

MEMORANDUM

TO: Dr. David Ullman
Vice President of Technology, NJIT

FROM: Paula Some
PTC 601

DATE: November 24, 2006

RE: NJIT Web Site Usability Evaluation

INTRODUCTION

This report presents the results of a heuristic evaluation of the New Jersey Institute of Technology web site user interface, www.njit.edu. An analysis was conducted to determine and prioritize usability issues for the target audience. Primary audience members include students, faculty, alumni, prospective students, and corporate partners.

Overall, the website succeeds as the primary communication vehicle for the university community. Results indicate that the greatest areas of concern are user control and site consistency. Several issues require immediate attention such as broken links. Other areas pinpointed for improving user experience include documentation and aesthetics. Users, informed of the current web site relaunch project, did note substantial difference in user experience between old and new pages.

Included is a discussion of criteria and methodology used for the evaluation, an analysis of findings, and recommendations for improvement.

CRITERIA

Evaluation team participants are all graduate students in PTC 601 (see appendix B). PTC 601 students are both typical users and usability experts. Evaluators were free to test the entire web site without a prescribed scenario. As typical members of the target audience, the students were knowledgeable of common searches and tasks. In addition, evaluators tested the entire current web site experience and did not restrict themselves to old (pre-October 2006 relaunch) pages.

This evaluation process included several stages. Initial evaluations were conducted by each of team members. Each student individually reported usability issues in context of *Jakob Neilsen's 10 Heuristics Adapted for the Web*. This broadly designed set of principles, listed below, is an industry standard for organizing ideas during usability testing.

- Visibility of system status
- Match between system and the real world
- User control and freedom
- Consistency and standards
- Error prevention
- Recognition rather than recall
- Flexibility and efficiency of use
- Aesthetic and minimalist design
- Help users recognize, diagnose, and recover from errors
- Help and documentation

Following the individual evaluations, each student compiled severity ratings. Severity ratings use numbers (0-4) to prioritize issues from low to very high based on user impact. Individual reports were compiled and severity ratings averaged. (see appendix A for detail) After ratings were reviewed, common issues were grouped and prioritized, regardless of heuristic.

ANALYSIS

Overall, the NJIT web site contains a tremendous amount of information and is able to deliver that information fairly efficiently to users. Users can rely on the web site for university communication. Images, text, pdf files, and forms load quickly, and jumping between screens is quick and generally not frustrating. Website language is appropriate and text, including forms, is well written for the audience. The URL line is visible and functions appropriately. Links are clearly marked on all recently designed and many older pages. New pages are very consistent in template design, brand usage, and color scheme and enhance the user experience. In addition, new pages make excellent use of appropriately chosen and placed images.

As seen in Table 1 below, the majority of usability issues found during this evaluation concern user control and design consistency. Those listed with very high priority cause significant damage to usability. The team located more than twenty broken links and several instances of outdated information. For example, old open house information can potentially give a negative impression to prospective students.

User inability to retrace steps, go “back”, and return “home” are given a high priority. Even on new pages, there is not notation that the NJIT logo functions as a Home link. Inconsistencies in navigation link design and combined with link errors create frustration. All team members listed the lack of help documentation and a labeled site map as a high priority.

The significant number of inconsistencies in page design throughout the web site is a minor problem and is prioritized accordingly. However, users found navigating the new pages a more pleasant experience. Some pages, such as CPE and Athletics appear to have no connection to the rest of the site.

Very minor issues were given a low priority. Although user experience may be improved, web site success is not adversely affected.

Table 1
Prioritized Usability Issues for NJIT Web Site

Priority: Very High
Broken links Outdated information Search engine downtime/faculty search User locked to page
Priority: High
Lack of web site back button NJIT link to home page problems Difficulty with registration and non-linked pages Page titles inconsistent with link titles No central method to report problems Inconsistent navigation link design Lack of breadcrumbs Lack of clearly labeled site map Lack of help or documentation Incorrect or misleading links
Priority: Medium
Inconsistent instructions for search functions Inconsistent overall page design Lack of cross-linking
Priority: Low
Confusing software download instructions Absence of drop down or fly out menus on Home Page Lack of bookmarks




RECOMMENDATIONS

It is my recommendation that usability issues with the highest priority be corrected as soon as possible. Not only do these problems disrupt the user experience, they reflect poorly on the university itself. The outdated information and broken links are unacceptable, especially for the website of a technology focused institution.

As new pages of the 2006 redesign are released, many of the high, medium, and low issues will be addressed. Page design should become more consistent. Improved information architecture will create a more organized site. However, the table below

summarizes non-critical (not very high) areas of concern and recommendations for improvement.

Table 2
NJIT Web Site Issues and Recommendations

USER CONTROL		Add "Back" link Add "Home" link/ label NJIT logo Add breadcrumbs on all pages
CONSISTENCY		All pages use 2006 template Match link & page titles
DOCUMENTATION & HELP		Add Help link Add site map Add link to report problems

CONCLUSION

A heuristic evaluation of the NJIT web site, www.njit.edu, was conducted by students in PTC 601. This evaluation has produced a prioritized list of usability issues. Several issues require immediate attention such as outdated information and broken links, and others should be addressed in the near future to improve user experience.

Even when considering the problems identified in this evaluation, the NJIT web site does an excellent job of delivering information to the university community. New pages released in October, 2006, appear to address many of these concerns. As more departments redesign, usability should continue to improve.

APPENDIX A
Severity Ratings for www.njit.edu Usability Problems
Detailed List by Heuristic

Ratings Scale:

0 = I don't agree that this is a usability problem at all

1 = Cosmetic problem only: need not be fixed unless extra time is available on project

2 = Minor usability problem: fixing this should be given low priority

3 = Major usability problem: important to fix, so should be given high priority

4 = Usability catastrophe: imperative to fix this before product can be released

Heuristic	Severity	Problem Description
H1	3	Lack of breadcrumbs (ex. 10/06 pages)
H1	2	Unused status bar in lower website window frame
H1	2	Page branding unclear
H1	2	Highlander Pipeline has no exit link back to Home page
H2	1	Some use of jargon that assumes user knowledge of NJIT computer systems Examples: Highlander Pipeline, WebCT, and "SCT Certified" on main MyNJIT login page
H1	2	Advance search capability not supported
H2	1	Non-computer savvy students may not understand software download instructions
H3	3	No link clearly labeled link Home
H3	3	No instructions to use NJIT logo as Home page link
H3	3	Browser back button results often confusing or incorrect. Example: doesn't work on dining page http://www.g-d-s.com/campus.njit/
H3	2	Webmail link does not allow exit to any other NJIT page without error message
H3	1	Home page has no drop down or flyout menus
H3	3	No clear back button on screens – user must rely on browser
H3	3	NJIT logo as link not visible on all pages and not working on others. Examples: athletics, WebCT, Webmail, public safety, cooperative education
H3	2	Lack of descriptive and consistent page headings
H4	2	Inconsistent design of navigation links; horizontal list of links on home page not used consistently
H4	2	Student Life page missing top navigation
H4	2	Use of conventional link titles and downward arrows confusing
H4	2	Inconsistent use of fonts on navigation links
H4	3	Inconsistent overall page design between 2002 & 2006 versions; some pages have unique designs. Examples: athletics, CPE
H4	3	Link titles inconsistent with page titles
H4	4	MyNJIT dropdown box doesn't work http://www.njit.edu/v2/activities/index.htm , http://www.njit.edu/academics/ ,
H4	2	Home link on undergraduate online application forgot username and forgot password help screens is confusing with Home on main NJIT.edu page. The user is returned to application home
H4	2	Inconsistency on how to invoke search; confusing http://calendar.njit.edu/wv3/wv3_servlet/urd/run/wv_event.DayList?evdt=20061112,evfilter=13731 vs. http://www.njit.edu/index.php
H5	4	User locked to page and unable to navigate further http://host.edgenuiti.com/m/RegisterGen.asp http://www.g-d-s.com/campus/njit/ https://webmail.njit.edu/index.php3?HordeSession=bdfc2a0ddf5633262741ac51edf4bfe8

H5	2	Campus directory search does not return name of faculty members http://calendar.njit.edu/wv3/wv3_servlet/urd/run/wv_event.DayList?evdt=20061112,evfilter=13731 .
H5	4	Broken links result in 404 Document Not Found error messages. Examples: http://www.njit.edu/current/students.php http://www.njit.edu/current/students.php http://www.njit.edu/current/students.php http://www.njit.edu/current/students.php http://www.njit.edu/current/students.php http://www.njit.edu/v2/handbook/publicsafety.htm http://www.njit.edu/current/students.php http://www.njit.edu/current/students.php http://www.njit.edu/CSLA/theatre/newsite/jimwise.php http://www.njit.edu/current/students.php http://www.njit.edu/current/students.php http://www.njit.edu/current/facultystaff.php http://www.njit.edu/errordocs/404.php http://hex.njit.edu/cocoon/eCatalog/graduate/frontmatter/AcademicPolicies_G http://www.njit.edu/v2/Directory/Admin/Health_Services/index.html http://www.wjtb.org/ http://www.njit.edu/CSLA/theatre/newsite/jimwise.php http://help.webct.com/files/student_tour_3/intro.html www.njit.edu/v2/Directory/Admin/Health_Services/index.html
H5	4	Search on main screen unsuccessful for two days
H5	4	Web pages with outdated information
H5	2	Athletics page home link at bottom of page opens in new window – confusing
H6	2	Too much user dependence on back button
H6	3	Need for more cross-linking
H6	3	Course registration process difficult – involves use on non-linked pages; current and future course schedules difficult to find
H7	2	Several links of main page direct users to same location
H7	2	No bookmark on Homepage for NJIT web site
H7	3	Users cannot easily return to pages without starting over, Examples: Return to admissions from Distance & Continuing Education Return to academics from course catalogs Return to current students from maps & directions
H7	3	Links and labels are misleading or incorrect causing user confusion. Examples: -When Community is selected from main page, the user is directed to Public Information. The labeling is confusing. - Parents link from Home page sends user to a parents admissions -information page within the new admissions hierarchy. However, there is no link to this page from the admissions page. - After selecting extension sites from the About NJIT page, user is directed to page with title Directions to the FAA. - The Planning link from the main page brings user to screen titled Public Information and Planning. -Lifelong Learners link directs user to http://www.njit.edu/business , the corporate partners page; title misleading
H8	1	Some pages crowded with text or graphics; imbalance between text and graphics
H8	1	Overall lack of unity in page design throughout site including font sizes, design elements, and white space
H8	2	Stem cell research image displayed twice on same page (11/13/06)
H8		Related links box on right side of 2006 pages difficult to read especially if lighting or monitor angle is an issue for user
H9	3	No central site to report problems
H9	2	No exit strategy provided by a back key or when errors are encountered
H10	3	No help or documentation link
H10	3	No clearly labeled site map

APPENDIX B
Evaluating Team

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