities in a sample are given a choice to participate. If some readers decide not to participate, it reduces the ability of the results to generalize about the entire population. This decreases the confidence of the survey because the readers who decided not to participate may differ in some way from the readers who decided to participate.

It is difficult to avoid self selection in any survey methodology. In the case of random digit dialing those who choose to hang up the phone and not participate in the survey are self selecting. It also occurs in mail based surveys when certain people choose not to respond.

Survey Interface

Typical web based surveys are implemented using browser based forms with a data collection system resident on the server machine. The Common Gateway Interface (CGI)⁵ is a standard that has been developed for connecting external applications with information servers. CGI provides a means for a remote client to request an executable program that can be run by the server. The executable programs can be designed to generate a multitude of products and are typically used to return dynamically generated data directly to the user, and to collect information from client based input forms.

There are certain security issues that may arise when using CGI. Programs executable by CGI are usually placed in a special directory that the server "knows" contains executable programs. In most server environments this directory is called cgi-bin. Security holes develop when users have write access to these directories, so they are usually inaccessible to anyone other than the system administrator.

The University of North Carolina at Chapel Hill offers limited support of CGI. It does not currently support the use of CGI for experimentation or non-monitored use and requires that its users only use scripts prepared by the Academic Technology Network. One script that is allowed on RA, the University's Sun Solaris 5.4 workstation is a binary called GFORM.

GFORM is easy to use, has a good deal of flexibility and allows one to design the HTML form along with the CGI response form within the same document. Appendix A contains information adapted for this research from the University of North Carolina's GFORM Documentation (1997).

Log File Analysis

Every single request that a user makes of a Web site generates an entry in the server's log file. There would be one request for the actual HTML page and subsequent requests for each photo and graphic that appeared on that page. For example, a page of the Daily Tar Heel Online containing HTML code and seven graphics, would require eight requests for a reader to download it to their machine (Kirsner, 1997).

Each of these requests writes a line to the server log containing information such as the name of the file requested, the size of the file, the date and time it was requested, and the IP address of the computer that requested it. On busy sites, this information is voluminous and often very difficult to process. For example, the daily log of the Washington Post generated 500 megabytes of data and took over three hours to process (Kirsner, 1997). Some sites, such as the New York Times, planned to track usage from the start by requiring that users register before they could gain access to the site.

METHODOLOGY

There were several key elements that needed to be investigated. First of all, basic user demographics such as age, gender, income, occupation, and geographic location needed to be collected. Secondly, some knowledge about reader behaviors and preferences needed to be gathered. Thirdly, it was necessary that designers had some idea of the hardware and software resources of readers so that they could match the file size of HTML pages and interactivity of the redesigned site with the capabilities of its users.

Staff at the DTHO decided that the best way to learn more about the readership of their paper would be to conduct a user survey using the non-probabilistic methodology

similar to the one used by the GVU Internet User Survey. They did not have the technical knowledge to implement a user registration strategy similar to that employed by the New York Times, nor did they have the human resources to maintain such a system.

Fortunately for this study it was only necessary to gather data about the users of one electronic media web site. It was possible to target a sample of the readership of the Daily Tar Heel Online by providing a link off of the main page of the web site.

In addition to the reader survey, a summary of the log files for the web server housing the Daily Tar Heel Online was examined. Some newspapers have used software tools to measure online readership but these products were too expensive for the DTHO to afford. The University of North Carolina did implement a basic statistical analysis package over a thirty day period and provided the results for the DTH to analyze. Web counters were also placed in each section of the DTHO to help determine what pages were visited most frequently.

After a certain level of comfort with GFORM and HTML forms was developed, a survey prototype was engineered. A sample group of ten people were asked to complete the survey and report any ambiguities or difficulties that they had in answering the questions. One person voiced concern that it was too long, but most did not report any problems.

Final touches were made to the survey and it was then submitted to the Institutional Review Board (IRB). The University of North Carolina requires that all research involving human participants be approved by the IRB.

Once the survey was approved, it was necessary to begin preparing for the data that would be received from the survey participants. Data files were created for each day

the survey would be run in a UNIX directory on Ruby, the SUN Server running Solaris 5.6 at the School of Information and Library Science. The GFORM was structured so that the results would be delivered to the UNIX files in tab delimited format. This would facilitate the use of the MS EXCEL spreadsheet program for data analysis.

Web page counters were created for the sections of the paper for each day that the survey would be run. Counters were created using a UNC approved CGI program that was created by the Academic Technology Network. The CGI program was accessed from the online document "Web Authoring: Forms & Counters" (1998). Another spreadsheet was created so that the counter numbers for each section of the online paper could be tracked. The counters were used to measure "hits" to the web page. For the purposes of this project, a "hit" is defined as the request of an entire HTML page and all of the requestable items within that page (i.e. graphics).

The survey was first posted on Monday, February 15, 1999. That week was chosen because it was before mid-semester examinations and was two weeks before the university's spring holiday. A link to the survey was provided off of the Front Page of the DTHO (Figure 1). A prize of \$20 to a randomly selected participant was offered as an incentive for completing the survey. A brief explanation about the survey as well as a contact at the Institutional Review Board was provided at the top of the survey page (Figure 2).

Figure 1. The Front Page of the DTHO the first day the survey was posted, Feb. 15, 1999

Quote
I believe any person who asks for forgiveness has to be prepared to give it.
- Bill Clinton

The Daily Tar Heel
O N L I N E

Front Page Monday, February 15, 1999

EDITOR'S NOTE: Please take 5 minutes to fill out the DAILY TAR HEEL ON-LINE READERSHIP SURVEY. By learning about our current readership we can design the DTHO to better serve you. There will be a \$20 prize offered to a randomly selected participant. Click Here to Move to the Survey

Clinton, Country Move On
WASHINGTON

Today's Weather
High: 57
Low: 32

Poll
Do you forgive President Clinton?
 Yes No I Don't Know
Vote

Front Page
University
Beyond UNC
Features
Editorials
Opinion Column
Letters
Arts/Reviews
Sports
In Brief

DTH Classifieds
Editorial Staff

Figure 2. The first page of the Readership Survey

Daily Tar Heel On-Line Readership Survey

Welcome to the **First Annual Daily Tar Heel On-line Readership Survey!** We want to find out who our readers are, what kind of hardware and software they are using, and how we can change this web site to make them happier.

When you complete this survey, you will be eligible to win a **PRIZE** so please give us five minutes of your time and let us know all about you. We promise that there won't be any telemarketers calling you as a result of the information we receive.

WE PROMISE!

The results of this survey will be used for a research project being conducted at the University of North Carolina. You are free to move out of the survey at any time. Your responses will be kept strictly confidential. If you have any questions about your rights as a research participant, please contact:

Academic Institutional Affairs Board
David A. Eckerman, Chair
CB# 4100, 201 Bynum Hall
The University of North Carolina at Chapel Hill
Chapel Hill, North Carolina 27599
(919) 962-7761
e-mail: aa-irb@unc.edu

The sections of the Online paper vary from day to day. Almost all papers have a Front Page which highlights the day's top stories, a UNC News Section, a "Beyond UNC" news sections which contains local and national news, Editorials, Opinion Editorials, Letters to the Editor, News Briefs, a Campus Calendar, and a Sports Section. Thursday issues have a section entitled "Diversions" which focuses on music and the arts. Other sections that occur frequently are Features, Reviews, and Police Roundup. The Daily Tar Heel also publishes several inserts throughout the academic year. These are mirrored in the electronic version in the Tab section. During this survey, a Spring Sports Tab section was published on Friday, February 19, 1999.

The final step was to contact the systems administrators at the University of North Carolina to get access to the DTHO's server log files. They were able to provide summary statistics for one thirty day period in the World Wide Web Access Statistics for the DTH (1999). These statistics were correlated with the CGI counters that were placed on the pages of the individual sections of the paper.

RESULTS

A total of 460 viable surveys were returned. Answers to each survey question (Appendix B) were tabulated and percentages were calculated. Not all participants responded to every question. Where the data permits, results have been compared to the 10th GVU WWW User Survey (1994-1998).

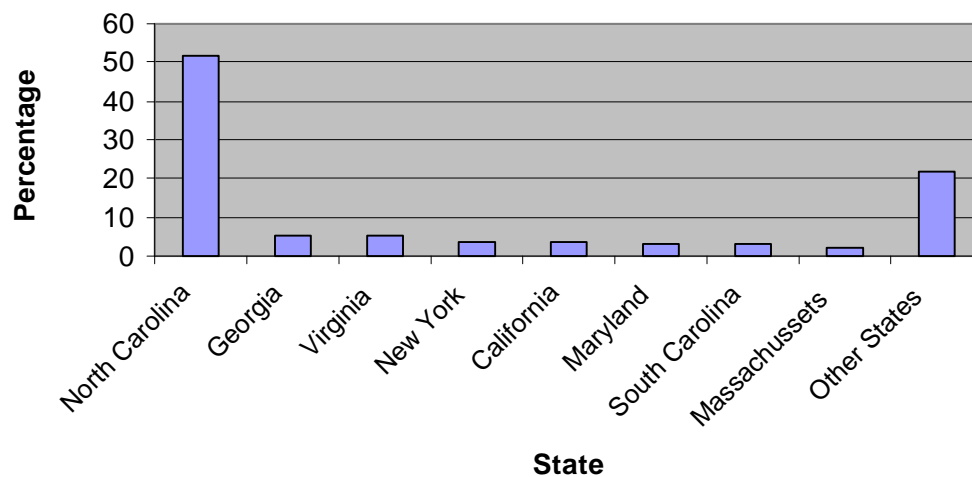
Survey Data

What state are you in? n=447

In Figure 3, 52.0% of the respondents are from the state of North Carolina. 5.4% are from Georgia, 4.9% from Virginia, 3.8% from New York and 3.6% from California.

Responses were received from 30 different states.

Figure 3. Geographic Distribution by State
n=447



What city are you in? n=452

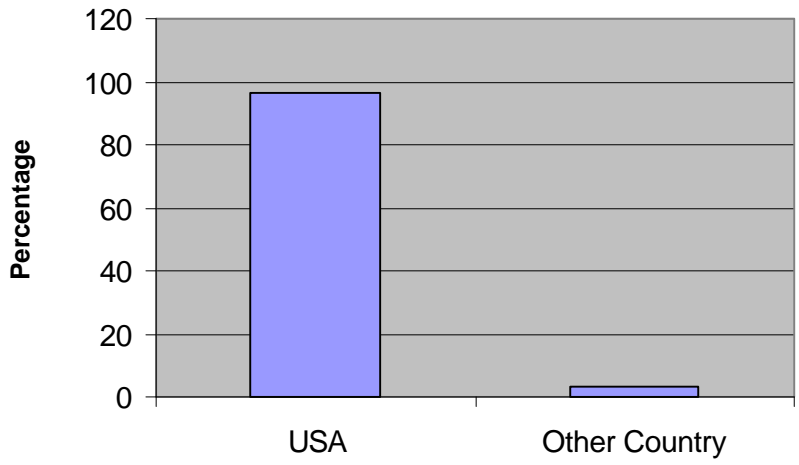
Survey participants came from 188 different cities throughout the United States.

28.0 % of the respondents were from the Chapel Hill area. 5 % of respondents were from Charlotte, North Carolina, and 4% were from Atlanta, Georgia. There were responses from all of the major metropolitan cities including, Atlanta, New York, Boston, Washington, D.C, San Francisco and Los Angeles.

What country are you in? n=440

A vast majority of respondents (96.8%) were from the United States (Figure 4). England had the next largest population with 1.6% of respondents accessing the paper from its domain. Japan, Australia, Canada, Mexico and Thailand also made an appearance. There were 20 respondents who did not name a country of origin. According to the Daily Tar Heel World Wide Web Access Statistics (1999), requests were received from over 67 different countries within a thirty day period.

Figure 4. Geographic Distribution by Country
n=440



What is your gender? n=451

In Figure 5, females compose 43.9 % of the readership of the Daily Tar Heel Online while males comprise 56.1%.

Figure 5. Gender
n=451

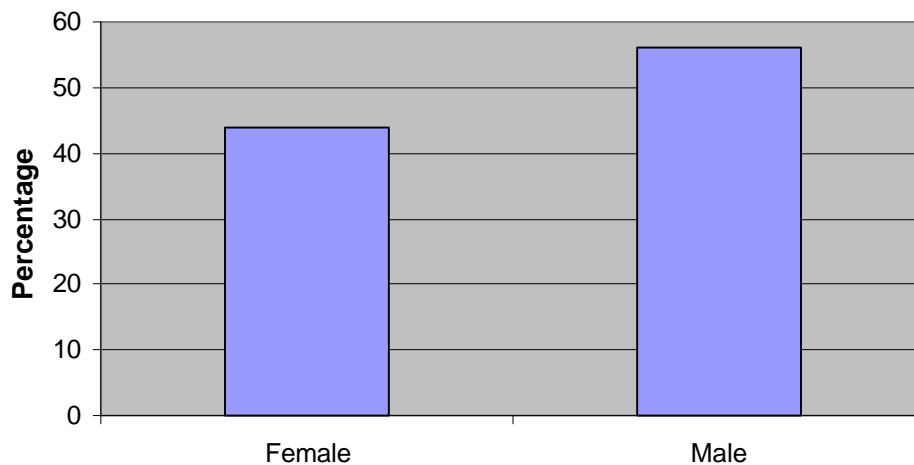
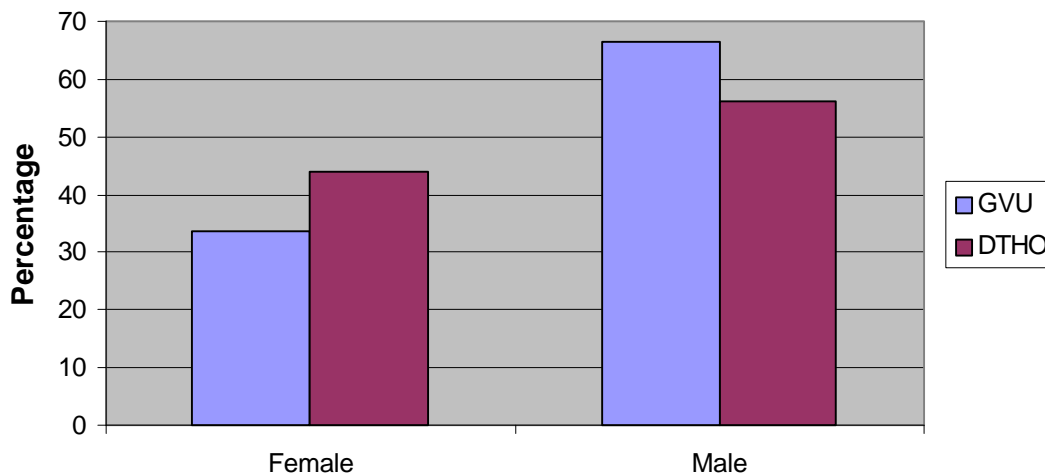


Figure 6. GVU* User Data vs Survey Data: Gender



* GVU User Data from 10th GVU User Survey (1998)

Copyright 1994-1998 Georgia Tech Research Corporation. All rights Reserved. Source: GVU's WWW

User Survey www.gvu.gatech.edu/user_surveys

The GVU population (Figure 6) was composed of 33.6% females and 66.4% males.

What is your age? n=449

In Figure 7, 60.6 % of the readers are between the ages of 18 and 30. 39.6% are between the ages of 18 and 24. 20.9% of the respondents are 25 to 30 years old. The third largest age group is the 41 to 50 year olds composing 15% of the readership polled. The 31 to 40 year olds are 12% of the population and the 51-65 year olds are 9.6%. There were 8 respondents under the age of 18 (1.8%) and 5 respondents (1.1%) over 65.

Figure 7. Age
n=449

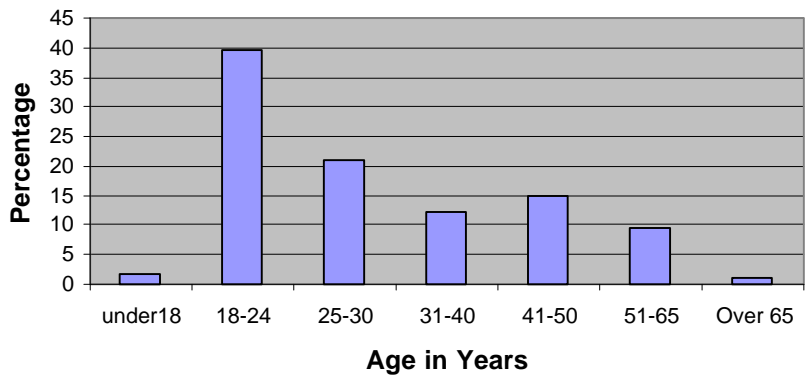
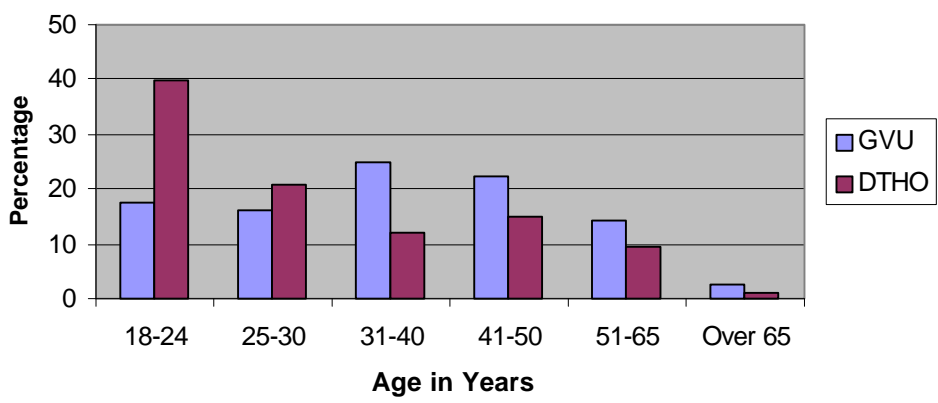


Figure 8. GVU* User Data vs Survey Data: Age



*GVU Data from the 10th WWW User Survey (1999)

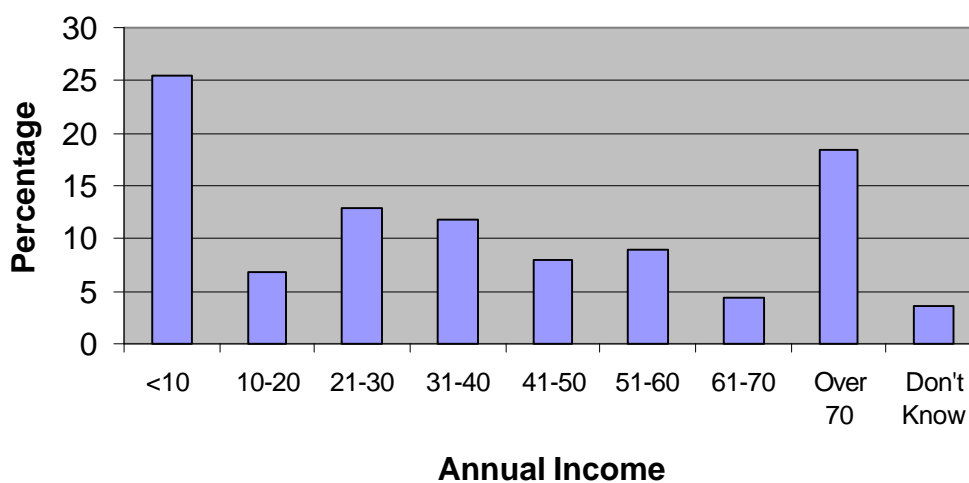
Please note that there is not a direct mapping between the two data sets. GVU grouped respondents into a 16-20 and a 21-25 age group. These two data sets were combined and compared with the 18-24 DTTHO data. The DTTHO readership has the highest age distribution for the 18-24 year olds while the highest percentage of GVU respondents are in the 31-40 age group.

What is your annual income? n=444

There was a broad range of incomes among the DTH Online readers (Figure 9). 25.5% of respondents made less than \$10,000. The next most common salary range was over \$70,000 with 18.5% of the respondents earning the top of the bracket. 12.8% of the readership polled earned \$21-30,000 per year, 11.7% earned \$31-40,000, 9.0% earned \$51-60,000, 7.9% earned \$41-50,000, 6.8% made \$10-20,000, 4.3% made \$61-70,000, and 3.6% did not know what their annual income was.

Figure 9. Annual Income

n=444



Which of the following best describes your current occupation? n=452

30.8% of the readership polled were students, leaving 69.2% of the other respondents as non-students (Figure 10). Of the non-students, 43.6% classified themselves as Professionals, 11.5% as Managers, 7.3% as Technical, 1.3% as Retired, 1.1% as Homemaker, .7% as Military, .7% as Service, .2% Not Working, .2% Skilled, and 2.7% as Other. Some of the “Others” included an independent book shop owner, a music/audio industry worker, a freelance editor, a banker, a clerk, a volunteer, a salesperson, a reporter, and a dancer.

**Figure 10. Occupation
n=452**

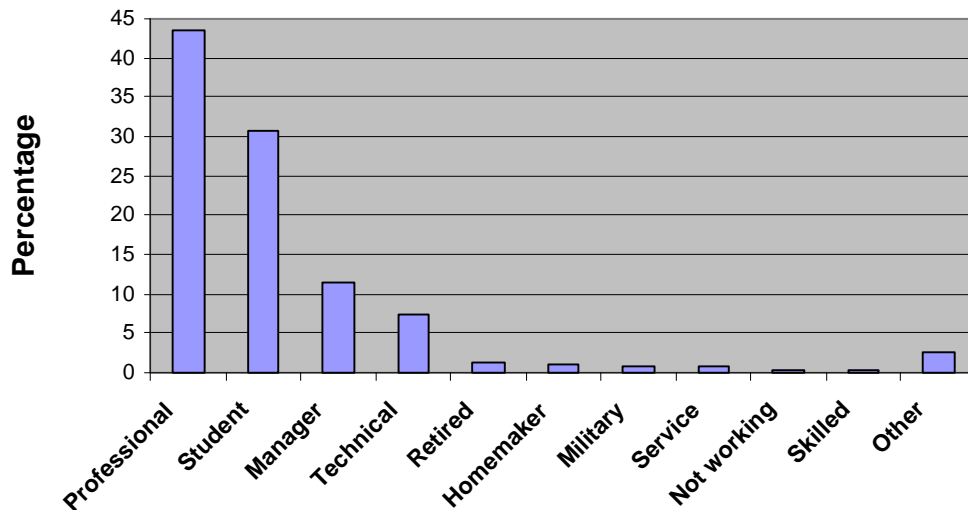
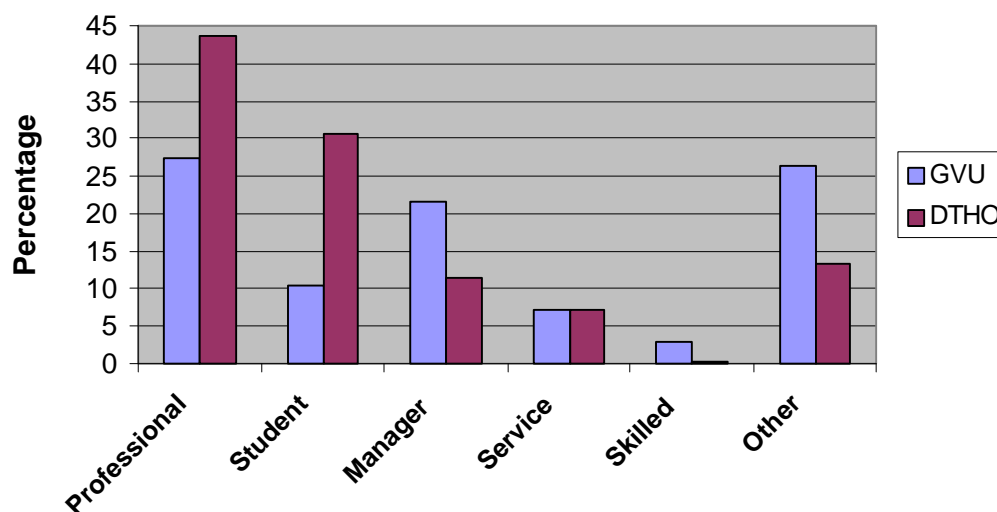


Figure 11. GVV* User Data vs Survey Data: Occupation



*GVV User Data from 10th GVV User Survey (1998)

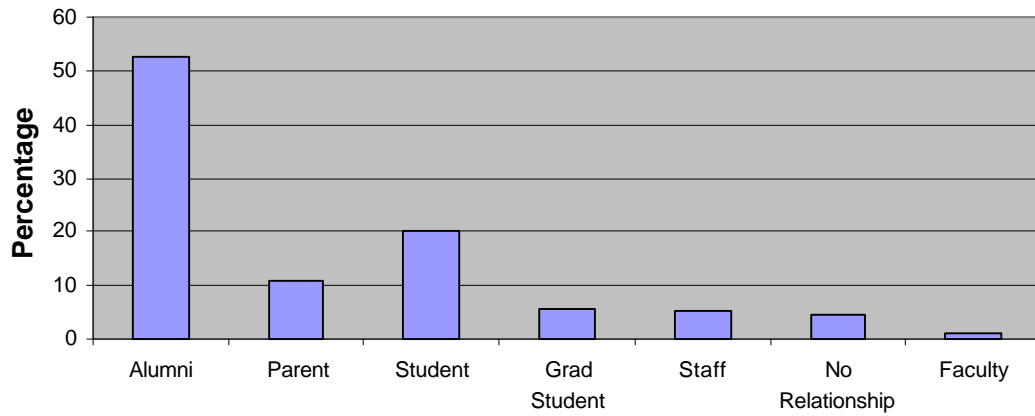
Copyright 1994-1998 Georgia Tech Research Corporation. All rights Reserved. Source: GVV's WWW User Survey www.gvu.gatech.edu/user_surveys

In Figure 11, professional was the occupation selected most often with 27.4% of respondents classifying themselves as such. Excluding the “Other” category, managers were the next largest group composing 21.7% of the population. In the GVV study “Other” included administrative staff, consultants, temporary employees, researchers, and the self-employed.

Which of the following best describes your relationship to UNC? n=405

In Figure 12, Alumni comprised 52.6% of the readership polled while students made up 22.6%. Of that 22.6%, 5.4% were Freshman, 5.9% were Sophomores, 4.4% were Juniors, 4.2% were Seniors, and 5.7% were Graduate Students. The remainder was composed of Parents who made up 10.9% of the readership, Staff 5.2%, and UNC Faculty 1.23%. 4.4% claimed no relationship to UNC.

Figure 12. Relationship to UNC
n=405



How many days a week do you read the DTH Online? n=446

26.5% of the readership said that they read the DTH Online five days a week (Figure 13). 23.8% read it three days a week, 20.9% accessed it two days a week, 15.0% read it four times a week, and 13.9% of the readership only looked at the paper one day a week.

Figure 13. Read the Daily Tar Heel On-line
n=446

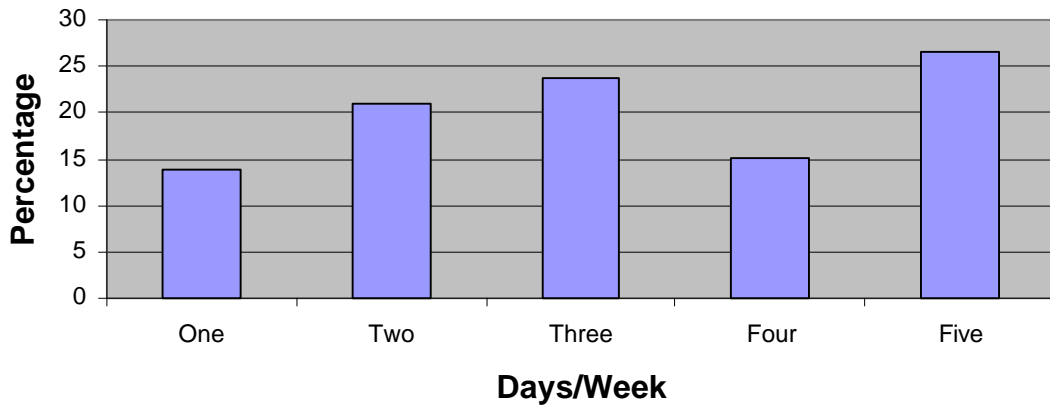
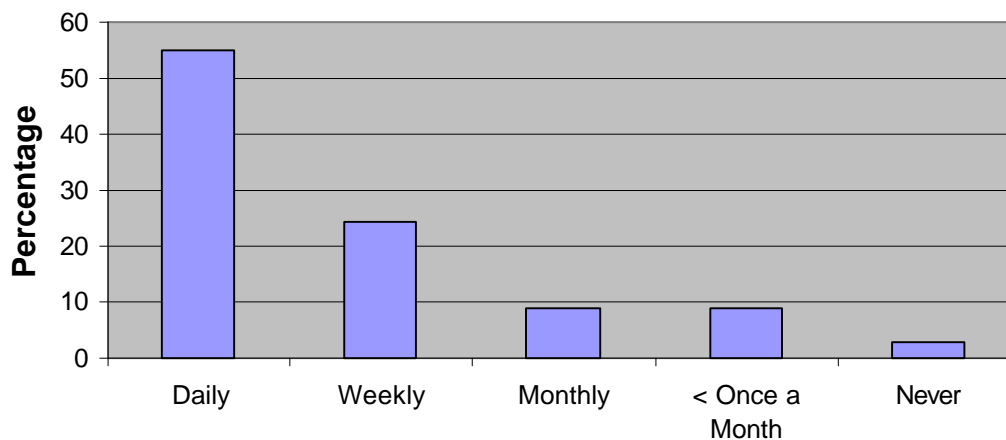


Figure 14. GVU* User Data: How often do you access electronic news?



*GVU User Data from 10th GVU User Survey (1998)

Copyright 1994-1998 Georgia Tech Research Corporation. All rights Reserved. Source: GVU's WWW User Survey www.gvu.gatech.edu/user_surveys

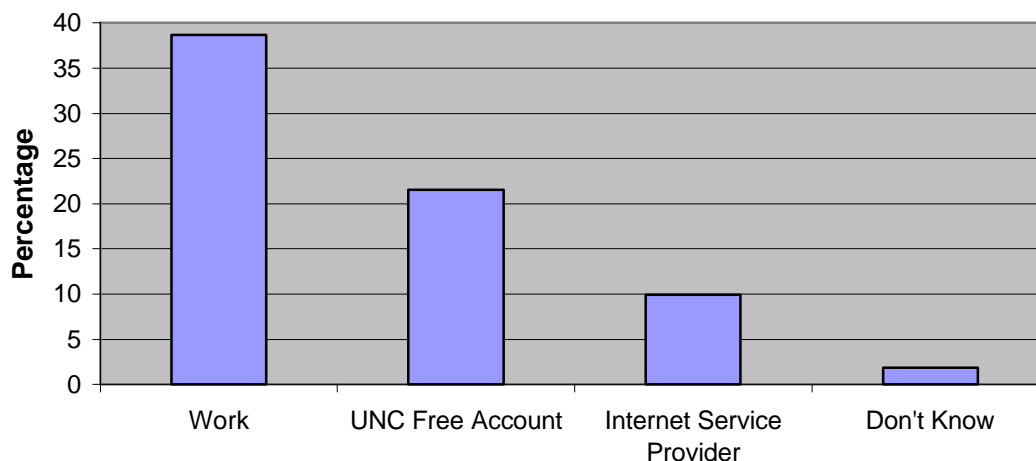
55% of the respondents in the GVU User Survey (Figure 14) accessed electronic news on a daily basis. 24.3% weekly, 8.8% monthly, 8.9% less than once a month, and 2.9% never opened electronic news.

From where do you access the DTH Online? n=446

Figure 15 illustrates that more respondents access the DTHO from work (49%) than any other location. 35.4% opened it from home, 6.1% from an office at UNC, 4% from a UNC computer lab, 1% from a UNC library, .2% from a public library, and 4% accessed it from some "Other" place.

Figure 15. From Where do You Access the DTHO?

n=446



What section of the DTH Online is your favorite? n=448

As demonstrated in Figure 16, the Sports section was the favorite, receiving 29.5% of the votes. The Front Page came in second as the favorite section with 25.7% of the vote, University News third with 24.6%, Opinion Editorials fourth with 3.8%, Letters to the Editor fifth with 3.6%, Local News sixth with 3.4%. The Police Roundup received 2.5% of the vote, the Editorial Section 1.8%, the Crossword 1.6%, and Features 1.1%. .9% of respondents voted for the Diversions section, the Comics, and the Classifieds.

Figure 16. Favorite Section of the DTHO

n=448

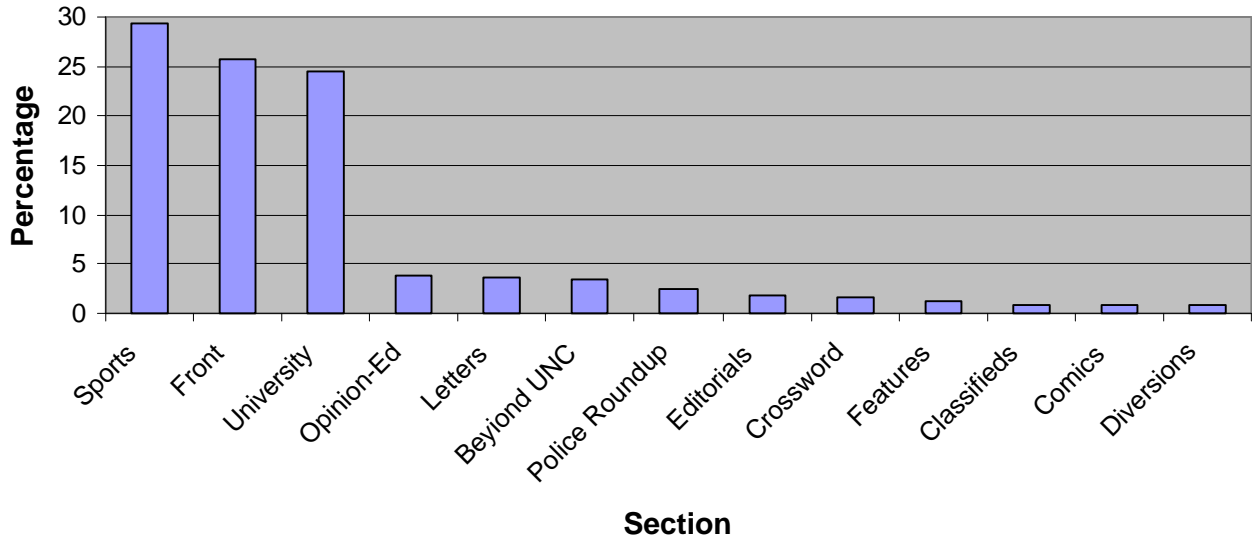
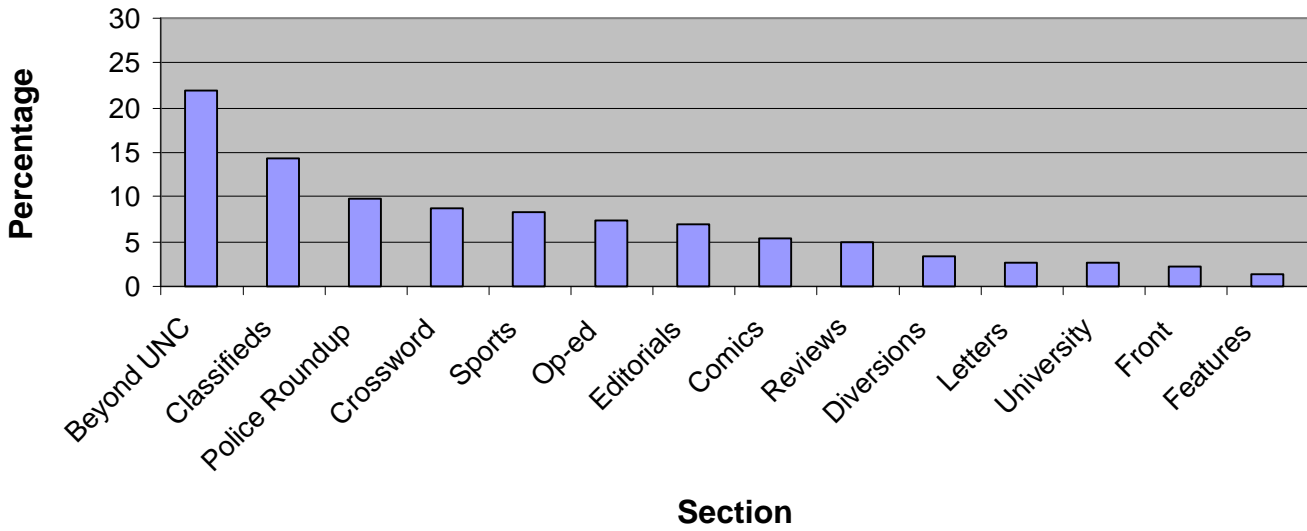


Figure 17. Least Favorite Section of the DTHO

n=420



What section of the DTH Online is your least favorite? n=420

In Figure 17 “Beyond UNC” local and national news received 22% of the votes for the most unpopular section. Classifieds were the second most disliked acquiring 14.3% of the vote. The Police Roundup amassed 9.8% of the vote, followed by the Crossword 8.8%, Sports 8.3%, Opinion Editorials 7.4%, Editorials 6.9%, Comics 5.5%, Reviews 5.0%, Diversions 3.3%, Letters to the Editor 2.6%, University 2.6%, Front 2.1%, and Features 1.4%.

What computer platform do you use on a regular basis? n=446

44.2% of all respondents used Windows 95 as their main platform (Figure 18). The second most popular was Windows 98 (29.4%), followed by the 13% that used Windows NT. 6% of respondents were Macintosh users, 2.9% Windows, 2% UNIX, .7% DOS, .5% used a platform not listed, and 1.4% did not know what platforms they had.

Figure 18. Primary Computer Platform

n=446

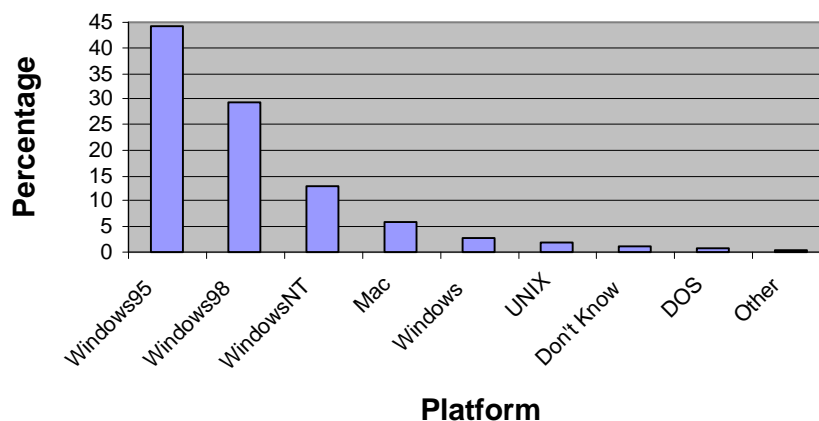
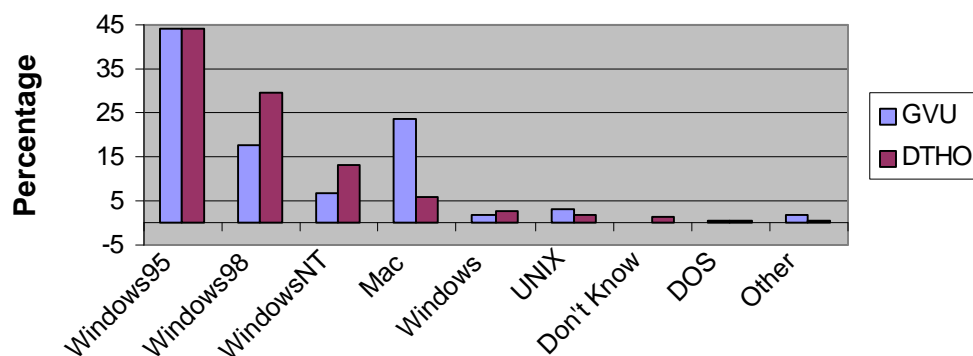


Figure 19. GUV* User Data vs Survey Data: Primary Platform



* GUV User data from 10th GUV User Survey 1999

Copyright 1994-1998 Georgia Tech Research Corporation. All rights Reserved. Source: GUV's WWW User Survey www.gvu.gatech.edu/user_surveys

In Figure 19, 44.3% of the GUV respondents used Windows 95 as their primary computing platform. The second most popular was Macintosh (23.7%) followed by Windows 98 (17.9%).

What is the speed of your Internet Connection? n=436

33.3% of the respondents to this question did not know the speed of their Internet connection. Of the remaining 66.7% that did know, 23.2% of them had a 56 Kb/sec modem, 15% had a 1 Mb/sec Internet connection, 8% had a 28.8 Kb/sec modem, 5.3% had a 128 Kb/sec connection and 4.6% had a 45 Mb/sec connection. 2.1% had a connection that was faster than 45 Mb/sec. Only .5% used a 14.4 Kb/sec modem and 1.8% had a connection other than what was listed.

When you remove the 145 respondents that did not know what their connection speed was, (n=291), then 84.5% of the readers have connection speeds of 33.6 Kb/sec or more and 12.7% have speeds of 28.8 Kb/sec or less.

Figure 20. Internet Connection Speed

n=436

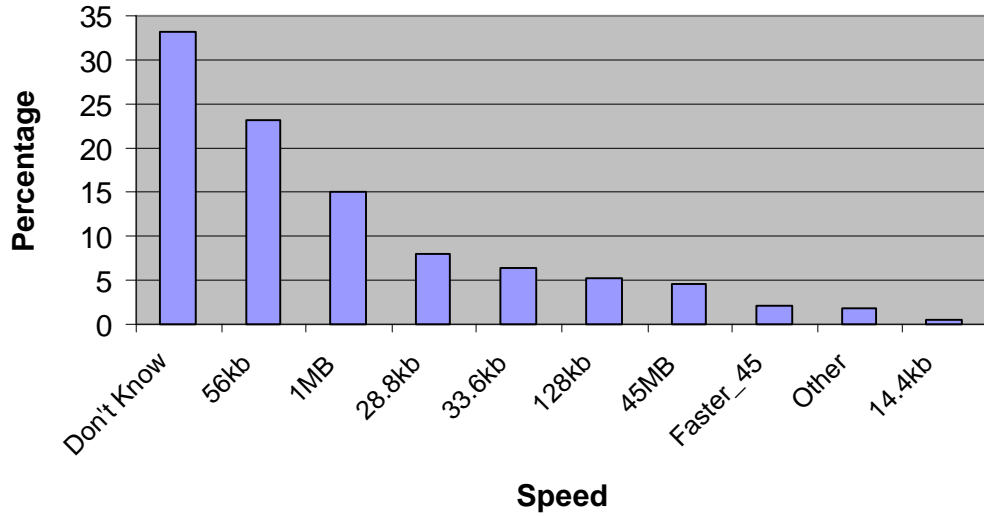
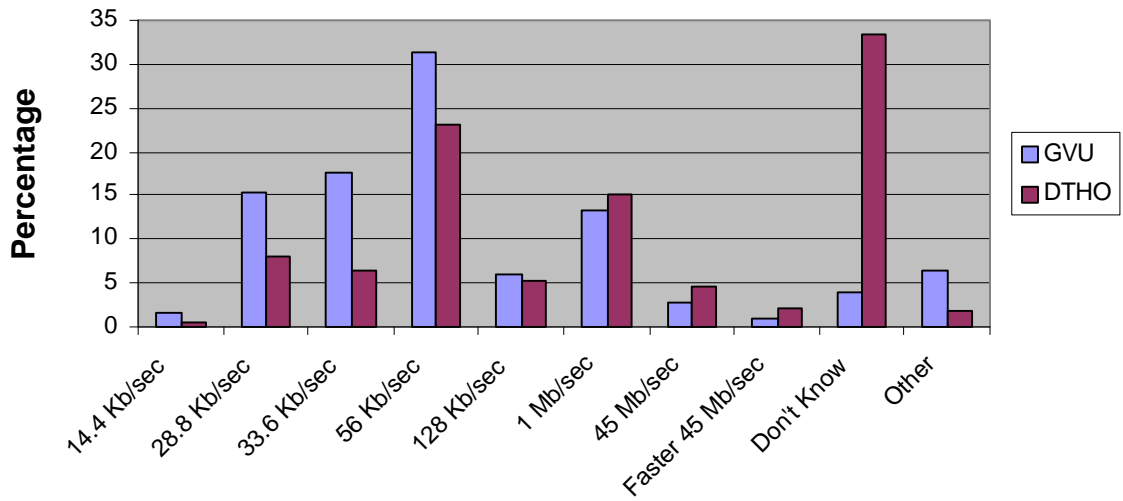


Figure 21. GVU* User Data vs Survey Data: Connection Speed



* GVU User data from 10th GVU User Survey (1998)

Most of the GJU respondents had 56 Kb/sec connection speeds (Figure 21). The next most common was the 33.6 Kb/sec modem.

What is the screen diameter/diagonal of the monitor in front of you? n=440

As demonstrated in Figure 22, 38.4% of respondents had a 13 to 15 inch monitor screen. 38.2% of respondents had a 16 to 18 inch screen, 8.6% had a 19-21 inch, 6.4% had a 10 to 12 inch. 2.1% had a screen that was over 22 inches. 6.4% did not know what their screen size was.

Figure 22. Monitor Screen Size
n=440

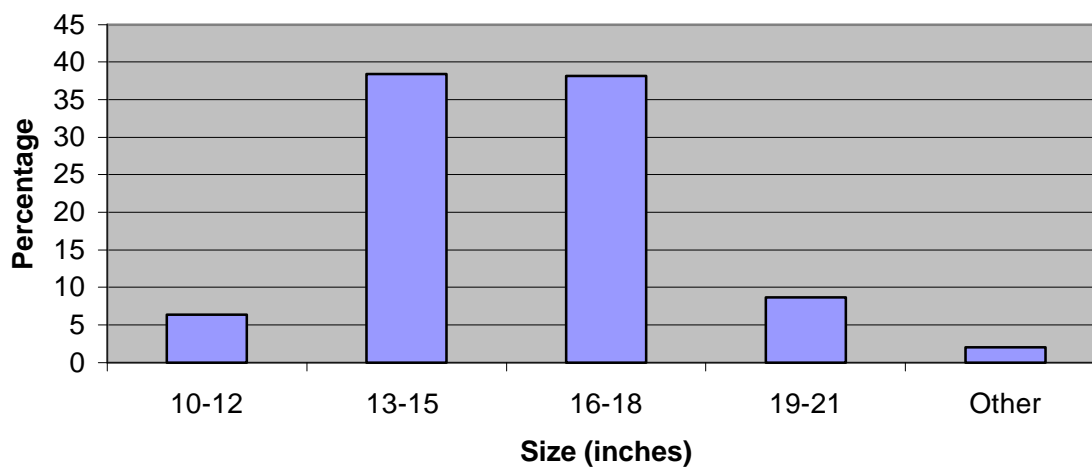
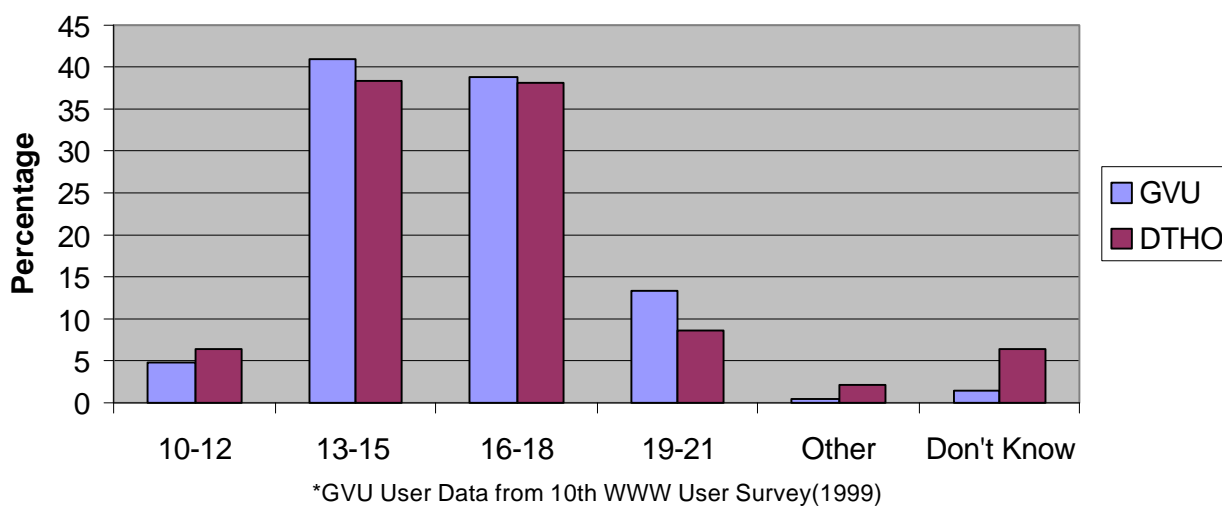


Figure 23. GUV* User Data vs Survey Data: Monitor Screen Size



Copyright 1994-1998 Georgia Tech Research Corporation. All rights Reserved. Source: GUV's WWW User Survey www.gvu.gatech.edu/user_surveys

In Figure 23, 40.9% of the GUV survey respondents had screen monitors between 13 and 15 inches. 38.3% had 16-18 inch monitors.

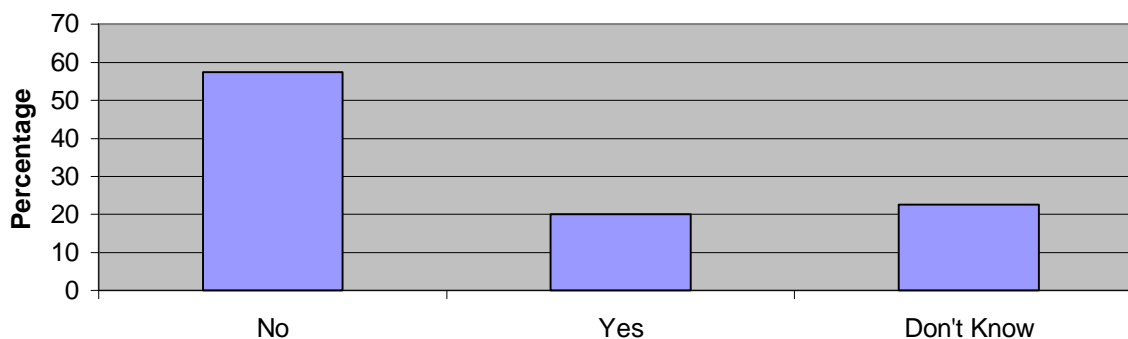
Do you plan to upgrade any of these within the next year? n=435

57% of respondents did not have any concrete plans for upgrading in the future.

20% said that they would upgrade and 22.8% said that they did not know (Figure 24).

Figure 24. Will Upgrade in the Next Year

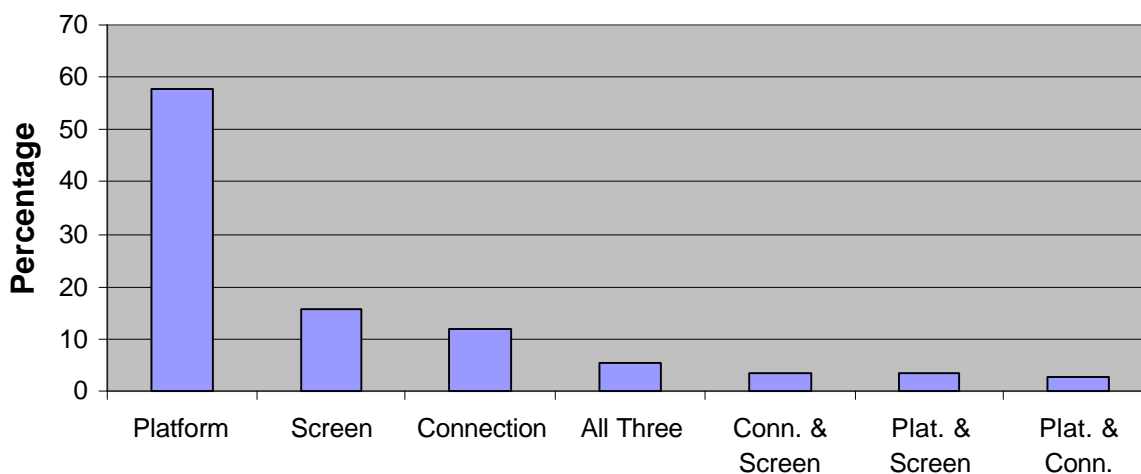
n=435



If yes, what do you plan to upgrade? n=116

Of those respondents that planned to upgrade in the future (Figure 25), 57.8% said that they planned to upgrade their platform, 15.5% planned to upgrade their screen, 12% would upgrade their connection, and 5.2% would upgrade all three. 3.5% intended to upgrade their connection and screen, 3.5% wanted to upgrade their platform and screen, and 2.6% planned to upgrade their platform and connection.

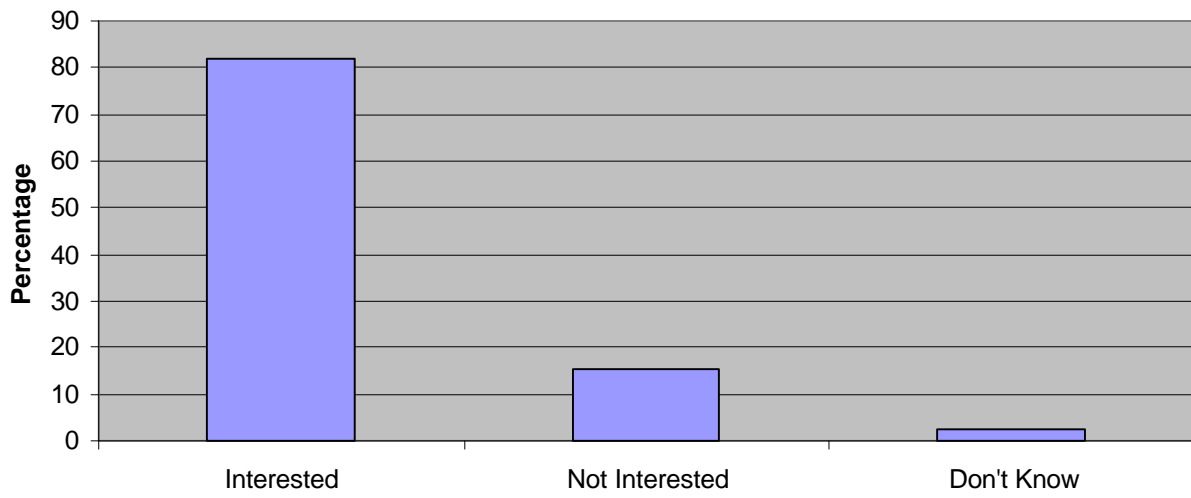
Figure 25. Plan to Upgrade
n=116



Would you be interested in purchasing products from the DTH Web site? n=439

In Figure 26, 82% of respondents expressed an interest in purchasing products from the DTH's web site. 15.3% said that they were not interested. 2.7% did not know if they were interested. The majority of respondents who expressed an interest in purchasing products were interested in purchasing UNC Clothing, Athletic Tickets, UNC Merchandise and Cultural Tickets.

Figure 26. Interested in Purchasing Products
n=439



Have you ever purchased anything on the Internet with a credit card? n=446

Figure 27 shows that 64.8% of respondents had purchased something over the web with a credit card, 35% had not, and .2% were not sure.

Figure 27. Have Made Credit Card Purchases
n=446

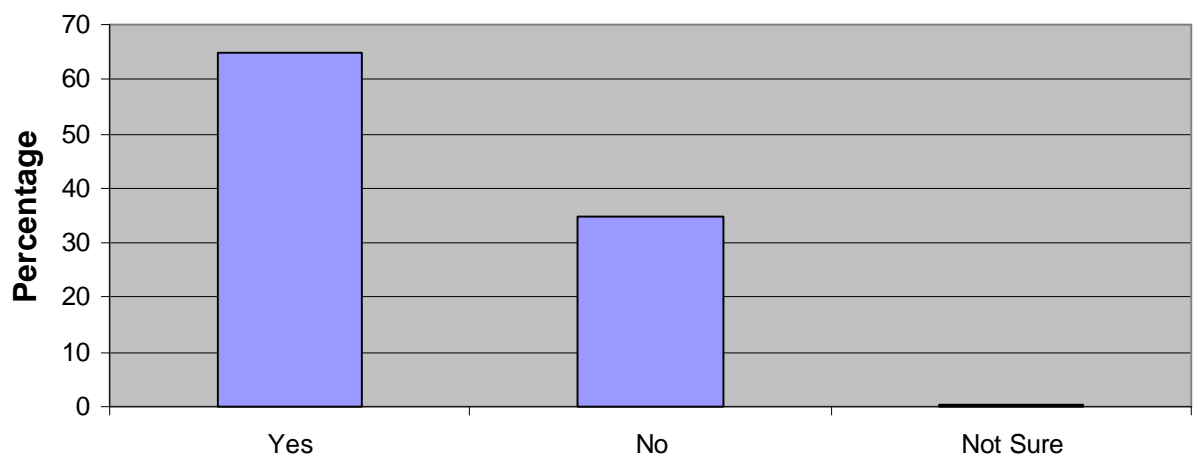
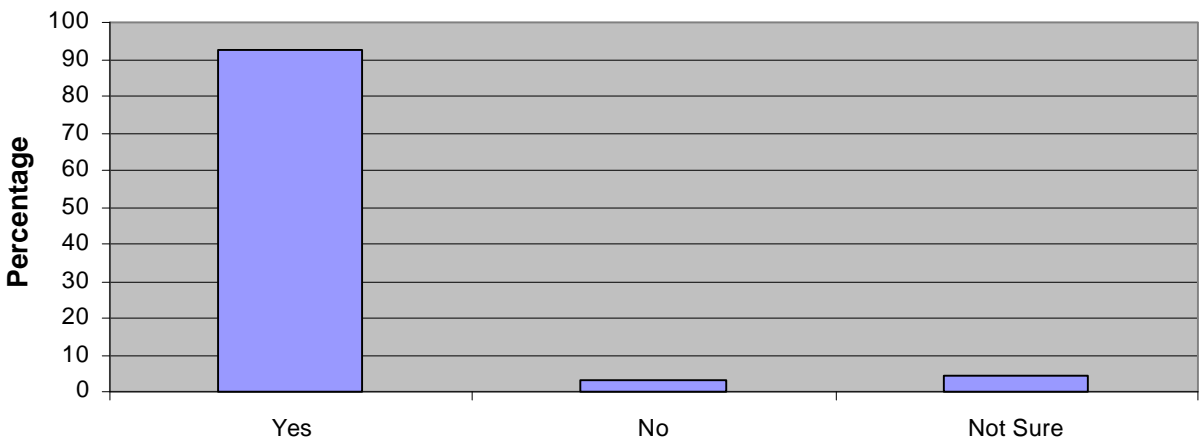


Figure 28. Satisfied with Transaction
n=300



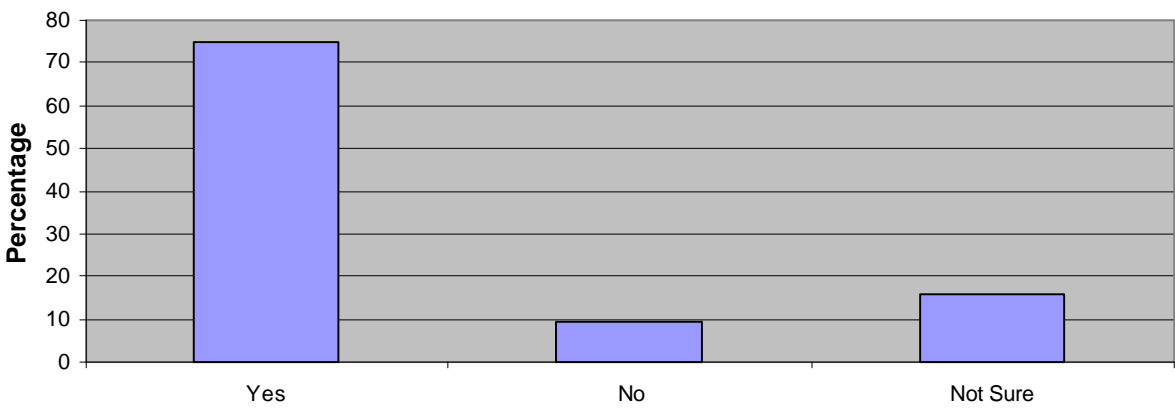
If yes, were you satisfied with the transaction? n=300

Figure 28 demonstrates that 92.3% of respondents who had participated in credit card transactions on the Internet were satisfied with the transaction, 3.3 % were not.

Do you believe that purchasing products over the Web is safe? n=444

74.8% thought that credit card transactions over the web were safe when dealing with a reputable company (Figure 29). 16% were not sure, and 9.2% did not think it was safe.

Figure 29. Are Credit Card Purchases Safe
n=444



What would you change about the Daily Tar Heel Online? n=215

Out of 215 respondents to this question, 62 said that they wouldn't change anything about the Daily Tar Heel Online. Those that did have suggestions provided a wealth of information. Requests included the implementation of better search capabilities (approximately 50 requests), easier access to previous issues (10 requests), more extensive sports coverage (25 requests), publishing at a set time each morning (35 requests), more photographs (25 requests), and better resolution for the crossword and comics (10 requests). Alumni also requested additional content that would be of interest to them (15 requests).

Counter Data

The Daily Tar Heel Online received an average of 1152 hits per day on the Front Page according to the web counters that were placed on the page throughout the week (Figure 30). The UNC Sports section received 372 hits, the second most number of average hits per day, and the UNC News section received an average of 342 hits per day.

Figure 30. Counter Data: Average Number of Hits Per Day

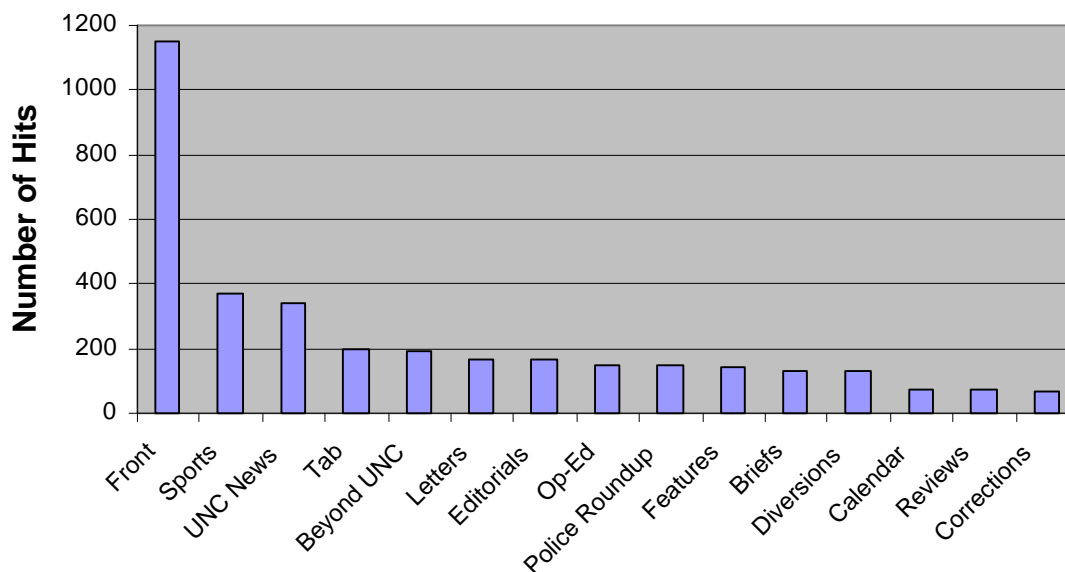
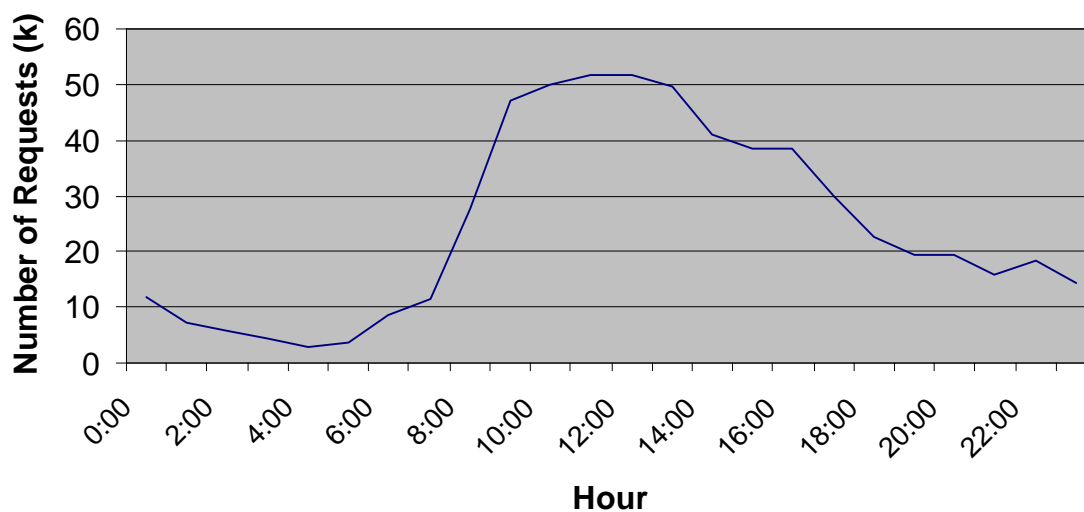


Figure 30 demonstrates the dramatic decrease in hits between the most popular sections of the paper and the remaining sections. The “Beyond UNC” local and national news section only received an average of 191 hits per day. Letters to the Editor received an average of 169 hits, Editorials 168 hits, the Opinion-Editorial pages received 149 hits per day, and the Police Blotter received 148 hits. The Features section received 145 hits, News Briefs 131, Diversions 129, Arts and Reviews 72, and Campus Calendar was last with an average of 76 hits per day.

The survey was run for five days and accumulated a total of 491 responses. All responses were analyzed using e-mail and phone numbers to check for duplicates. 31 duplicates were removed leaving a total of 460 non-duplicate responses. Out of the 719 hits received by the survey page, 68.3% chose to complete the form and submit it.

Log File Data

Figure 31. Number of Requests per Hour in a 30 Day Period



The DTH World Wide Web Access Statistics (1999) demonstrated users Behavior over a 24 hour period (Figure 31). Requests for items began to increase around 4:30 AM, and picked up speed between 8 and 9 AM when the number of requests doubled. At 12 Noon the number of requests peaked, then began to decrease steadily until 3 PM where the number of requests level off until approximately 4:30 PM. After 4:30 PM the number of requests rapidly decrease until about 7:30 PM where they level off for an hour, then continue to decline. Between the hours of 9:30 and 10:30 requests increased again, then resumed a steady decrease until 4:30 AM the next day.

DISCUSSION

The number of survey respondents, 460, is very close to the average number of hits made to the most popular internal sections. Using the number of hits made to the most popular sections inside of the paper as a better indicator of actual readership, it is reasonable to conclude that the survey was conducted on an appropriate sample of the newspaper's readership. However, the non-probabilistic sampling method employed for this survey does not ensure that elements of the population were selected at random and therefore it is possible that certain members of the population were not represented in the study. This is a problem for all surveys of this type.

When examining the web page counter data it is difficult to determine if the average hits per day on the Front Page are indicative of the actual readership of the DTH Online. There is a large discrepancy between the Front Page numbers and the numbers which occur within the site. The counter numbers demonstrate a dramatic decrease in hits

from the Front Page (1124 hits) to the section selected as most popular, Sports, which averages only 372 hits per day.

The counter numbers from the most popular internal pages are probably more representative of the actual readership of the Daily Tar Heel Online. There are several facts that point to this conclusion. The most basic reason is that all readers must access the Front Page before they can move into their favorite sections. The scripts that generate the DTHO change the URL for each section on a daily basis making it impossible to bookmark individual sections of the paper. Also, there have never been more than 375 responses received by a daily poll that is posted in every issue. In addition, several computers at the Daily Tar Heel office have their browsers' default page set to the DTH Online. It is very likely that some readers have also configured their web browsers to open up the Daily Tar Heel Online as their default page. This would drive the number of hits to the Front Page up significantly.

One of the biggest barriers to accurately sizing the Web audience is a technique known as proxy caching. Many Internet Service Providers will cache (save locally) a copy of a web page that receives numerous hits from its customers. The ISP's download copies of web pages within a site and save them on their proxy server. Staff from the LA Times reported that anti-caching techniques caused a 10 to 15% increase in the traffic to their server (Kirsner, 1997).

Johnson (1996) agrees that site-derived user statistics of hits and visits significantly understate the number of exposures (or hits) that actually occur due to the caching procedure. He goes on to say that approximately half of page impressions occur on one of the commercial online services' browsers. These are all issues that must be

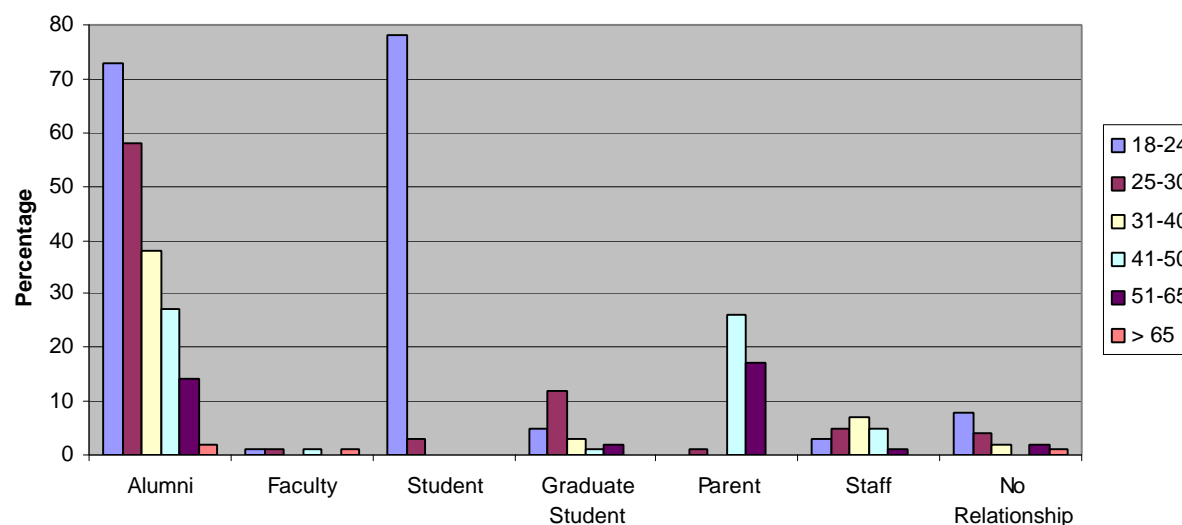
taken into consideration when attempting to determine readership size. Further analysis of the University of North Carolina's server log files could shed more light on the actual size of the DTTHO readership.

Demographics

The typical DTTHO reader is from the southeastern United States. They are men and women between the ages of 18 and 30 and earn over \$30,000 a year working in a professional field. This differs slightly from the typical web user according to the GUV user data. In that study, the average user was a male from the United States between the ages of 31 and 40 who worked in a professional occupation. The DTTHO's readership is less gender biased and slightly younger than the typical web user. Earlier GUV studies show that the difference in male and female users is slowly disappearing. In 1994 women comprised only 5% of Internet users.

Age, Relationship to UNC and Income

Figure 32. Age and Relationship to UNC

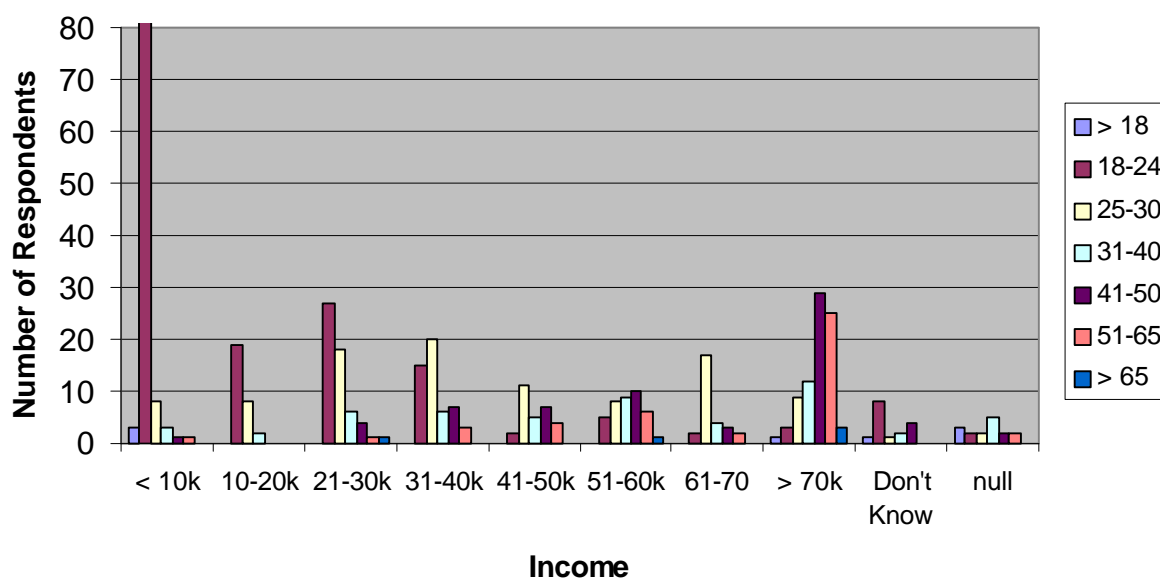


Over half of the readership is composed of alumni, approximately one quarter are

undergraduate and graduate students, and one tenth are parents of UNC students (Figure 32). Alumni were spread out over all of the different age groups excluding the under 18 category (excluded from figure). As expected, students were concentrated in the 18 to 24 age group and most of the 41 to 50 year olds were parents or alumni. Most alumni were in the 25-30 age group.

In Figure 33 it is interesting to note is the percentage of 25 to 30 year olds within the \$61,000 to \$70,000 income bracket. UNC alumni are earning excellent salaries and the DTHO has an affluent readership base. This bodes well for enterprises that wish to

Figure 33. Age and Income of the Survey Respondents



capitalize on alumni nostalgia by selling UNC clothing and merchandise. The DTHO would be wise to solicit advertisements from such businesses.

Audience and Advertising

When considering potential advertisers it might be in the DTHO's best interest to overlook the typical advertising geared towards college students in the printed version for

something more applicable to the online readership. Instead of advertising for spring break trips, tanning salons, and plasma donation, the DTH Online should be advertising subjects more fitting for the alumni and parents of UNC students that compose over 60% of the readership. In addition to UNC clothing and merchandise, examples of appropriate advertising subjects would be athletic and cultural event ticket sales, publications by university professors and service industries (i.e. banks and auto repair shops) of interest to UNC parents.

The Daily Tar Heel Online is a college newspaper. Its intended audience is college students yet they compose only one quarter of the actual readership. Before the redesign is initiated, staff must decide how to deal with this discrepancy.

Rosenfeld and Morville (1998) discuss the importance of evaluating the differences between the intended audiences and the actual audience when attempting to redesign a web site. Even though newspaper content is geared towards students at the University of North Carolina at Chapel Hill, staff could still take the actual audience into mind when considering several design and functionality issues.

Staff could respond to the discrepancy between intended audience and actual audience by generating content outside of the regular paper's realm. For example, DTH Online reporters could do stories that would be of interest to alumni and parents. In the "what would you change about the Daily Tar Heel Online" section of the survey, several respondents requested content that would be of interest to alumni. One reader said "...it would be interesting to read profiles of or reflections from different students who are currently having a great deal of success or profound misery after UNC." Another reader wrote "... it would be interesting to read profiles of or reflections from different students

who are currently having a great deal of success or profound misery after UNC.” Parents asked for better reporting of campus issues and events and students called for more national coverage as the DTTHO was one of their primary sources of news information.

Readership Preferences

The responses to the question “What would you change about the Daily Tar Heel Online” were very insightful. One of the biggest requests was for the establishment of better search capabilities. Daily Tar Heel Online readers must rely on the search engine that indexes the entire University of North Carolina domain to retrieve relevant news articles. Staff have not been able to establish a specialized search engine particular to the Daily Tar Heel Online due to the restrictive CGI policies employed by the University. The DTTHO is investigating alternatives such as moving the paper to a server that does allow CGI scripting.

Readers also requested a web structure that allowed easier access to the previous days’ issues, especially within that week. This could be implemented easily by providing a side navigation bar with links to all of the weeks previous Online issues.

Another common response was the request for better sports coverage. One reader suggested audio files of interviews with sports players. Another asked for a “larger sports section, with more player interviews, pictures and video clips.” In addition, readers asked for the paper to cover all sports instead of concentrating on those that were “most watched.”

Several respondents requested additional content. One reader remarked that the DTH Online should “offer something that the printed edition cannot offer, such as discussion boards and more interactive content.” Another reader wrote “you should

utilize the interactivity of the web more often with links to web sites in articles, and the establishment of chat rooms and multi-user dimensions or MUDs.

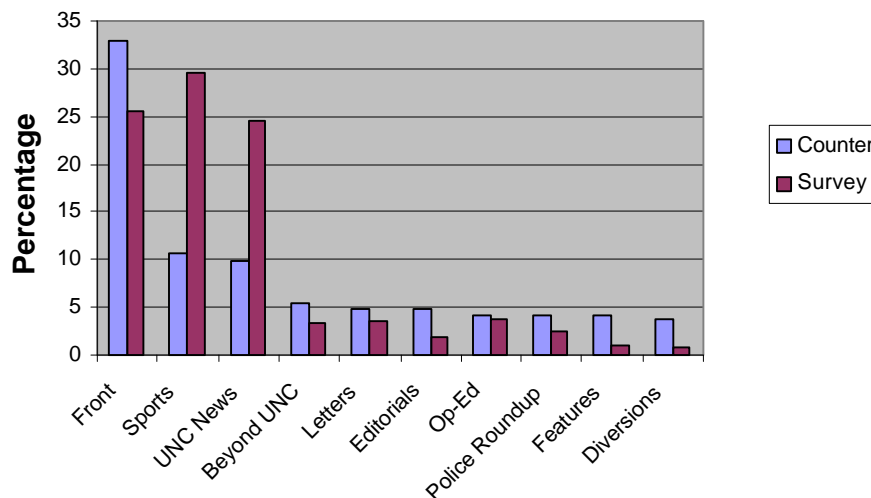
Bernadette Tracey, president of NetSmart, a consulting firm in New York says that newspaper web sites are generally doing a good job of presenting information but have yet to fully leverage the interactive capabilities of the Web. In a survey of 1000 consumers, 68% said they were frustrated with sites that were not interactive (Sullivan, 1998).

Favorite Sections

The Front Page counter data and survey data are the closest match of the 10 sections evaluated. There is a large discrepancy between the counter data for the Sports section and the UNC news section and the survey data. Again, the counter data for the Front Page is higher for the reasons discussed earlier. Ignoring the Front Page and the discrepancy in numbers, the survey data follows the same general pattern as the counter data, highest at the Sports section, decreasing slightly to UNC News, and dropping significantly to Beyond UNC local news. A possible reason for the discrepancy between the counter numbers and the survey numbers could be the fact that 58.6% of the DTHO's users access the paper three days a week or less. Thus, the average of hits to the sections over a five day period would reflect this.

In summary all viewers must access the Front Page. From the Front Page, a majority of viewers move to the Sports Section and UNC News Sections. Some of the readers then leave the site while a lower percentage continues to view other sections of the paper.

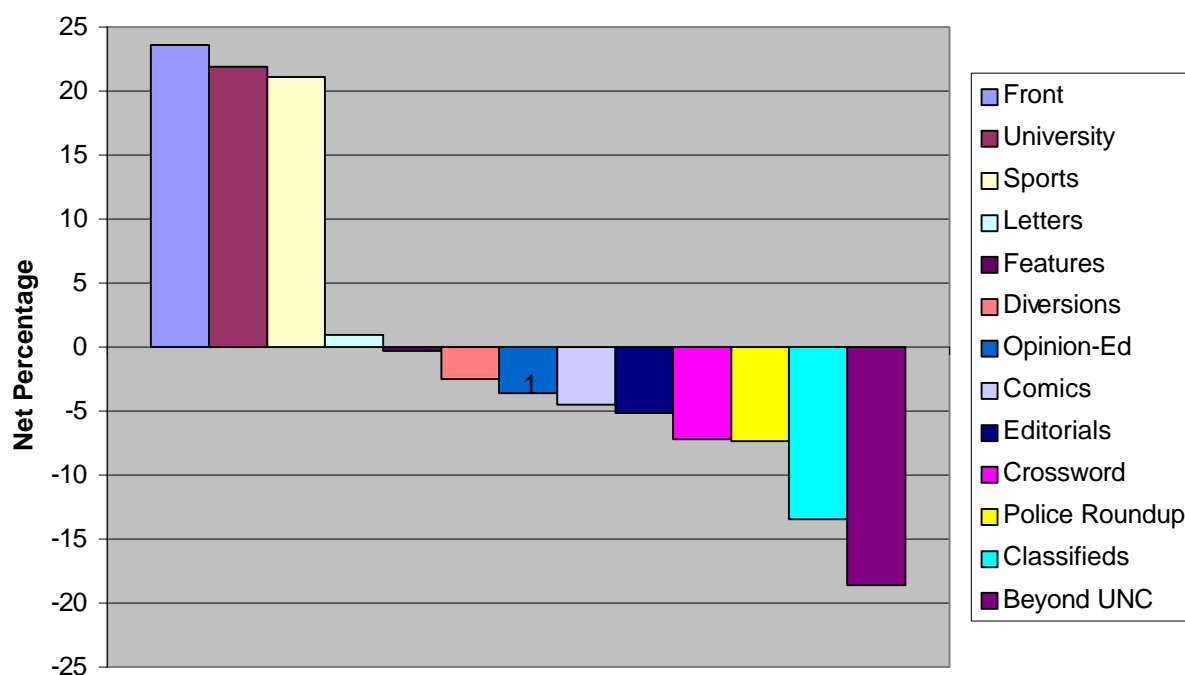
Figure 34. Counter Data vs Survey Data: Favorite Section



In Figure 34, excluding the Front Page, the survey data and the counter data verify that the Sports Section was the most popular section of the DTH Online. The University of North Carolina’s men’s basketball team is one of the strongest programs in the nation and draws a large following. This survey was conducted during the basketball sports season which could have had a definite impact on the responses to this question. It would be interesting to poll readers in the spring and fall and compare the results.

The Sports Section is not one of the most in depth sections of the DTHO and often only has two to three stories. There is significant room for improvement and respondents have requested added value in the form of streaming audio files of interviews with coaches and players, streaming video files such as film clips of game highlights, and more in-depth coverage of all athletics at UNC. One reader writes, “ It seems that the sports writers have certain teams that are unfairly highlighted. Maybe diversity should be practiced.”

Figure 35. Net Percentage of Favorite Section



In Figure 35, the percentages for the least favorite sections were subtracted from the percentages for the most favorite sections. It is obvious that the “Beyond UNC”, which offers local and national news stories, is by far the least favorite section. From the net percentage numbers we also get a slightly different order of favorite sections, but the Front Page, University News and Sports remain as the top three sections. Although the Daily Tar Heel Online needs to provide basic coverage of current national and world news, it should not be its main focus. Other web sites such as CNN and Raleigh’s News & Observer can do a much better job of presenting this kind of content. What the Daily Tar Heel can do better than any other paper in the world is publish news about the University of North Carolina at Chapel Hill, and it should take full advantage of this position.

Readership Behavior

The Number of Requests Per Hour in a 30 Day Period (Figure 31) shows the pattern of reader access over a 24 hour cycle. Page requests began to increase substantially at 8 and 9 in the morning. Requests for pages continued to increase until 12 Noon when the hour of peak access is reached.

The Online paper has a chronic problem of not being published at a regular time each morning. The publishing times can range from 8 AM to as late as 11:30 AM. The paper is almost always published by 12 noon making it a “reliable” time for readers to access the site. A large number of respondents requested that the Daily Tar Heel Online be published at a regular time each morning. That time would ideally be before 8 am. One reader wrote that they would change the DTHO by “... providing more consistent availability. Sometimes the paper is up by 8:30 AM, some days it is close to noon.” Another wrote “I usually only have time to read the DTH in the mornings but sometimes the online version is not up until noon.”

After the noon hour, requests begin to decrease steadily until 4 PM where a slight increase is shown. This pattern matches the typical schedule of a working person who would arrive at work between 8 and 9 AM, have a lunch break at noon and then return home between 4 and 5 PM. The readership survey results reported that 49% of readers accessed the DTH Online from their place of employment and these readers are most likely engaging in the pattern of access demonstrated by the log file data.

A little over one quarter of the readership read the Daily Tar Heel Online five days a week. 58.6% of the readership polled read the paper three days a week or less.

This question was poorly designed as readers were not offered a choice of “less than once a week”, so interpretation of this data was problematic.

With over half of the readership perusing the paper three days a week or less, it would be possible to publish the DTHO three days a week, on Monday, Wednesday and Friday. Content from Tuesday and Thursday’s paper could be folded into the Wednesday and Friday editions and more time could be spent on enhancing the electronic paper. Staff could then add value in the way of streaming audio and would have more time to research related stories to link to. This would also allow additional time to investigate and write stories unique to the Online edition.

Hardware and Software

Almost 50% of the readers polled have a screen diameter 16 inches or larger. 12.1% planned to upgrade their screen size within the year. The current template of the Daily Tar Heel Online is designed for people with very small screens. The data collected support the need for an increase in the size of the template. By increasing the size of the template, more text can be placed horizontally reducing the need to scroll down several pages when reading one story. One reader wrote “the template is set for a very small screen size, this makes it difficult to skim through the stories. Another admonished “the general layout and interface need to be changed, there is not enough information displayed in one page.” The GVU user data supports the survey data, demonstrating that 52.3% of the people on the Internet have monitor screens 16 inches or larger.

Not surprisingly, a majority of our respondents used Microsoft platforms most often. The most popular was Windows 95 although 69% said that they planned to upgrade within the year. The same percentage of GVU users chose Windows 95 as their

primary computing platform and more GVU participants used Macintosh products than DTHO readers.

84.5% of respondents had Internet connections that were faster than 28.8 Kb/sec. 23.4% said that they planned to upgrade their connection within the year. According to the GVU survey results, the majority of Internet users have 56 Kb/sec connection speeds. The second most common speed was 33.6 Kb/sec followed by 28.8 Kb/sec. The DTHO readership data shows that most participants had 56 Kb/sec connection speeds, the second most prevalent speed was 1 Mb/sec which would most likely be T1 connections from their place of work. It would be fair to conclude that DTHO users can handle larger file sizes than the average Internet user.

These larger file sizes could include more images and graphics and current Web technologies such as streaming audio and video. One reader requested that the online edition offer “something that the printed edition cannot offer, such as discussion boards and more interactive content.” Another commented that staff should “spice up the main pages with some more interesting graphics and Java script.”

Potential for E-commerce

Approximately 65% of our readers had conducted transactions over the Internet using a credit card. Out of those that had, 92% were satisfied with the transaction. 75% of respondents felt that credit card transactions completed over the web were safe when dealing with a reputable company. This combined with the desire of over 82% of respondents to purchase products from the DTH Online web site bodes well for the generation of revenue through electronic commerce initiatives. Based on this information,

the DTH should begin to target vendors selling UNC merchandise and persuade them to advertise online. Athletic tickets, cultural tickets, and textbooks were also major items of interest. One reader had an interesting idea of offering signed books by UNC professors over the web. The DTH Online may not be prepared to initiate an electronic commerce initiative, but the web site would be an excellent place to advertise such enterprises. Alumni have money to spend and they have nostalgia for their University, these two factors combined provide excellent potential for revenue.

CONCLUSION

In summary, the readership of the Daily Tar Heel Online is centered in the Southeastern United States and is composed almost equally of men and women between the ages of 18 and 30. The DTHO readership is less gender biased and slightly younger than the typical web user. These men and women are mostly alumni and parents of UNC students who earn over \$30,000 a year and work in some type of professional occupation. Readers access the paper from work generally during the noon hour. Their favorite sections are UNC Sports and UNC News and they read the electronic edition three days a week or less. They possess higher technology in the way of hardware and software than the average Internet user and are capable of handling larger file sizes. The monitor screen size results show that the DTHO could be using screen real estate more efficiently. The readership is very interested in purchasing products from the DTHO web site and is comfortable conducting credit card transactions over the Internet. If readers could change the Daily Tar Heel Online they would provide better archiving and search capabilities and would provide additional content beyond what is produced in the traditional paper

edition. Finally, the DTHO needs to take advantage of its unique place in the newspaper industry, one reader writes “make your site the premier place to go for anyone in the world when looking for information about the University of North Carolina.”

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NOTES

¹ The Daily Tar Heel Online can be found on the WWW at <http://www.unc.edu/dth>

² Numbers of online newspapers in the U.S. taken from Yahoo!, a popular web navigation guide. <http://www.yahoo.com>

³ Yahoo! <http://www.yahoo.com>

⁴ The GVU web site can be found at <http://www.gvu.gatech.edu>

⁵ Information on CGI : <http://wwwp.cs.unc.edu/wwwp-f98/docs/resources/www/arch/cgi/>

APPENDIX A

GFORM

GFORM is an easy to use CGI Binary that is supported by the Academic Technology Network at the University of North Carolina at Chapel Hill (1999). It has a good deal of flexibility and allows one to design the actual form along with the response form within the same HTML document. The following information was gathered from the GFORM Documentation (1997) which is published on the Web by the University of North Carolina.

GFORM scans the HTML document for comments like these:

```
<!-- -This is an HTML comment- ->
```

and responds to the commands that are written within them. This feature is what allows the developer to code their response form within the actual Form web page.

GFORM has two main commands, a keyword command and a formatting command. Keyword commands instruct GFORM on how to format the user's input into a human readable form or a SAS-readable form. SAS is a statistical software program. The Keyword commands are Mail, File, and Reply.

Mail instructs GFORM to send the user's input through e-mail to the designated address.

An example from the survey used for this research project is:

```
<!--gform deliver=mail "theed@ils.unc.edu">
```

This command sent every readers response to the e-mail address theed@ils.unc.edu.

File instructs GFORM to append the user's input to the file that is specified by the designer. The file must have world write permissions or the data will not be appended.

This is done by typing the command **chmod a+rw *filename*** . This is an extremely important step or the data will not be appended to the file. An example from the Daily Tar Heel On-line Readership survey is:

```
<!--gform deliver=file "/export/home/theed/public_html/data/weekend">
```

This command will deliver the data to a file called “weekend” within the /export/home/theed/public_html/data directory.

Reply tells GFORM which HTML document should be shown after the reader submits their response. The proper command is:

```
<!--gform reply="/~theed/thanks.html-->
```

Formatting the web form is fairly straight forward. All strings need to be enclosed in double quotation marks. The “\n” command designates a new line. The \$ sign is used to demarcate a variable.

APPENDIX B

Daily Tar Heel On-Line Readership Survey Questions*

What is your e-mail address?:

You must enter an e-mail address or a phone number to be eligible to win the prize.

If you do not have an e-mail address, what is your phone number?:

(This will only be used to notify you in the event that you win a prize)

What city are you in?:

What state are you in?:

What country are you in?:

What is your gender?: Female Male

What is your age?: Under 18

18-24

25-30

31-40

41-50

51-65

Over 65

What is your annual income?

Less than \$10,000

\$10-20,000

\$21-30,000

\$31-40,000

\$41-50,000

\$51-60,000

\$61-70,000

Over \$70,000

Don't Know

Which of the following best describes your current occupation?

- Professional
- Student
- Manager
- Technical
- Retired
- Homemaker
- Military
- Service
- Not Working
- Skilled
- Other

Other: (Please type in your answer)

Which of the following best describes your relationship to UNC?

- Freshman
- Sophomore
- Junior
- Senior
- Graduate Student
- Alumni
- Parent of UNC Student
- UNC Staff
- UNC Faculty
- No Relationship

How many days a week do you read the Daily Tar Heel On-line?

- One Two Three Four Five

What section of the DTH On-line is your favorite?

- Front Page
- University News
- Beyond UNC (local & state)
- Sports
- Editorials
- Opinion Columns
- Letters to the Editor
- Features
- Reviews
- News Briefs
- Police Blotter
- Crossword
- Diversions
- Classified

What section of the DTH On-line is your second favorite?

- Front Page
- University News
- Beyond UNC (local & state)
- Sports
- Editorials
- Opinion Columns
- Letters to the Editor
- Features
- Reviews
- News Briefs
- Police Blotter
- Crossword
- Diversions

What section of the DTH On-line is your least favorite?

- Front Page
- University News
- Beyond UNC (local & state)
- Sports
- Editorials
- Opinion Columns
- Letters to the Editor
- Features
- Reviews
- News Briefs
- Police Blotter
- Crossword
- Diversions
- Classified

What kinds of products would you be interested in purchasing from the Daily Tar Heel On-line website?

(To make multiple selections press control and click)

- Athletic Tickets
- Cultural Tickets
- Textbooks
- UNC clothing
- UNC merchandise
- Not Interested
- Don't Know

Other: (Please type in your answer)

What would you like to change about the Daily Tar Heel On-line?

What computer platform do you use most often?

- Windows95
- Windows98
- WindowsNT
- Windows
- Macintosh
- UNIX
- DOS
- Don't Know
- Other

What is the speed of your Internet connection?

- 14.4 KB
- 28.8 KB
- 33.6 KB
- 56 KB
- 128 KB (ISDN)
- 1 MB (T1)
- 45 MB (T3)
- Faster 45 MB (FDDI)
- Other
- Don't Know

What is the screen diameter/diagonal of the monitor in front of you?

- 10-12 inches
- 13-15 inches
- 16-18 inches
- 19-21 inches
- 22 inches and over
- Don't Know

Do you plan to upgrade any of these within the next year? Yes No Don't Know

If yes, what do you plan to upgrade?
(To make multiple selections press control and click)

To what?:

- Computer Platform
- Internet Connection
- Screen Size

From where do you usually access the DTH On-line?

- Home UNC Library UNC Computer Lab UNC Office Work
- Public Library Other

Have you ever purchased anything by giving your credit card information over the Web?

- Yes No Not sure

If yes, were you satisfied with the transaction? Yes No Not sure

Do you believe that purchasing products over the Web is safe when you are dealing with a reputable company? (e.i. jcrew.com, amazon.com etc.)

- Yes No Not sure

*Please Note: This survey has been modified from the original format.

The Daily Tar Heel was founded in 1893 as The Tar Heel. It became a daily newspaper (while classes were in session) in 1929, and became financially independent from the University in the 1990s. An online edition began in 1994. It is still published today.. Persistent Archives of Complete Issues. 1893-1992: Digital NC has over 12,000 issues from the beginning of the paper through 1992. Official Site / Current Material. DailyTarHeel.com has current news, as well as more information about the newspaper. This is a record of a major serial archive. This page is maintained for The Online Books Page.