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WEBSITE DESIGN AND DEVELOPMENT FOR COLLEGE AND UNIVERSITY RECREATION PROGRAMS ACCREDITED BY THE NRPA/AALR COUNCIL ON ACCREDITATION

A Thesis Presented to The Faculty of the Department of Physical Education and Recreation Western Kentucky University Bowling Green, Kentucky

> In Partial Fulfillment Of the Requirements for the Degree Master of Science

> > By Michael Lee Nunnally

> > > December 2004

WEBSITE DESIGN AND DEVELOPMENT FOR COLLEGE AND UNIVERSITY RECREATION PROGRAMS ACCREDITED BY THE NRPA/AALR COUNCIL ON ACCREDITATION

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WEBSITE DESIGN AND DEVELOPMENT FOR COLLEGE AND UNIVERSITY RECREATION PROGRAMS ACCREDITED BY THE NRPA/AALR COUNCIL ON ACCREDITATION

Michael Lee NunnallyDecember 2004(62)Directed by: Steve Spencer, Raymond Poff, Randall Deere, and Elmer GrayDepartment of Physical Education and RecreationWestern Kentucky University

This study identified current trends in website design and development for college and university recreation programs accredited by the NRPA/AALR Council on Accreditation. Emphasis was on design, content, governance, and development. The study was an attempt to provide insight for program administrators by identifying current practices related to website design and development. This was the first study to identify current trends in website design and development at nationally accredited recreation programs. This information can be used to evaluate existing websites and plan future website development.

Data were collected using an electronic survey instrument created with E-listen software. Three invitations were emailed to program administrators at college and university recreation programs accredited by the NRPA/AALR Council on Accreditation (n=98). Basic descriptive statistics including measures of central tendency and frequency distributions were calculated to address the research questions.

The results of this study showed that faculty were most often responsible for their program's website construction, content and design input, and maintenance. Students did not

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play a large role in these responsibilities. The websites were most commonly maintained monthly.

The most common components available on program websites were informative and served as marketing and recruiting tools. The majority of websites did not contain components for student entertainment or communication. Over half of the websites included links to professional organizations' homepages. Just under half of the websites did not include a link to the National Recreation and Park Association.

CHAPTER I

INTRODUCTION

Introduction

The impact of technology on society grows every day. One such impact is the use of Internet websites by colleges and universities. Virtually every college and university across the country has its own website (Mechitov, Moshkovich, Underwood, & Taylor, 2001). Campus departments and programs use websites as a form of advertisement, a recruiting tool, and a facilitator of the educational process.

Use of the Internet has been found to be an important element in higher education settings (Matthews & Schrum, 2003). Many students claim to be dependent on the Internet (Kubey, Lavin, & Barrows, 2001). It is the universities' responsibility to understand this change and use the Internet effectively.

The use of the Internet is becoming increasingly popular as an instructional tool in higher education (Nachmias & Segev, 2003). Information can be shared, results disseminated, and research projects publicized (Thelwall, Vaughan, Cothey, Li, & Smith, 2003). Online interaction and communication can lead to a greater sense of community for students and can lead to a decrease in the number of dropouts (Rovai, 2002).

Organizations employ different people to develop websites. Some colleges and universities require each department to be solely responsible for its website (Hine, 2001). Other campuses require websites to be developed by one person known as the webmaster (Rible, 1999). Deciding who will develop a program's website is important because the developer's personal characteristics and attitudes play a part in the final design of the website (Beard & Olsen, 1999).

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The content of a website is critical for student usage. Students access large amounts of information from academic websites (Nachmias & Segev, 2003) for many different purposes. They favor websites that contain specific information and dislike websites lacking information they need (Mechitov et al., 2001).

The way in which information is accessed is very important. A website should be accessible by all people, including those with disabilities (Clyde, 2001; Javaid, 2003). An academic website can help form a sense of community for students by providing a "virtual hallway." A sense of community can often influence retention rates of students (Sloan, Gregor, Booth, & Gibson, 2002; Nicholson, 2002). Website design has been found to be the most important characteristic students use to rate websites (Mechitov et al., 2001)

There are many factors to consider before implementing a website. Good websites aid in recruitment of students and faculty. They also help support the educational process. Factors such as design, content, governance, and development should be considered before a website is implemented. Many recreation program administrators do not possess sufficient knowledge about website development and design to effectively make these decisions.

Problem

Academics programs must have effective websites to compete for students. There has been no research to find national trends of website design and development. This information is needed so program administrators can compare their own programs with other programs across the country.

Purpose

The purpose of this study was to identify current trends in website design and development for college and university recreation programs accredited by the NRPA/AALR

Council on Accreditation. Emphasis was on design, content, governance, and development. The study was an attempt to provide insight for program administrators by identifying current practices related to website design and development.

Significance

Researchers have yet to examine national trends of website design and development among nationally accredited college and university recreation programs. This information is needed for comparison of academic programs across the country. This can aid program administrators with the design and development of their websites. The result could be improved websites in academic programs and increased services to students.

Research Questions

- 1. Who is most often responsible for governance of academic websites?
- 2. Who is most often responsible for development of academic websites?
- 3. Do students have input for the design and development of academic websites?
- 4. What components are included in academic websites?

5. Are factors such as accessibility and compatibility considered for academic websites? Delimitations

The NRPA/AALR Council on Accreditation approves academic programs in colleges and universities for accreditation that meet certain standards and criteria of educational quality. Accreditation assures program quality and assists in program improvement (NRPA, 2004). The programs "prepare new professionals to enter the broad field of parks, recreation and leisure services" (NRPA, 2003). Participants were limited to program administrators of nationally accredited recreation programs at colleges and universities (N=98).

Limitations

The following are limitations of the study:

- 1. The accuracy of a survey instrument is dependent on the honesty of the participants.
- 2. The number of respondents.
- 3. The participants were not randomly selected.
- The participants may not be representative of all college and university recreation programs.

Assumptions

The following are assumptions made by the researcher:

- 1. Participants were honest in answering each question.
- 2. The participants are representative of all college and university recreation programs accredited by the NRPA/AALR Council on Accreditation.
- 3. A program administrator completed the survey.

Definition of Terms

The following terms are defined to clarify their use in the study:

AALR: American Association for Leisure and Recreation (AALR, 2003).

Administrators (IT staff): An employee at a college or university whose primary job

duties are in the area of information technology.

<u>Audio Reader:</u> a browser technology that reads the contents of a website to visual impaired users.

Back Button: An icon on a browser's toolbar used to return to the previous page.

<u>Component:</u> Something that can be accessed and viewed on a website (ex. pictures, textual information, etc.).

<u>E-listen:</u> a computer software program designed to create and administer web-based survey instruments (E-listen, 2003).

<u>Governance:</u> For this study, the decisions made about the content and design of websites. The respondents identified the person(s) with input about the content and design of academic websites.

<u>Homepage:</u> The opening or main page of a website, intended chiefly to greet visitors and provide information about the site or its owner (Dictionary.com, 2000).

Link (or hyperlink): A segment of text or a graphical item that serves as a cross-reference between parts of a hypertext document or between files or hypertext documents (Dictionary.com, 2000).

NRPA: National Recreation and Park Association (NRPA, 2003).

Site map: A textual contents list for a website (Danielson, 2002).

<u>Web page:</u> A document on the World Wide Web, consisting of an HTML (hypertext markup language) file and any related files for scripts and graphics, and often hyperlinked to other documents on the Web (Dictionary.com, 2000).

<u>Website:</u> A set of interconnected webpages, usually including a homepage, generally located on the same server, and prepared and maintained as a collection of information by a person, group, or organization (Dictionary.com, 2000).

CHAPTER II

REVIEW OF LITERATURE

The impact of technology on education has been examined and the use of the Internet has been found to be an important element in higher education settings. Matthews and Schrum (2003) found that using the Internet is an integral part of students' lives. There are many factors program administrators must consider before implementing a website. Good websites aid in recruitment of students and faculty. Websites also help support the educational process. Factors such as design, content, governance, and development should be considered before a website is implemented. Researchers have yet to examine trends of website design and development among nationally accredited college and university recreation programs. This information is needed for comparison of academic programs across the country. Research has been conducted in the areas of: (a) Internet usage, (b) benefits of websites, (c) development and governance of websites, (d) design and content of websites, (e) website accessibility, and (f) website maintenance.

Internet Usage

The Internet is used by students and professors for study and recreation. It is typically the primary source of research and study and is replacing traditional library research, especially for students. Many students claim to be dependent on the Internet (Kubey, Lavin, & Barrows, 2001).

The use of the Internet is becoming increasingly popular as an instructional tool in higher education (Nachmias & Segev, 2003). Professors have personal websites. Students can download information or assignments from the Internet. Students can post assignments on the Internet. Professors can post course syllabi on the Internet. Professors and students can communicate through e-mail or online chat services. Information can be shared, results disseminated, and research projects publicized (Thelwall et al., 2003). There is an increased popularity in

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developing course websites containing educational materials. The amount of content accessed by students on Web-supported course sites is extremely high (Nachmias & Segev, 2003).

Benefits of Websites

There are benefits for an academic department to create a sense of community through its website. Rovai (2002) conducted a study to determine if a relationship exists between sense of community and cognitive learning. The focus was on students participating in online classes. He found a significant relationship exists between the sense of community felt by students and their perceived cognitive learning. A sense of community is when a student feels connected to other students and professors and is a part of the group. Rovai further concluded students who feel a strong sense of community are more satisfied with their programs and feel less isolated, leading to a decline in dropouts.

Development and Governance of Websites

Deciding who will be in charge of development and governance of a website is equally important as the need for a website. The reputation of the department is at stake (Graham, J. R., 2000). Hine (2001) studied website development at a United Kingdom university and found "the university had developed a decentralized approach to web provision: each of the departments, whether academic or service oriented, were to be responsible for developing and maintaining their own web pages" (2001, p. 187). In Hine's study, the people most knowledgeable about the targeted audience understood what the audience wanted and needed. Each department tailored its website to its targeted audience while still following a centralized policy on the design. The centralized policy ensured uniformity throughout the university.

Each department was responsible for selecting one person in charge of the website. That person attended university-wide training courses about designing and building websites. The

trainer at the courses emphasized that the departmental website would make or break the reputation of the department since it would be viewed worldwide (Hine, 2001).

The responsibility of developing websites often falls with one person designated as webmaster for the entire university. Jim Rible is a librarian and the webmaster at Southern Oregon University (Rible, 1999). Rible was chosen to be the university webmaster when the university first began to investigate the Internet. Rible's role as webmaster often caused conflict among coworkers because of the time he lost as a librarian. Rible convinced his peers that he was helping the library because of contact with many important people around the university. A university-wide webmaster must feel this sense of accountability because a website developer's personal characteristics and attitudes play a part in the final design of a website (Beard & Olsen, 1999).

Currently, many universities across the country are forced to work around continual budget cuts. These budget cuts force administrators to be entrepreneurial in the management of their website (Olsen, 2003; Young, 2004). Under these circumstances, website creation and maintenance may have to done by a member of faculty, students, secretaries, or any other entity not requiring payment for their services.

Design and Content of Websites

The design and content of a website is the next hurdle after deciding who will create the site. Mechitov et al. (2001) analyzed student perceptions of academic websites to determine criteria students use in forming positive or negative opinions of websites. Students rated a website lower if there was little information on the site. Conversely, students made positive remarks if the site had specific information they needed. University websites must contain informative content, otherwise it is a waste of the students' time. The website must assist the user

or it will not be used (Mechitov et al., 2001; Graham, 2000). The authors concluded, "academic websites should include a variety of web pages devoted to [student] entertainment" (Mechitov et al., 2001, p. 659).

Mechitov et al. also found that the most important parameter in rating a website was the level of entertainment. The second parameter was the quality of color coordination. The third most important parameter to students rating websites was overall design (2001).

Grigorovici, Nam, & Russill (2003) designed a study to determine whether the level of interactivity of an online syllabus influences a student's first impression about the course and instructor. Interactivity was evaluated based on the number and relationship of hyperlinks. They discovered that low to medium interactivity showed more positive perceptions than did high interactivity. Program administrators could apply the results to a departmental website.

Danielson (2002) studied the behavioral effects of users at websites with and without a constantly visible site map. He found users with a constantly visible site map continued at the site longer and searched for more information than those without a site map. Users with a constantly visible site map made less use of the browser's "Back" button and explored deeper into the website without returning to the homepage.

Nicholson (2002) found the Internet could provide a "virtual hallway" through the use of chat rooms for students' socialization. Students become more comfortable communicating, which leads to a greater sense of community leading to a decline in the number of dropouts, which supports the findings of Rovai (2002). The two studies are primarily concerned with online classes, but they could apply to the traditional classroom experience. Some students may find interacting with classmates or instructors online to be more comfortable at first. It would be

beneficial to incorporate this type of environment into the departmental website if it can lead to greater retention rates.

The ultimate goal of a departmental website is to satisfy the user. Lindgaard and Dudek (2003) found the expectations of users play an important role in satisfaction with the site. It is important to design a site that is pleasing to the eye while maintaining usable features (Lindgaard & Dudek, 2003).

Website Accessibility

When designing a website, one must consider the issue of accessibility (Clyde, 2001; Javaid, 2003). Many people with disabilities use "non-standard" browsing technology such as audio readers and screen magnifiers. An academic website must be accessible by individuals using these alternative types of technology. A website can be audited to ensure maximum accessibility by all individuals (Clyde, 2001; Javaid, 2003; Sloan et al., 2002). An Internet-based tool, such as one called Bobby, can be used to analyze websites for accessibility to people with disabilities (Clyde, 2001; Javaid, 2003).

People with disabilities often have problems with cluttered pages, confusing navigation mechanisms, images with no description, inappropriate use of colors, and poor contrast between the content and background (Thomas, 2004). The following steps can be checklist can help a developer ensure the website is on its way to being accessible by people with disabilities:

- 1. Check informational images for alternative text.
- 2. Check that all areas can be accessed without the use of a mouse.
- 3. Check there is a site map.
- 4. Check the pages with an automated program (Huber, 2004, p. 37).

Website Maintenance

Marx (1997) noted the importance of redesigning a website to keep up with technology and the desires of Internet users. Organizations redesign websites to look and function the way the users want them to look. Marx (1997) identified the following as indicators a website needs to be redesigned:

- 1. People are tired of the site.
- 2. Objectives of the site are not met.
- 3. Customer feedback is negative.
- 4. Technology advances.
- 5. The image of the organization changes (p. 28).

Summary Summary

A website is a powerful tool for any organization. Elements such as design and content have a direct impact on usability of the website and user perception of the organization (Beard & Olsen, 1999; Grigorovici et al., 2003). The person responsible for developing the website has an impact on what the finished product will be (Mechitov et al., 2001). Research has been conducted on these characteristics. But to this point, researchers have yet to determine national trends of website design and development among nationally accredited college and university recreation programs.

The purpose of the study was to identify current trends in website design and development for college and university recreation programs accredited by the NRPA/AALR Council on Accreditation. Emphasis was placed on design, content, governance, and development. The study was an attempt to provide insight for program administrators by identifying current practices related to website design and development.

CHAPTER III

METHOD

Introduction

Use of the Internet has been found to be an important element in higher education settings (Matthews & Schrum, 2003). The Internet is becoming increasingly popular as an instructional tool in higher education (Nachmias & Segev, 2003). Information can be shared, results disseminated, and research projects publicized (Thelwall, Vaughan, Cothey, Li, & Smith, 2003).

Academic programs must have effective websites to compete for students. There are many factors to consider before implementing a website such as design, content, governance, and development. It is equally important to make websites accessible by people with disabilities. Many recreation program administrators do not possess sufficient knowledge about website development and design to effectively make and implement these decisions. A lack of research on the trends of website design and development among nationally accredited college and university recreation programs provides the basis for this research. Descriptions of the subjects, instrument, field test, procedures, and data analysis are presented in this chapter.

Purpose

The purpose of this study was to identify current trends in website design and development for college and university recreation programs accredited by the NRPA/AALR Council on Accreditation. Emphasis was placed on design, content, governance, and development. The study was an attempt to provide insight for program administrators by identifying current practices related to website design and development.

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Subjects

The subjects for the study were program administrators at college and university recreation programs accredited by the NRPA/AALR Council on Accreditation (n=98). Contact information was obtained from the National Recreation and Park Association database of accredited programs. Contact was also made with an NRPA representative to confirm the database (NRPA, 2003).

The researcher collected institutional data. No names or other forms of program identification were published. Only individuals involved in the research had access to this information. There were no apparent risks to the subjects completing the survey. Completion of the survey served as evidence of consent. Informed consent was obtained from all participants (Appendix A).

The researcher followed up the research by sending the results of the study to those that participated. This allowed administrators from participating programs to know what other programs were doing. By providing information about their own website in this survey, each would receive a wealth of information about other programs' websites.

Instrument

A survey instrument was developed for data collection (Appendix B). A panel of experts consisting of three university faculty was utilized to develop the survey. The survey was created using the E-listen computer software program. The program allows the user to create an electronic survey. The survey was administered by e-mail to the participants.

Six questions (1-6) were demographic questions about the participant's institution and academic program. Five questions (7-11) were about the development and governance of the program's website. Five questions (12-16) were about the content and design of the program's

website. Question 17 allowed participants to provide any other information they desired. Participants were given the option to respond "Other" and write in an answer where applicable. <u>Field Test</u>

A field test was administered to five individuals with previous research and/or website development experience (Appendix C). They were asked to complete the survey and return it to the researcher by e-mail. The test was conducted prior to data collection to ensure the following: (1) the instructions and wording were clear, (2) the format of the instrument was understandable, and (3) the data transferred effectively. The field test participants were also encouraged to ask questions or make comments. The responses were considered and appropriate changes were made.

Procedures

The Human Studies Review Committee at Western Kentucky University approved the study. The Academic Technology Department at Western Kentucky University provided an e-mail account for the purpose of sending and receiving the questionnaires. E-Listen was used to create the electronic survey. All correspondence to and from participants was conducted electronically. Multiple contacts were made by email to increase the response rate (Dillman, 2000).

The survey was administered as follows:

 An invitation to participate was sent to the participants by e-mail (Appendix D). The invitation explained the purpose of the study and provided a link to the on-line survey. Messages determined undeliverable due to incorrect addresses were re-sent with corrected information.

- 2. Thank-you letters were sent eight days after the initial invitation (Appendix E). The letters also included a follow-up reminder for those that had not completed the survey by that time.
- 3. A final follow-up was sent 15 days after the initial invitation (Appendix F).
- 4. The participants were provided copies of the results at the conclusion of the study.

<u>Analysis</u>

Survey data were entered into the Statistical Analysis System (SAS) in the Office of Institutional Research at Western Kentucky University for data analysis. The Statistical Analysis System is a computer software program designed to perform data analysis. Basic descriptive statistics including measures of central tendency and frequency distributions were calculated to address the research questions.

CHAPTER IV

RESULTS

The purpose of the study was to identify current trends in website design and development for college and university recreation programs accredited by the NRPA/AALR Council on Accreditation. Emphasis was on design, content, governance, and development. The study was an attempt to provide insight for program administrators by identifying current practices related to website design and development. Results were organized into the following categories: (a) description of the data, (b) development, governance, and maintenance, and (c) content and design.

Description of the Data

The NRPA website was used to determine academic programs accredited by the NRPA/AALR Council on Accreditation. Ninety-eight e-mail addresses were used to create the database. Survey invitations were e-mailed April 6, April 14, and April 21, 2004. Follow-up invitations were e-mailed to the entire population because respondents were anonymous. A total of thirty-three subjects responded after the three survey invitations were sent. One survey was returned with no questions answered. The total response rate for all returned surveys was 33.7% (n = 33). The response rate for all usable returned surveys was 32.7% (n = 32).

Institutional Enrollment

Institutional enrollment averaged 17,337 students among thirty respondents. The median institutional enrollment (n = 30) was 15,975.5 students. The smallest and largest institutional enrollment (n = 30) reported were 1,300 and 38,00 students respectively. Two additional respondents reported an institutional enrollment less than the number of students in the program at that institution. These data were not included in enrollment data.

The average number of full-time faculty in the program was six members among the thirty-two respondents. The median number of full-time faculty in the program (n = 32) was five members. The smallest and largest number of full-time faculty reported (n = 32) was two and sixteen members respectively.

Programs Offering a Minor

Twenty-two respondents (71%) claimed a minor was offered in their program. A minor was not offered in nine programs (29%). One respondent did not answer the question concerning a minor. Results were analyzed with an n = 31 (Table 1).

Table 1

Programs Offering a Minor

Response	Frequency	%
Yes	22	71
No	9	29

Note. (n = 31)

Programs Offering a Master's Degree

Twenty-three respondents (72%) claimed a master's degree was offered in their program. A master's degree was not offered in nine programs (28%). Results are shown in Table 2.

Programs Offering a Master's Degree

Response	Frequency	%
Yes	23	72
No	9	28
Note. (n=32)		

Programs Offering a Doctorate Degree

Two respondents (7%) claimed a doctorate was offered in their program. A doctorate was not offered in twenty-eight programs (93%). Two respondents did not answer the question concerning a doctorate. Results were analyzed with an n = 30 (Table 3).

Table 3

Programs Offering a Doctorate Degree

Response	Frequency	%
No	28	93
Yes	2	7

Note. (n = 30)

Total Program Size

Total program size averaged 203 students among thirty-two respondents. The median program size (n = 32) was 182.5 students. The smallest and largest programs (n = 30) reported were 56 and 389 students respectively.

Development, Governance, and Maintenance

Person(s) Responsible for Website Creation

Members of faculty were most often reported as being responsible for the creation of their program's website with twenty-three respondents (72%). Administrators (IT staff) followed faculty with eight respondents (25%). Seven respondents (22%) showed students as being at least partially responsible for website creation. Alumni, College/Marking staff, Dean's office, Department technician, and Secretary were each represented by one respondent (3% each). Results are shown in Table 4.

Table 4

Person(s) Responsible for Website Creation

Title	Frequency	%
Faculty	23	72
Administrators (IT staff)	8	25
Students	7	22
Private developer	4	13
Alumni	1	3
College/Marketing staff	1	3
Dean's office	1	3
Department technician	1	3
Secretary	1	3

Note. (n = 32)

Person(s) with Content Input

Members of faculty were most often reported as having input about the content of their program's website with thirty-one respondents (97%). Administrators (IT staff) followed faculty with twelve respondents (38%). Eight respondents (25%) showed students as have input about the content of the website. Two respondents (6%) reported input at least partially came from Dean/Admission/Marketing staff. Non-IT administrators, Secretary, and Staff were each represented by one respondent (3% each). Results are shown in Table 5.

Table 5

Title	Frequency	%
Faculty	31	97
Administrators (IT staff)	12	38
Students	8	25
Dean/Admission/Marketing staff	2	6
Private developer	1	3
Non-IT administrators	1	3
Secretary	1	3
Staff	1	3

Person(s) with Content Input

Note. (n = 32)

Person(s) with Design Input

Members of faculty were most often reported as having input about the design of their program's website with thirty-one respondents (97%). Administrators (IT staff) followed faculty

with sixteen respondents (50%). Eight respondents (25%) showed students as have input about the content of the website. Two responded Secretary (6%). Department Technician and Non-IT administrators were each represented once (3% each). Results are shown in Table 6.

Table 6

Title	Frequency	%
Faculty	31	97
Administrators (IT staff)	16	50
Students	8	25
Private developer	3	9
Secretary	2	6
Department technician	1	3
Non-IT administrators	1	3
Dean/Admission/Marketing staff	1	3

Person(s) with Design Input

Note. (n = 32)

Person(s) Responsible for Website Maintenance

Members of faculty were most often reported as being responsible for the maintenance of their program's website with twenty respondents (63%). Administrators (IT staff) followed faculty with 9 respondents (28%). Secretaries were given maintenance responsibilities at four (13%) programs. Department webmaster/Technician and Private developer each had two respondents (6%). College/Marking staff and Dean's office were each represented by one respondent (3% each). Results are shown in Table 7.

Title	Frequency	%
Faculty	20	63
Administrators (IT staff)	9	28
Secretary	4	13
Department webmaster/Technician	2	6
Private Developer	2	6
College/Marketing staff	1	3
Dean's office	1	3
Students	1	3

Person(s) Responsible for Website Maintenance

Note. (n = 32)

Maintenance Frequency

Respondents were asked how often their program's website was maintained. Twelve respondents (41%) claimed their website was maintained (updated) monthly. Eight (28%) reported maintenance once each semester, followed by yearly (n = 3, 17%), then daily (n = 2, 7%) and weekly (n = 2, 7%). No respondents reported their website was never maintained. Results are shown in Table 8.

Maintenance Frequency

Frequency	Frequency	%
Monthly	12	41
Once each semester	8	28
Yearly	5	17
Daily	2	7
Weekly	2	7
Never	0	0

Note. (n = 29)

Content and Design

Components on the Website

Respondents selected a wide variety of components currently available on their website. The most frequently selected components were Degrees offered (n = 31, 97%), Program contact information (n = 31, 97%), Program information (n = 30, 94%), Link to institution's homepage (n = 29, 91%), Course offerings (n = 28, 88%), Faculty profiles (n = 27, 84%), and Possible careers in recreation (n = 24, 75%).

Components ranking from 50-70% were Mission statement (n = 22, 69%), NRPA accreditation (n = 22, 69%), Pictures of faculty (n = 22, 69%), Links to personal faculty pages (n = 21, 66%), Links to professional organizations (n = 20, 63%), and Course syllabi (n = 16, 50%). Results for all components listed are shown in Table 9.

Components on the Website

Component	Freq.	%	Component	Freq.	%
Degrees offered	31	97	Hit counter	6	19
Program contact information	31	97	Recreation advisory committee	6	19
Program information	30	94	Search engine	6	19
Link to institution's homepage	29	91	Awards/Scholarships	3	9
Course offerings	28	88	Student testimonials	3	9
Faculty profiles	27	84	Thumbnail picture index	3	9
Possible careers in recreation	24	75	Audio or video downloads	1	3
Mission statement	22	69	Chat area	1	3
NRPA accreditation	22	69	Disclaimer	1	3
Pictures of faculty	22	69	Flash objects	1	3
Links to personal faculty pages	21	66	Alumni news	1	3
Links to professional organizations	20	63	Alumni registry	1	3
Course syllabi	16	50	Announcements	1	3
Department logos	15	47	Campus map	1	3
Pictures of students	15	47	Course outlines	1	3
Program history	15	47	Current events	1	3
Webmaster contact information	15	47	Intern handbook	1	3
Admission applicant form	13	41	Program newsletter	1	3
Internship opportunities	13	41	Special events	1	3

(table continues)

Component	Freq.	%	Component	Freq.	%
Brochures	9	28	Student clubs	1	3
Job listings	9	28	Student manual	1	3
Site index	8	25	Web cam option	1	3

Note. (n = 32)

NRPA Link

Eighteen respondents (56%) claimed a link to the National Recreation and Park Association's homepage was available. A link to NRPA was not available on the website of fourteen programs (44%). Results are shown in Table 10.

Table 10

NRPA Link

Response	Frequency	%
Yes	18	56
No	14	44

Note. (n = 32)

Constantly Visible Site Map

Respondents were asked to identify if the site map on their website was constantly visible. Ten responded Not sure (31%), nine responded Yes (28%), and eight responded No (25%). Five respondents (16%) indicated their website did not have a site map (Table 11).

Constantly Visible Site Map

Response	Frequency	%
Not sure	10	31
Yes	9	28
No	8	25
There is no site map	5	16
<i>Note</i> . (n = 32)		

Browser Compatibility

Respondents were asked to identify with which Internet browsers their website was compatible. Twenty-seven respondents (87%) indicated their website was compatible with Microsoft Explorer. Twenty-two respondents (71%) indicated their website was compatible with Netscape Communicator. One subject (3%) responded their website was compatible with all common browsers and another (3%) responded their website was compatible with Safari (Table 12).

Table 12

Browser Compatibility

Browser	Frequency	%
Microsoft Explorer	27	87
Netscape Communicator	22	71
All common browsers	1	3
Safari	1	3

Note. (n = 31)

Accessibility by People with Disabilities

Eighteen respondents (56%) did not know if their website was accessible by people with disabilities. Eight respondents (25%) claimed their website was not accessible and six respondents (19%) claimed there website was accessible by people with disabilities (Table 13). Table 13

18	56
8	25
6	19
	8

Accessibility for People with Disabilities

Note. (n = 31)

Additional Comments

Respondents were allowed to provide any additional information they desired in a space provided at the end of the survey. Eight respondents chose to supply additional information. These responses can be seen in Appendix G.

Summary

The results of the study helped identify current trends in website design and development for recreation programs at colleges and universities accredited by the NRPA/AALR Council on Accreditation. Emphasis was on design, content, governance, and development. Thirty-three web-based surveys were collected between April 6 and April 30, 2004. The data helped provide insight for program administrators by identifying current practices related to website design and development in the following categories: (a) development, governance, and maintenance, and (b) content and design. The next chapter includes discussion of findings, implications for practice, and suggestions for future research related to website design and development.

CHAPTER V

DISCUSSION AND IMPLICATIONS

This study identified current trends in website design and development for recreation programs at colleges and universities accredited by the NRPA/AALR Council on Accreditation. Emphasis was on design, content, governance, and development. The study was an attempt to provide insight for program administrators by identifying current practices related to website design and development.

The survey used in the current study was created and e-mailed electronically to administrators of recreation programs accredited by the National Recreation and Park Association/American Association of Leisure and Research Council on Accreditation. Thirtythree (33.7%) web-based surveys were collected between April 6 and April 30, 2004. The data helped describe characteristics of academic websites in the following categories: (a) development, governance, and maintenance, and (b) content and design.

Institutional enrollment averaged 17,337 students among thirty respondents. The median institutional enrollment was 15,975.5 students (n = 30). The average number of full-time faculty in the program was six members among thirty respondents. The median number of full-time faculty in the program was five members (n = 32). Total program size averaged 203 students among thirty-two respondents. The median program size was 182.5 students (n = 32).

A minor was offered by 71% (n = 31) of programs represented in this study. A master's was offered by 72% (n = 32) and a doctorate by 7% (n = 30). Discussion of the findings, suggestions for further research, and a summary were presented next.

Development, Governance, and Maintenance

One objective of this study was to identify current practices in website development, governance, and maintenance for accredited recreation programs. This was important for program administrators needing information about how their website should be developed and maintained and who should be responsible. The first category was person(s) responsible for website creation.

Person(s) Responsible for Website Creation

In the current study, faculty were most often involved in the creation of the program's website. Administrators (IT staff) were next, followed by students. These three categories represent entities that would typically not be directly paid for their services. Only four respondents (n = 32) claimed to hire a private developer for website creation. These results could be due to the lack of funding or to the program's current priorities. Almost half of participants in the Campus Computing project, a national survey, indicated budget cuts affecting academic computing (Olsen, 2003). Budget cuts require administrators to be more entrepreneurial (Young, 2004). This could explain why two websites were created by an alumni and a secretary.

Faculty and administrators can be extremely effective and proficient website developers. The program's image is portrayed through its website. Therefore, the developer must be able to portray that image at a very high standard. It is important for developers to possess or obtain the appropriate training and knowledge for effective website development (Hine, 2001).

Person(s) with Content Input

Faculty were also the most prevalent entity (97%) with input about the content of the program's website. Administrators (IT staff) followed far behind with 38% and students with 25%. The current study supports Hine's (2001) study that the people most knowledgeable about

the targeted audience understood what the audience wanted and needed. Students rate websites higher if they have specific information they are looking for. Websites must also include pages devoted to entertainment (Mechitov et al., 2001).

Administrators (IT staff) may not be knowledgeable about the targeted audience for a program's website. If administrators are to have content input, they must be made aware of exactly who the audience is and what that audience wants. This will help ensure the website meets the goals the program has designated for it.

Person(s) with Design Input

Faculty members were again most often (97%) responsible for the design input. Administrators (IT staff) followed with 50% and students with 25%. Faculty are giving design input even when they are not the principle creators of the website (72% responded faculty were responsible for website creation). Students do not appear to have enough input about the design of their program's website. The website is not only for recruitment of new students but also for current students to use as a resource. Students are less likely to utilize the program's website if it is designed poorly (Grigorovici et al., 2003)

Person(s) Responsible for Website Maintenance

Faculty were also most often represented as being responsible for website maintenance, but with only 63%. Administrators (IT staff) ranked second (28%) followed by secretaries (13%). Only one subject (3%) indicated students were responsible for website maintenance. Among faculty, IT staff, and students, there is a decrease in participation from website creation to website maintenance. Secretaries are more involved in website maintenance than with any other step in the website development process. Recreation is a rapidly growing field. More people are needed to provide and support the growing desires and needs of society. This puts extra pressure and time constraints on the field's professionals teaching at colleges and universities. This could be the reason faculty are less involved with maintenance and updates than with initial construction and design of their program's website.

The initial website development is most often more difficult and requires more knowledge and skills than the maintenance of that site. Maintenance often involves adding or replacing text or pictures. Less-skilled persons can be effective at website maintenance because the format generally has already been laid out. Future studies could indicate other possible reasons for the decline in participation from creation to maintenance.

Maintenance Frequency

Twelve subjects (41%) responded their website was maintained monthly. Eight subjects (28%) responded their website was maintained only once each semester. Maintenance frequency can be used as an indication of how program's view the importance of their website. Updates should be made to keep up with technology and the desires of Internet users and to maintain current information (Marx, 1997).

No respondents indicated their website was never maintained. Current program administrators understand the importance of websites and their potential positive effects. Once a website is created, it must be maintained. Maintenance is necessary as technology advances, people grow tired of the site, information becomes outdated, and the image or goals of the program change. Continual maintenance should be done to reflect and support these facts.

Content and Design

Another objective of this study was to identify how websites are being designed and what components are included on those websites. This was important for program administrators needing information about what to include and how to design their website. The first category was components.

Components

The amount of content accessed by students on Web-supported course sites is extremely high (Nachmias & Segev, 2003). The high usage of the Internet makes the content on academic websites very important. Students look for specific information on academic sites and become frustrated if they can't find the information they need (Mechitov et al., 2001).

This section of the current study was important because of the vast amount of content accessed on the Internet. Determining the needs and desires of Internet users is necessary to ensure user satisfaction (Mechitov et al., 2001). The data from this section may help describe trends of website content. Respondents selected and listed the components available on their website.

The most frequently selected components in the current study were Degrees offered (n = 31, 97%), Program contact information (n = 31, 97%), Program information (n = 30, 94%), Link to institution's homepage (n = 29, 91%), Course offerings (n = 28, 88%), Faculty profiles (n = 27, 84%), and Possible careers in recreation (n = 24, 75%). With the exception of a link to the institution's homepage, the most popular components on a program's website were all descriptors of the field and the program. These components allow students and prospective students to learn about the field, the program, general requirements, the faculty and how to make contact with a representative of the program. This reflects the findings of Kubey et al. (2001) that

the Internet is the primary source of research and study by students. It could be concluded the first objective for academic websites in this study was to provide information for students and student recruitment.

In the current study, over sixty percent of respondents (n = 20, 63%) indicated their website contained links to professional organizations' websites. Membership in professional organizations provides sources of knowledge and resources, networking opportunities, training and development opportunities, and more (NRPA, 2004). Providing students with links directly to these organizations' websites could result in increased membership and more success for students in the field.

"Academic websites should include a variety of web pages devoted to [student] entertainment" (Mechitov et al., 2001, p. 659). The results of the current study do not indicate student entertainment was a trend of academic websites reported. Almost half of the respondents selected Pictures of students (n = 15, 47%), but the following components with potential entertainment value were only selected by one respondent each (3%): (a) Audio or video downloads, (b) Chat area, and (c) Flash objects.

NRPA Link

The survey for the current study was sent to recreation programs accredited by the NRPA/AALR Council on Accreditation. Accreditation indicates that a program meets certain standards and criteria of educational quality. It assures program quality and assists in program improvement (NRPA, 2004). In the current study, 56% of respondents indicated their website had a link to their accrediting organization's homepage. Because of the importance of accreditation, it was surprising that 44% of websites did not provide a link to the National

Recreation and Park Administration homepage. The NRPA in cooperation with the American Association for Leisure and Recreation is responsible for the programs' accreditation.

Constantly Visible Site Map

The results of the current study indicate only 28% of websites in the study had a constantly visible site map and 31% responded Not sure. Further, 16% of respondents indicated their website had no site map. Users with a constantly visible site map stay at the site longer and search for information longer than those without a site map. They make less use of the browser's "Back" button and explore deeper into the website without returning to the homepage (Danielson, 2002). An academic website should be easy to navigate because students become frustrated if they can't find the information they need (Mechitov et al., 2001). "People like to have a sense of where they are now, where they've been, and what is coming up" (Finkelstein, 2004, p. 18).

Browser Compatibility

It was not surprising the majority of websites in this study were compatible with Microsoft Explorer and Netscape Communicator. Only one respondent indicated their website was compatible with a less-popular browser, Safari. From these data, the researcher also assumes that Explorer and Communicator were the most common browsers to view the Internet. *Accessibility for People with Disabilities*

Many people with disabilities use "non-standard" browsing technology such as audio readers and screen magnifiers. An academic website must be accessible by individuals using these alternative types of technology (Clyde, 2001; Javaid, 2003; Sloan et al., 2002). It was surprising to find that 25% of websites were not accessible by people with disabilities and 56% of respondents did not know. The data are consistent with the results of a survey of 1,000

government, business, and leisure sites conducted by the Disability Rights Commission in which only 19% of websites met the minimum standards for website accessibility. Programs can be legally penalized under the Disability Discrimination Act (Huber, 2004; Thomas, 2004). Bobby is just one of many Internet-based tools that can be used to analyze websites for accessibility by people with disabilities (Clyde, 2001; Javaid, 2003).

Additional Comments

It is important to note that some additional comments provided by participants indicated a low personal satisfaction level with their current website. Some phrases from these additional comments were, "Our website sucks..." and "[Our website] was updated this year for the first time in 3 years." Some of the comments also indicated that governance, development, and maintenance were all separated between the college or university, program, dean's office, etc. This complexity can lead to confusion and also to a website that is not what the program originally wanted.

Suggestions for Future Research

The current study revealed that faculty are most often responsible for their program's website construction, content and design input, and maintenance. Increasing demands and workload on faculty could necessitate the need for further research. A study to find the reasons faculty are primarily responsible for their program's website could be useful for administrators to determine where website responsibility will be.

A number of program websites were being redesigned at the time of this study. These websites continue to keep up with technology and trends in website design and development. More research will be necessary to describe trends as they change. The survey used in this study was sent to program administrators at nationally accredited college and university programs. Future studies could include all recreation and leisure studies programs in the United States and/or Canada. The survey used in this study could be used to gather data from this database as well.

Current trends of websites are important to consider when determining how to design and develop a website. Future research is needed to determine satisfaction levels of websites. Additional comments were made by participants in the current study that indicated low satisfaction levels with their websites (Appendix G). Satisfaction levels of both faculty and students need to be researched.

<u>Summary</u>

This study identified current trends in website design and development for college and university recreation programs accredited by the NRPA/AALR Council on Accreditation. Emphasis was on design, content, governance, and development. The study was an attempt to provide insight for program administrators by identifying current practices related to website design and development. This was the first study to identify current trends in website design and development at nationally accredited recreation programs. This information can be used to evaluate existing websites and plan future website development.

Faculty were most often responsible for their program's website construction, content and design input, and maintenance. Students did not play a large role in these responsibilities. The websites were most commonly maintained monthly.

The most common components available on program websites were informative and served as marketing and recruiting tools. The majority of websites did not contain components for student entertainment or communication. Over half of the websites included links to professional organizations' homepages. Just under half of the websites did not include a link to the National Recreation and Park Association.

Programs planning to develop a new website or redesign an existing site may use the results from this study to determine who will carry responsibilities and how it will be constructed. Using the Internet is an integral part of students' lives (Matthews & Schrum, 2003). Further research in this area will help programs create and manage better websites.

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APPENDICES

APPENDIX A

INFORMED CONSENT

Recreation Program Website Survey Consent to Participate

February 15, 2004

Greetings:

You are invited to answer the attached questionnaire regarding website design and development. There are no risks or penalties for your participation in this research study. The study is conducted through Western Kentucky University. The purpose of this study is to analyze website design and development for NRPA/AALR accredited recreation programs at colleges and universities. The study focuses on governance, development, design, and content.

Individuals from the department of Physical Education and Recreation and the Human Subjects Review Board may inspect these records. In all other respects, the data will be kept confidential. Should the data be published, your identity will not be disclosed.

Please remember that your participation in this study is voluntary. By completing and submitting this questionnaire, you are voluntarily agreeing to participate. You may refuse to participate without being subject to any penalty or losing any benefits that you are otherwise entitled.

Sincerely,

Michael Nunnally M.S. Candidate

THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY THE WESTERN KENTUCKY UNIVERSITY HUMAN SUBJECTS REVIEW BOARD Dr. Phillip E. Myers, Human Protections Administrator (###) ###-####

APPENDIX B

WEBSITE SURVEY

Website Design and Development for NRPA/AALR Accredited Recreation Programs at College and Universities Survey

The purpose of this study is to identify current trends in website design and development among nationally accredited recreation programs.

For this survey, a "program" refers to an academic program in the field of recreation and leisure studies. It does not include departments such as Physical Education, Health, etc.

For each question, please select the appropriate response(s) and/or type the answer(s) in the spaces provided.

There are no personal Identifiers on this survey unless you identify yourself in question 17.

Section 1

This section includes demographic questions about your institution and academic program.

1. What is the total enrollment of your institution (graduate and undergraduate)? (no commas) _____

2. How many full-time faculty are in your program?

- 3. Do you offer a minor?
 - □ Yes
 - 🗆 No
- 4. Do you offer a master's degree?
 - □ Yes
 - □ No
- 5. Do you offer a doctoral degree?
 - □ Yes
 - 🗆 No
- 6. How many students are in your program, including students at the major, minor, master's, and doctoral levels? (no commas)

Section 2

This section includes questions about development, governance, and maintenance of your program's website. For each question, please select all answers that apply. If "Other" is selected, please specify in the space provided.

- 7. Who created the website?
 - □ Faculty
 - \Box Students
 - □ Administrators (IT staff)
 - □ Private developer
 - Other _____

- 8. Who has input about website content?
 - □ Faculty
 - □ Students
 - □ Administrators (IT staff)
 - □ Private developer
 - Other _____
- 9. Who has input about website design?
 - □ Faculty
 - \Box Student(s)
 - □ Administrators (IT Staff)
 - □ Private developer
 - Other _____
- 10. Who maintains the website?
 - □ Faculty
 - □ Students
 - □ Administrators (IT Staff)
 - □ Private developer
 - Other _____
- 11. How often is the website maintained?
 - \Box Daily
 - □ Weekly
 - \square Monthly
 - \Box Once each semester
 - □ Yearly
 - □ Never

Section 3

This section includes questions about content and design of your program's website. For each question please select all answers that apply. If "Other" is selected, please specify in the space provided.

- 12. Please select all items currently available on your website.
 - \Box Admission applicant form
 - \Box Audio or video downloads
 - □ Brochures
 - \Box Chat area
 - \Box Course offerings
 - □ Course syllabi
 - □ Degrees offered
 - □ Department logos
 - □ Disclaimer
 - □ Faculty profiles
 - □ "Flash" objects
 - □ Hit counter
 - □ Internship opportunities
 - \Box Job listings
 - \Box Link to institution's homepage
 - \Box Links to personal faculty pages
 - □ Links to professional organizations
 - □ Mission statement
 - □ NRPA accreditation
 - \Box Pictures of faculty
- 13. Does your website have a link to the National Recreation and Park Association homepage?
 - □ Yes
 - 🗆 No
- 14. Is your site map constantly visible (visible on every page within the site)?
 - □ Yes
 - \square No
 - \Box Not sure
 - \Box There is no site map
- 15. Our website is compatible with the following browsers:
 - □ Microsoft Internet Explorer
 - □ Netscape
 - □ Other _____

- □ Pictures of students
- \Box Possible careers in recreation
- \Box Program contact information
- □ Program history
- □ Program information
- \Box Recreation advisory committee
- \Box Search engine
- □ Student testimonials
- □ Thumbnail picture index
- □ Webmaster contact information
- □ Other _____
- Other
- □ Other _____
- □ Other _____
- □ Other _____
- □ Other

- 16. Is your website accessible by people with disabilities (visual impairment, cannot use a mouse, etc.)?
 - □ Yes
 - □ No
 - \Box Not sure
- 17. Please use the space below to provide any additional comments.

PLEASE CLICK THE "SUBMIT" ICON BELOW WHEN FINISHED. THANK YOU FOR YOUR PARTICIPATION.

APPENDIX C

FIELD TEST

A STUDY DESCRIBING WEBSITE DESIGNAND DEVELOPMENT AT NRPA/AALR ACCREDITED RECREATION PROGRAMS AT COLLEGES AND UNIVERSITIES

FIELD TEST

After completing the survey, please respond to the following questions in the space provided. Any suggestions for improvement of the survey will be appreciated.

The purpose of this study is to identify current trends in website design and development for NRPA/AALR accredited recreation programs at colleges and universities. Emphasis is placed on design, content, governance, and development. The study is an attempt to provide insight for program administrators by identifying current practices related to website design and development.

1. Given the purpose of this study, do you think the questionnaire will collect the information needed? Why or why not?

2. Is the phrasing and terminology easy to understand?

3. Are the instructions easy to follow? Should any other instructions be added?

4. Is the questionnaire attractive and neat?

5. Is the questionnaire too long to be comfortably completed in one sitting?

6. Is there any important background or demographic information missing?

7. Are there any statements or categories that should be added or deleted? If so, please explain.

8. Please include any other comments relevant to the improvement of this questionnaire.

Thank you very much for your time and assistance.

APPENDIX D

INVITATION LETTER

NRPA/AALR Accredited Recreation Program Website Survey

Dear Program Administrator,

I need your assistance in collecting important information regarding website design and development at NRPA/AALR Accredited Recreation programs. The purpose of this study is to identify current trends in website design and development among nationally accredited recreation programs.

This on-line survey will provide insight for administrators to better design and develop their academic program website. You will receive a copy of the results as a benefit for participating in the study. This will allow you to see what others are doing and may present some ideas for future implementation into your own website.

Your participation in completing the survey is greatly appreciated. The study is being conducted to meet the requirements of the Master of Science Degree in Recreation at Western Kentucky University. Therefore, your participation is extremely important for me to graduate.

Please click or visit the website listed below to participate in this study. Please feel free to contact me if you have any questions about this study. Thank you.

www.wku.edu/~nunnaml/

Sincerely,

Michael Nunnally

APPENDIX E

THANK YOU/SECOND INVITATION

NRPA/AALR Accredited Recreation Program Website Survey

Dear Program Administrator,

Thanks to everyone that has completed the survey concerning website design and development. The data provided will give insight for administrators to better design and develop their academic websites. You will receive a copy of the results upon completion of the study. Your assistance is greatly appreciated.

For those of you that have not completed the survey, I again ask for your assistance in providing this valuable data. The key to the success of this study is your participation. Please take just a few moments to complete this on-line survey.

Please feel free to contact me if you have any questions about this study. Please click or visit the website listed below to participate in this study. Thank you.

www.wku.edu/~nunnaml/

Sincerely,

Michael Nunnally

APPENDIX F

THANK YOU/THIRD INVITATION

NRPA/AALR Accredited Recreation Program Website Survey

Dear Program Administrator,

Thanks again to everyone that has completed the survey concerning website design and development. The data provided will give insight for administrators to better design and develop their academic websites. You will receive a copy of the results upon completion of the study. The survey will become inactive Wednesday, April 28, 2004. Your assistance is greatly appreciated.

Please feel free to contact me if you have any questions about this study. Please click or visit the website listed below to participate in this study. Thank you.

www.wku.edu/~nunnaml/

Sincerely,

Michael Nunnally

APPENDIX G

ADDITIONAL COMMENTS

- Our university web site is currently going under major revision including making it meet accessibility standards. At this time, therefore, our program web site development is on hold. Much of it will be dictated by the university with some opportunities for additions. To date, adding links has not been feasible but we have that as one of the features we want.
- 2. The website at our University must be approved by the Web master for content and format. As part of a designated marketing initiative our website is undergoing major changes in it format and has special funding to do this. Once completed the task to keep it updated will fall back onto the college to manage the updated information.
- 3. Your survey gave me some ideas to suggest to our WWW managers (e.g., link to NRPA). We use the NRPA accreditation logo on our fax cover page; I think we need to actually display the logo on our WWW site and we will seek permission to do so. Good luck on your master's work.
- 4. I probably am not the best person to answer this
- 5. As far as web site maintenance, it was updated this year for the first time in 3 years. Our university changed web software that it would support -- and did not provide a way for departments to buy the new software at a discount. This created a significant barrier to updating the department website.
- 6. Website was developed and maintained in-house, but all responsibilities will be shifted to the Dean's office. However, updates will be forwarded from department to the dean's office.

- 7. Our website sucks and needs to be brought into the modern world. It is a problem that the university has the information organized on a tree that makes our program six or seven clicks into the University's website. In addition, we simply have not had the time to make a good website and will pay the price for not have it.
- I will be assuming the responsibility for our school website (kines & rec) for the summer.
 If it goes well, I will continue in this role.