User-Centered Design of Maryland Judiciary Website

Final Report

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1. Proposed Information Architecture

Based on the research carried out in the first phase, we have redesigned the information organization for the website. First, we mapped the current information organization on the site in an extensive content inventory shown in Figure 1. This was first created in Excel and then printed so that the team could view it.



Figure 1. Web content inventory of the existing Maryland Judiciary website. This printout facilitated the creation of the new information organization.

Next, we carried out a card sort activity based on the user needs identified in the user and sponsor interviews and focus groups. We also kept in mind the review of competitor sites and the information organization structures they used. All important content areas were represented on index cards. Our team used these cards to reorganize the content through several iterations. In one of these iterations the Judiciary team reviewed the organization and provided feedback. Once finalized, the new information organization was captured in Visio.

The content of the site went through a major reorganization. In the original website the content and the structure grew in an organic manner. The resulting structure very strongly reflected the organizational structure of the Judiciary. However, this structure does not reflect the users' needs and causes problems for users as they are not familiar with the organizational structure of the Judiciary. The most important aspect of this problem is that users from the general public (the majority of the site's users) who come to the site with a legal problem are usually not aware of which level of the court handles that problem. Thus, they also do not know where they need to look for information related to that problem. In a specific example, many legal help topics are listed under the District Court. While these are also linked from the For Citizens area, their main location, as represented by the headers, is under the District Court site. In the new design, these topics have been grouped with other Legal Help topics and are represented there in the navigation structure. This will allow users to access all legal help information in one location under a consistent and cohesive set of navigational headings.

This structure was used for the creation of the prototypes for the second usability testing. This information organization and the resulting prototype are shown in the next section. The results of the usability testing resulted in one major and several minor changes in the information organization. The major change was the merging of two global navigation categories: Going to Court and Legal Information and Self Help. The resulting information organization was reviewed by the Judiciary team and the feedback provided was integrated into the information organization presented here.

The labels included in the information architecture below will be further updated and refined during the implementation of the new design.

1. Top level categories:

1.1 Global navigation:

Courts: General information about the Maryland State Judiciary and the different courts. **Legal Help:** Information for members of the public on various legal topics, including guidance on going to court.

E-Services: Electronic services of the Maryland Judiciary. **For Lawyers:** Information and shortcuts for lawyers and other legal professionals. **For Press:** Information and shortcuts for members of the press. **For Educators:** Information and shortcuts for educators.

1.2 Other categories accessible from the homepage:

How do I...: A list of frequently used electronic services.I want to learn about...: A list of popular legal help topics.Utilities: A set of useful links that should appear on each page.For Staff: Information and shortcuts for internal Judiciary staff.

2. Lower level categories of the global navigation:

2.1 Courts:

About the Courts Appellate Court Circuit Court Clerks Offices County Court Locations Court Closings Court Holidays Court Services District Court District Court Administrative Regulations District Court Commissioners List of Judges Orphans Court Transcriptions

2.2 Legal Help:

- Family Issues: Foster Care Child Support Domestic Violence Divorce Custody Adoption Juvenile Issues Name Change
 - Peace or Protective Orders: Protective Order Peace Order
 - Financial Issues:
 - Wage Garnishment Bad Checks Bankruptcy Return Lost or Stolen Property Post Judgment Collection Debt Collections

Traffic Violations:

DUI Charges Speed Cameras Traffic Citations Register of Wills: Register of Wills Estate/Wills

Housing Issues: Landlord/Tenant Issues Land Transactions Eviction Foreclosure

Healthcare Malpractice **Business License** Small Claims Background Checks Discrimination **Pro-Bono Services**

Going to Court Before Going to Court Introduction to Legal Proceeding Civil Case Information **Being Arrested Bail** Information Being Sued Want to Sue Get an Attorney List of Active MD Attorneys Attorney Complaints Look up Sanctioned Attorneys Judge Complaints (Commission on Judicial Disability) Ombudsman In Court Scheduling Postponment Appearing in Court Witnesses Verdict Appeals Request an Interpreter How to become an interpreter? Accessibility Needs ADR/Mediation Cases Lookup Criminal History **Obtain Additional Case Information** Inaccurate Case Information Expungement - Deleting Case Information Traffic Ticket

2.3 E-Services:

Case Search Forms Forms Instructions **Opinions** Wills and Estates Judgments Jury Duty

2.4 For Lawyers:

IOLTA/Pro Bono Reporting Certificate of Good Standing Attorney Change of Address

Bar Exam Info MD Bar Association List of Active Attorneys **Client Protection Fund** Codes and Regulations Charging Language Criminal Codes Traffic Codes Maryland Code and Regulations **Disciplinary Actions** Attorney Grievance Commission Attorney Disciplinary Actions Attorney Complaints List of Sanctioned Attorneys Commission on Judicial Disability Foreclosure Project Inaccurate Case Information Amicus Curarium MD State Law Library 2.5 For Press: Media Resources subsite (not reorganized since separate unit) 2.6 For Educators: Kids' pages

3. Lower level categories of the other content areas accessible from the homepage:

3.1 How do I...: A list of frequently used electronic services. Search Court Records Pay a traffic ticket Find a form Serve on a jury Search wills & estates Read an opinion File a small claim Find out about closings Read procurement bids

3.2 I want to learn about...: A list of popular legal help topics.

Domestic Violence Court Forms Custody Family Issues Housing Issues Traffic Issues Bankruptcy Mediation Resources More Information

Apply for a Job

Educational Resources

Mock Trial

3.3 Utilities:

Search Site Index Glossary For Staff Terms of Use Contact Us Disclaimer

3.4 For Staff: Information and shortcuts for internal Judiciary staff.

CourtNet Financial Disclosure Forms Organizational Chart Human Resources

Judicial Vacancies

2. Maryland Judiciary Website Proposed New Version Prototype Usability Testing Report

This report describes the methodology used to perform the usability testing, the methods by which the data were analyzed, and the findings of the usability testing procedure conducted on the newly designed Maryland Judiciary Web site prototype, and some future design recommendations. The tasks and the experimental procedures were kept identical for this second phase of the usability testing on the newly designed page prototypes. Prototyping in human-computer interaction generally consists of the development of new designs for the products in focus, and testing these newly developed prototypes in terms of usability, with the goal of improving the final product by modifying the final design according to the results of the prototype testing process.

Some prototypes can have severe limitations in functionality as a fully working prototype may not be feasible due to time and budget limitations. While "non-working prototypes" are frequently used in research, the tested prototype in this project had fully functional pages that were used in the experimental tasks. Due to the sheer size of the current Judiciary Web site, not every Web page that is part of the site was re-created. Rather, for the purpose of measuring the differences in user performance and satisfaction between the current and new designs, the pages that were used in the previous usability study were re-designed and tested. The tasks were kept identical to those used in the initial usability study due to their representativeness.

Task #	Increase	Task
1	84.30%	What are the different courts in the Maryland Judiciary System?
3	82.60%	You need to pay a traffic violation. Find where you can make your payment online.
12	78.60%	You want to apply for a position you saw on the website. Can you e-mail the application?
5	60.50%	You want your personal information in a court case removed from the Judiciary's online CaseSearch tool. Who do you have to contact?
8	58.20%	You want to look up someone's criminal background. Please locate where you could find such court records.
10	48.30%	You have been told you need to file a Civil Appeal Prehearing Information Report Form. Where would you find that form?
2	45.40%	You have been selected for jury duty and want to know whether you will still get paid by your employer. Where would you find this information?
7	39.40%	Your former landlord hasn't returned your security deposit. Where would you find information on how to proceed in court?
11	32.20%	Your company did work for a store and they haven't paid the \$2000 they owe you. Can you file a case against the company? Can you do it without hiring a lawyer?
4	27.70%	You don't think your lawyer is doing a good job on your case. Where would you file a complaint against your lawyer?
9	17.70%	You want your neighbor to stop harassing you. What can you do to make her stop?
6	11.20%	You have been summoned to appear in court but need assistance with wheelchair access. Where would you find information on whether the courts can provide assistance for you?

Participants achieved performance improvements on all the tasks. The following list presents the tasks in the order of task time improvement:

While the pages worked for the purposes of the completion of the twelve tasks presented in the study, some links on the experimental Web pages did not work, again due to the size of the Judiciary Website. If all links would be made functional, we would have the difficult task of implementing hundreds of new pages for just twelve tasks as part of the experiment. Because of this, if the participants clicked on link that did not have an equivalent Web page, the current page would load rather than the browser displaying the redesigned Web page. This was made clear to the participants at the beginning of the experimentation by verbally conveying to them that some links that would not affect their task completion may not work. The next sections are organized as follows:

The Usability Testing Procedure

User Performance Analysis and Comparison with the Original (Current) Judiciary Site Design

User Satisfaction Analysis of the New Designs

An Analysis of the Eye Tracker Data Highlighting Design Issues

2.1 Usability Testing Procedure

Experimental Environment and Tasks

To allow explicit comparisons between the current and new designs, the Web-based experimental environment was kept identical to that of the first experiment. Again, twelve tasks identical to the first phase were presented to and performed by the participants in the usability testing laboratories of the Department of Information Systems at UMBC. Again, while the individual sessions were not video-recorded, the sessions were all supervised by one experimenter who was present for guidance purposes during the entire experimentation, while a second experimenter observed the procedure in the adjoining room via four cameras. A Tobii Eye Tracker Device connected to the computer where the experiments were run was again used to observe and record the eye movements of each participant. As in the first evaluation, the time to complete the tasks by the participants was recorded along with logs on user actions and their eye movements.

The twelve tasks that were used in this second phase were identical to those of the first phase to allow a meaningful comparison between the designs in terms of user performance and satisfaction. In the previous experimental phase, the representativeness of the tasks were assured through the choice of tasks that are conducted on popular parts of the Web page and that consist of actions that are most likely to be taken by large segments of the population (for example paying a parking ticket online). As was done previously, a small pilot study consisting of two participants was conducted prior to the actual experimentation to eliminate system bugs and procedural errors. No major issues were detected as a result of the pilot study.

Participant Group

The participant demographics concerning education level was kept almost identical to those of the first phase. Gender distribution slightly differed from that of the first phase. The participants were evenly distributed in terms of gender (five male, five female). As indicated in the previous report, the gender distribution in the experiment being different from actual gender distribution in the state of Maryland is not seen as a major factor due to the presumed lack of performance and satisfaction differences between male and female participants in this type of usability experiments. Five participants had a high school degree, four had a college degree and one had a graduate level degree. The education levels were consistent with the State of Maryland statistics concerning population education levels. The age mean was 40.9 with a standard deviation of 13.9.

Experimental Procedure

The experimental procedure of the second phase was identical to the procedure of the first phase. Participants were recruited through fliers posted on-and off-campus locations, newspaper and Web advertisement outlets, announcements on the university Web page, and word of mouth. Once a potential participant contacted the researchers to participate in the experiment, they were asked to fill out an online survey to determine whether they fit the demographic and residency criteria to participate in the experiment. If they fit the criteria, a time was scheduled with them. The entire experiment was conducted in the usability lab Room 442 in the Information Technology and Engineering building on the UMBC campus in which the above mentioned equipment was located.

When the participants arrived at the experimental room, they were greeted by one of the experimenters. After they read and signed the consent form, they were presented the twelve experimental tasks on the Judiciary Web site. During the experiment, they could ask any question they wanted, and if they could not complete a particular task, they could either ask for help from the experimenter, or skip to the next task. In these cases, their performance for these tasks was recorded as a failed task. After the tasks were completed, the participants were presented an online summative evaluation survey (located on the surveymonkey.com online survey site) asking fifteen questions about the Web site. Following this survey, they were presented with nine interview questions concerning their task performance and the opinions about the design issues within the Judiciary Web Site. After the interview process was completed, they were thanked for their participation, paid \$30, and they left the experimental room.

During the completion of the experimental tasks, participants were encouraged to "think aloud" to better understand their methods in completing the tasks and difficulties they encountered. During the entire experimentation, specifically for the think aloud and interview processes, all conversations were recorded using two digital voice recorders.

All participants' responses were accepted for the study and no participant had any major difficulties completing the experiment. Therefore, no participant data were eliminated from the analysis.

Again, for all tasks, participants were asked not to use the Search function of the site to better determine design issues involving the site, as the Search function would allow participants to bypass the navigation structure and a large number of pages and prevent researchers from determining major design issues concerning design elements on a large number of Web pages within the site.

2.2 User Performance Analysis and Comparison with the Original (Current) Judiciary Site Design

The user performance was measured for the twelve tasks identified and compared to the results of the first phase of the experiment with the original designs. Again, each task involved a particular section (Web page) within the Web site, and the metrics for user performance included:

- Success/Failure rates for tasks
- Identification of the Ideal Path for task completion. This was handled differently from the previous design. Since the current design is a prototype, there are few options participants had in terms of paths taken as the site was not fully functional at the time of the experiment. Therefore, the term "ideal path" is used more loosely, in the sense that if the participants took one or two mouse clicks to reach the destination, this was considered as having taken the "ideal path." Therefore, the results concerning the ideal paths may be limited in terms of conclusions and potential impact.
- Time taken to complete tasks
- Heat map images of the eye tracking data.

The ideal path to locate the asked section, indication of success or failure in completing the task, having followed the ideal path or not, and the time it took the participant to complete the task are presented for **Task 1** in Table 1, and presented for each subsequent task in the following tables. Additionally, each table also contains the task times and Success/Failure rates from the original designs (also presented in the first phase report) to determine whether there were significant differences in performance between the two designs, specifically in terms of the average time it took for the participants to complete each task as well as the number of errors they committed. Additionally, information was collected and compared to that of the initial design regarding whether the ideal path was taken.

Task 1: What are the different courts in the Maryland Judiciary System?											
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
				New I	Design						
Success/Failure	S	S	S	S	S	S	S	S	S	S	
Ideal Path Y/N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Time on Task (min:sec)	00:02	00:03	00:04	00:42	00:06	00:12	00:07	00:26	00:07	00:05	
Current Design											
Success/Failure	S	S	S	S	S	S	S	S	S	S	
Ideal Path Y/N	Y	Y	Ν	Y	Y	Y	Y	Y	Y	Y	
Time on Task (min:sec)	00:55	00:39	04:32	00:40	01:38	01:34	00:57	00:10	00:48	00:15	

Table 1. Task 1 Information.

All participants were successful in finding the asked information on the newly designed site, and they all took the ideal path to locate the information. The ideal path involved clicking on the "About the Courts" menu item on the horizontal top menu bar. The mean time for finding the information was 11.4 seconds (Std. Dev. = 12.9 sec.). The mean time shows the average time to complete the task across all participants. Standard deviation represents individual participants' deviation from the mean time. One participant had a hard time finding the information and took forty-two seconds to find it. If this participant was excluded from analysis, the mean time was 8.0 seconds, (Std. Dev. = 7.5 sec.). The performance time results were significantly better than those of the Current Design (72.8 seconds with, and 50.7 seconds without an outlier value), indicating an improvement in performance time for this task with the new design. Figures 1 and 2 demonstrate the home page and the About the Courts page where the relevant information is presented.



Figure 1. Home page of the new design.



Figure 2. About the Courts Page.

Task 2 (Table 2) was designed to require a deeper exploration of the new pages, where at least three mouse clicks were required to reach the desired information. The Serve on a Jury page is presented on Figure 3. The time it took the participants to complete this task was fairly varied, with a mean time of 50.2 seconds (Std. Dev. = 62.9 sec.). However, when the performance of the two participants with the highest times (participants 2 and 9) were removed, which can easily be categorized as outliers the mean time dropped dramatically to 23.7 seconds (Std. Dev. = 25.9 sec.). While the high standard deviation again indicates strong variation in performance times among participants for this task, with completion times varying from three seconds to one hundred and ninety four seconds, the average time to complete this task is still significantly lower than the time for the task on the original design (57.6 seconds mean, 25.5 seconds std. dev. with outliers removed). All participants were successful in completing the task, and six of them took the ideal path. The percentage of the participants who took the ideal path was identical to those of the initial design (60%), while only 80% completed the task successfully with the initial design. Again, overall it can be concluded that the new design resulted in significantly higher performance gains specifically in the time it takes to complete the task. The general design rules (described in Section 4: Usable Web Design Guidelines) followed for the task can therefore be seen as having the potential of resulting in significant performance improvement while using the Judiciary Web page.

ourts Jury Service - Wi	ws Internet Explorer	x							
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Before Going to Co	Going to Court » Appearing in Court » Serve on a Jury								
Appearing in Court	Serve on a Jury								
Witnesses	Frequently Asked Questions								
Verdict Will jury service place my job in jeopardy?									
Serve on a Jury An employer may not deprive an employee of his/her employment solely because of job time lost by the employee									
Accessibility Nee	result of responding to a jury summons or as a result of attending court for service or prospective service as a petit or grand juror.								
Request an	Does my employer pay me for work-time lost while serving jury duty?								
Interpreter	Employers are not obligated to pay their employees while serving jury duty. Some private employers do provide full or partial compensation to their employees for time lost due to serving jury duty. Many county, state, and federal agencies								
After the Verdict	provide administrative leave (or excused leave) for employees called for jury duty in Maryland.								
	Are members of the military exempt from jury service?								
There is no automatic exemption for members of the federal or state military services. You may claim such an exempti if your jury service on the date requested would unreasonabuly interferve with the performance of military duties or affect adversely the readiness of the military unit. The form certifying these requirements must be completed by the commanding officer or supervisor of the person requestering exemption.									
	What is the payment policy for serving jury duty?								
	Each county and Baltimore City is responsible for providing payment for serving jury duty. The reimbursement varies from \$15 to \$30 per day, depending on the jurisdiction. Contact the Jury Commissioner's Office in your county for more information.								
	How was I chosen?								
	A jury is selected at random from a cross section of the citizens who reside in Maryland. This cross section is drawn from voter registration as well as Motor Vehicle Administration lists, depending on the County where you reside.								
	To be eligible for jury duty, you must be at least 18 years of age, a United States citizen, a Maryland resident, and able to read, write, and understand the English language. There are certain exemptions from jury service, which you can learn about by contacting the Jury Commissioner in your county.								
	What is the difference between a grand jury and a petit jury?								
	A nrand iury is made un of 23 nonne, who receive and hear evidence to determine whether nrohable cause evists to	196 -							
	Computer Protected Mode: Off va_	76							

Figure 3. Serve on a Jury Page

Task 2: You have employer. Where					to know	whether	you will s	still get p	aid by yo	ur
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
				New D	esign					
Success/Failure	S	S	S	S	S	S	S	S	S	S
Ideal Path Y/N	Ν	Y	N	Y	Y	Y	Y	Y	N	N
Time on Task (min:sec)	00:43	01:58	01:11	00:03	00:06	00:08	00:06	00:06	03:14	00:46
		1	1	Current	Design	1	1	1	1	1
Success/Failure	S	F	S	S	S	S	S	S	F	S
Ideal Path Y/N	Y	N	N	Y	N	Y	Y	Y	N	Y
Time on Task (min:sec)	00:55	00:39	04:32	00:40	01:38	01:34	00:57	00:50	03:07	00:28

To exemplify a likely popular reason for visiting the Judiciary Web Site, **Task 3** (Table 3) involved the participants locating the page for paying traffic violations. The relevant information could be reached with a single mouse click, and is presented on Figure 4. The participants were able to complete this task fairly easily, with an average time of 6.5 seconds (Std. Dev. = 4.0 sec.), while variation was still fairly high, with the shortest completion time being 3 seconds and the highest being 17 seconds. The completion time mean was 37.3 seconds (Std. Dev. = 17.7 sec.), while the success rates were identical at 100%, and the percentage of participants that took the ideal path was identical (90%). Overall, the task was again concluded to be

improved with the new design strongly in terms of completion time, but success rates and the rates concerning the taking of the ideal path remained similar, as they were in Task 2.



Figure 4. Page Containing Information on Paying a Traffic Violation

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
		I		New D	esign					
Success/Failure	S	S	S	S	S	S	S	S	S	S
Ideal Path Y/N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Time on Task (min:sec)	00:07	00:08	00:05	00:05	00:06	00:06	00:04	00:03	00:17	00:04
				Current	Design					
Success/Failure	S	S	S	S	Š	S	S	S	S	S
Ideal Path Y/N	Y	N	Y	Y	Y	Y	Y	Y	Y	Y
Time on Task (min:sec)	00:25	00:41	00:50	00:39	00:34	01:17	00:34	00:40	00:14	00:19

Table 3. Task 3 Information

Task 4 (Table 4) inquired about filing a complaint about a lawyer and required the user to click on the Going to Court menu item and then on the After the Verdict item on the left-hand side menu. The relevant page is presented on Figure 5. The Participants took an average of 61.7 seconds to complete the task (Std. Dev. = 62.2 sec.) in this design, compared to 83 seconds (Std. Dev. = 48.6 sec.) with the initial design. Only 30% of the participants took the ideal path, and 30% failed the task. The task completion times are, while improved compared to the initial design, quite high and very variable (with the standard deviation value being higher than the mean value), and indicating little improvement as a result of the re-design effort. This may have been caused by the ambiguity of the Going to Court label which is one of the findings

of this usability study which resulted in a modification in the navigation structure of the redesign. The labels in the current design will be continuously refined in the implementation of the new design.



Figure 5. Attorney Grievance Information Page

Table 4. Task 4 information

against your lawye	•	ii iawyci	is doing	a good jo	o on you	i cuse. w	nere wou	na you m	e a comp	lamit	
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
				New D	esign						
Success/Failure	S	S	S	F	F	F	S	S	S	S	
Ideal Path Y/N	N	N	Y	N	N	N	Y	Y	N	N	
Time on Task (min:sec)	01:53	01:43	00:33	00:15	00:09	02:47	00:09	00:13	02:20	00:14	
Current Design											
Success/Failure	S	S	F	S	S	S	S	S	S	S	
Ideal Path Y/N	Y	Y	N	N	N	Y	N	Y	Y	Ν	
Time on Task (min:sec)	00:28	00:47	02:12	02:56	01:48	00:49	00:48	01:25	00:42	01:58	

Task 4: You don't think your lawyer is doing a good job on your case. Where would you file a complaint

As in the first phase, **Task 5** (Table 5) consisted of the participant removing their name from the case database. This required the participant to locate the Search Court Records link from the home page, then to locate the form to Request to Shield Information in a Case Record link (Figure 6). The positioning of the search tool was easier to find in the new design, as evidenced by the performance time of 54.8 seconds (Std. Dev. = 43.3 sec.), compared to an average time of 138.8 seconds (Std. Dev. = 80.3 sec.), although the variation was also fairly high among the times the participants took to find this particular information. Only one participant failed this task, although only forty percent of participants took the ideal path to complete the task. In the initial design, only twenty percent succeeded in completing the task, with only two participants taking the ideal path. Again, results show significant performance improvements with the new design, with the task completion time improving with the new positioning and navigation of the new design. The task was also made easier via the use of simpler terminology on the page, as the participants had tremendous difficulty on the previous design with the use of words such as "expungement."

Case Search Case Search Pay Traffic Citation Case Search Pay Traffic Citation Case Search of the set o	Go Students Jucators the ou in							
About the Cours Going to Cours Legal Info & Services Onlines For Legal Professionals For Stu & Education of the Services Home About the Cours Going to Cours Legal Info & Services For Legal For Legal For Stu & Fo	Students Jucators the ou in							
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Lookup • How to request that minimation being placed in a case record be kept condential • How to request permission to inspect court records that have been sealed/shielded - a summary of the law	 How to request that information being placed in a case record be kept confidential 							
RSS Feed Reference Card: A summary of Public Access Rules (pdf)								
Help Locating District Forms? Forms? Forms? Forms? Forms? Forms: Form: Form								
More information:								
Maryland Rules Governing Access to Court Records								
Committee on Access to Courts Records								

Figure 6. Page Containing the Form to Remove Information from a Court Record

Table 5.	Task 5	information	
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	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
	I I	ΓZ	15	Γ4	13	10	Γ/	10	17	FIU
				New D	esign					
Success/Failure	S	S	F	S	S	S	S	S	S	S
Ideal Path Y/N	N	Y	N	Y	Y	N	N	N	Y	N
Time on Task (min:sec)	01:42	00:27	02:28	00:24	00:14	01:05	01:04	01:01	00:15	00:27
				Current	Design					
Success/Failure	F	F	F	S	F	F	S	F	F	F
Ideal Path Y/N	N	N	N	Y	N	N	Y	N	N	N
Time on Task (min:sec)	01:16	01:49	03:26	00:44	01:58	05:01	03:47	01:16	01:49	02:02

Task 6 (Table 6) concerning accessibility required a minimum of three mouse clicks (clicking on Going to Court, Appearing in Court and Accessibility Needs links) to reach ideally but was fairly time consuming to complete by the participants (Figure 7). Participants took an average of 84 seconds to complete the task (Std. Dev. = 75.4 sec.) which was not significantly improved compared to 94.6 seconds (Std. Dev. = 38.5 sec.) it took the participants in the previous design. 80% of the participants successfully completed the task (compared to 50% in the original design), with 50% using the ideal path (compared to 20% in the initial design). The results concerning this relatively more complex task indicate that the design resulted in a small performance gain. This may be due to the use of the term "accessibility" as well as the relevant information being under the Going to Court link which proved to be vague for users.

Verdict To ensure compliance with the American their facilities and senices. If you have ou [See <u>ADA Coordinators</u>] Accessibility Needs Form C-DCAS() to the court in which the	Conline For Legal Professionals For Media & For Students Services Professionals Press & Educators Accessibility Needs Needs? (Example: physical accommodation, spoken language interpreter) With Disabilies Act (ADA), the courts have designated ADA coordinators for sensition or rend assimative, contact the appointer ADA Coordinators. ADA, please submit a Request for Accommodation by Persons with Disabilities
Courts Courts Self-Heip Betro Galeg to Court Going to Court Appearing in Court Appearing in Court Appearing in Court Move to 1 get assistance for my specia How to 1 get assistance for my specia Verticit To ensue compliance with the American facilities and services. If you have to get add.Courting to the American for including to the American for inclusion for incloth	Services Professionals Press & Educators ACcessibility Needs Inseeds? (Example: physical accommodation, spoken language interpreter) With Disabilities Act (ADA), the courts have designated ADA coordinators for sensition or need assistance, context the appropriate ADA Coordinators. ADA, piesse submit a Request for Accommodation by Perrons with Disabilities.
Appearing in Court Vittesses Vertict Serve on a Jury Accessibility Needs To ensure Compliance with the American tool of the and service. If you have tool of the and service. If you have tool of the accessibility Needs To respect as accessibility To respect as acce	I needs? (Example: physical accommodation, spoken language interpreter) sWith Disabilies Act (ADA): the courts have designated ADA coordinates for sensions or need assistance, contact the apopposite ADA Coordinator. ADA, please submit a <u>Request for Accommodation by Persons with Disabilities</u>
Interpreter To request a spoken language interpreter, the court in which the case will be heard. (30) days before the proceeding for which	the proceeding for which the accommodation is requested. please submit a <u>Request for Spoken Language Interpreter (Form CC-DC41)</u> to Requests for interpreter should be submitted to the court not less than thirty
After the Verdict If you have questions, please contact the Court of Appendic Clinics, Office Court of Oberal Appendic Clinics Office Coroll of Oberal Appendic Clinics Dataset Administration Clinics	
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Figure 7. Page Containing Wheelchair Access Information

Task 6: You have been summoned to appear in court but need assistance with wheelchair access. Where would you find information on whether the courts can provide assistance for you?											
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
	L	L	L	New Do	esign	L		L	L		
Success/Failure	S	S	F	S	F	S	S	S	S	S	
Ideal Path Y/N	N	N	Ν	Ν	Ν	Y	Y	Y	Y	Y	
Time on Task (min:sec)	00:46	00:36	03:30	01:54	00:38	00:25	00:29	03:40	00:26	01:35	
Current Design											
Success/Failure	S	S	S	F	S	F	S	F	F	F	
Ideal Path Y/N	N	N	Y	N	N	N	Y	N	N	Ν	
Time on Task (min:sec)	01:08	02:16	01:13	02:01	01:00	02:10	00:35	02:12	02:10	01:01	

Table 6. Task 6 information.

The time it took to complete **Task 7** (Table 7) which asked to locate a common type of information was fairly long and variable, with a mean completion time of 43.6 seconds (Std. Dev. = 48.9 sec.). It was under Housing Issues, reachable with a single mouse click (Figure 8). When the two highest times were removed, however, the average time was 23.5 seconds (Std. Dev. = 16.2 sec.). Only 60% of the participants completed the task successfully, with 40% using the ideal path. Therefore, the new design features can be concluded to result in a 39.4% improvement in task performance time.

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exual Assault				
Child Support	Housing Issues			
Divorce	Tenant-Landlord Issues			
Adoption	Foreclosures Housing Discrimination			
Adoption Domestic Violence	Foreclosures Housing Discrimination Disputes			
	Housing Discrimination Disputes			
Domestic Violence	Housing Discrimination Disputes Tenant-Landlord Issues			
Domestic Violence Protective Order Restraining Order	Housing Discrimination Disputes			
Domestic Violence Protective Order	Housing Discrimination Disputes Tenant-Landlord Issues	Landlord does not return security de security deposit with interest, within tearancy movided takes as an crease	45 days of the lega	al end of
Domestic Violence Protective Order Restraining Order Custody	Housing Discrimination Disputs Tenant-Landlord Issues Failure to Return Security Deposit Description of Problem Preliminary Action	security deposit with interest, within tenancy, provided there are no reaso Tenant must wait 45 days from end	45 days of the lega ons for it to be withh of tenancy before fil	al end of held. ling. If landlord
Domestic Violence Protective Order Restraining Order Custody Juvenile Issues Sexual Harrassment	Housing Discrimination Disputes Tenant-Landlord Issues Feilure to Return Security Deposit Description of Problem	security deposit with interest, within tenancy, provided there are no reaso	45 days of the lega ons for it to be withh of tenancy before fil	al end of held. ling. If landlord
Domestic Violence Protective Order Restraining Order Custody Juvenile Issues Sexual Harrassment Stalking	Housing Discrimination Disputes Fenant-Landlord Issues Failure to Return Security Deposit Description of Problem Preliminary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action	security deposit with interest, within tenancy, provided there are no reaso Tenant must wait 45 days from end sends tenant written notification of n tenant may file immediately. 1. File Civil Complaint (Form DC	45 days of the lega ons for it to be withh of tenancy before fil easons for withholdi C/CV1), a Small Clai	al end of held. ling. If landlord ing deposit,
Domestic Violence Protective Order Restraining Order Custody Juvenile Issues Sexual Harrassment Stalking Sexual Assault	Housing Discrimination Disputes Fenant-Landlord Issues Failure to Return Security Deposit Description of Problem Prefiminary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action Fill out forms carefully; inaccurate information Such as wrong name or address: may cause	security deposit with interest, within tenancy, provided there are no reaso Tenant must wait 55 days from end sends tenant written notification of n tenant may file immediately. 1. File Civil Complaint (Form DC Small Claims for additional in 2. Serve landlord with complaint	45 days of the lega ons for it to be withh of tenancy before fil easons for withholdi C/CV1), a Small Clai formation.	al end of held. ling. If landlord ing deposit, ims action. See
Domestic Violence Protective Order Restraining Order Custody Juvenile Issues Sexual Harrassment Stalking	Housing Discrimination Dispotes Tenant-Landiord Issues Failure to Return Security Deposit Description of Problem Preliminary Action Proto to taking room action, tenant is required to take certain preliminary actions. Court Action Full out forms carefully: inaccurate information	security deposit with interest, within tenancy, provided there are no reaso Tenant must wait 45 days from end sends tenant written notification of n tenant may file immediately. 1. File Civil Complaint (Form DC Small Claims for additional in	45 days of the lega ons for it to be withh of tenancy before fil easons for withholdi C/CV1), a Small Clai formation.	al end of held. ling. If landlord ing deposit, ims action. See
Domestic Violence Protective Order Restraining Order Custody Juvenile Issues Sexual Harrassment Statking Sexual Assault Sexual Assault Sex Orderder Registry	Housing Discrimination Disputs Tenant-Landiord Issues Failure to Return Security Deposit Description of Problem Preforminary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action Fill out forms carefully; inaccurate information such as wrong name or address, may cause case to be dismissed or delayed.	security deposit with interest, within tenancy, provided there are no reaso Tenant must wait 45 days from end sends tenant witten notification of r tenant may file immediately. 1. File Civil Complaint (Form DC Small Claims for additional in notice legally 1. You made deposit.	45 days of the lega ons for it to be withh of tenancy before fil easons for withholdi C/CV1), a Small Clai formation. : summons/notice. H	al end of held. ing. If landlord ing deposit, ims action. See How to serve a
Domestic Violence Protective Order Restraining Order Custody Juvenile Issues Sexual Harrassment Statking Sexual Assault Sexual Assault Registry	Housing Discrimination Disputes Fenant-Landlord Issues Failure to Return Security Deposit Description of Problem Prefiminary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action Fill out forms carefully; inaccurate information Such as wrong name or address: may cause	security deposit with interest, within tenancy, provided there are no reaso Terant must wai 45 days from end sends tenant written notification of r tenant may file immediately. 1. File Chel Complaint (form DC Small Claims for additional in 2. Serve landlord with complaint notice legally	(45 days of the lega ons for it to be withh of tenancy before fil easons for withholdi (2/CV1), a Small Clai formation. summons/notice. H oout withholding dep	al end of held. ing. If landlord ing deposit, ims action. See How to serve a
Domestic Violence Protective Order Restraining Order Custody Juvenile Issues Sexual Harrassment Statking Sexual Assault Sexual Assault Sex Orderder Registry	Housing Discrimination Disputes Tenant-Landiord Issues Failure to Return Security Deposit Description of Problem Preliminary Action Profit to taking court action, tenant is required to take cratan performany actions. Court Action Such as wrong name or address, may cause case to be dismissed or delayed. Tenant Must Prove	security deposit with interest, within tenancy, provide there are no rease. Tenant must wat 45 days from end sends tenant withen notification of no tenant may file immediately. 1. File Chil Complaint (Form DC Small Clams for additional in 2. Serve landord with complaint notice legally. 1. You made deposit 2. Landord did not notify you at 3. You terminated your lease le Landord lable for three times amou	⁴ S days of the lega ons for it to be withh of tenancy before fil easons for withholdi 2/CV1), a Small Clai C/CV1), a Small Clai C/CV1), a Small Clai C/CV1), a Small Clai C/CV1), a Small Clai content of the state	al end of held. Img. If landlord ing deposit, ims action. See How to serve a
Domestic Violence Protective Order Restraining Oddr Custody Juvenile Issues Sexual Harrassment Stalking Sexual Assault Saxof Groder Registry Rape	Housing Discrimination Disputs Tenant-Landiord Issues Failure to Return Security Deposit Description of Problem Preforminary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action Fill out forms carefully; inaccurate information such as wrong name or address, may cause case to be dismissed or delayed.	security deposit with interest, within tenancy, provided there are no rease. Tenant must wat 45 days from end sends tenant within endification of no tenant may file immediately. 1. File Coli Complaint (Form DC Small Clams for additional in 2. Serve landlord with complaint notice legally. 1. You made deposit. 2. Landlord do not notify you at 3. You terminated your lease le	⁴ S days of the lega ons for it to be withh of tenancy before fil easons for withholdi 2/CV1), a Small Clai C/CV1), a Small Clai C/CV1), a Small Clai C/CV1), a Small Clai C/CV1), a Small Clai content of the state	al end of held. Img. If landlord ing deposit, ims action. See How to serve a

Figure 8. Page on Tenant-Landlord Issues

Table 7. Task 7 information	on
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Table 7. Task 7 mile		rd hasn't	returned	vour sec	ourity der	osit Wh	ere woul	d vou fin	d informs	tion on		
how to proceed in		ru nasn t	i ctui nee	i your see	unity uc	0510. 771	ere wour	u you iiik	u mioi me			
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10		
		1	1	New D	esign	1	1	1	1			
Success/Failure F S F S F S F S S												
Ideal Path Y/N	N	Y	Ν	Y	Y	Ν	N	N	N	Y		
Time on Task (min:sec)	01:22	00:13	02:46	00:12	00:12	00:27	00:47	00:14	00:50	00:13		
				Current	Design							
Success/Failure	F	S	F	S	S	S	S	S	F	S		
Ideal Path Y/N	N	Y	N	Y	N	Y	N	Y	N	Y		
Time on Task (min:sec)	01:36	00:59	00:34	01:52	01:22	00:30	00:39	00:43	00:40	03:04		

Task 8: You was such court recor		t up some	one's cri	minal bao	ckground	. Please l	ocate wh	ere you	could fir	nd
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Success/Failure	S	S	F	S	S	S	S	S	F	S
Ideal Path Y/N	Y	Y	N	Y	Y	Y	Y	Y	N	N
Time on Task (min:sec)	00:06	00:23	01:11	03:45	00:38	00:20	00:04	00:05	00:13	00:41
				Current	Design					
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Success/Failure	F	S	F	F	S	S	S	F	S	S
Ideal Path Y/N	N	Y	N	Y	Y	Y	Y	N	Y	Y
Time on Task (min:sec)	02:20	00:34	02:06	03:38	00:35	02:52	00:23	01:40	02:05	01:35

Table 8. Task 8 Information

Task 8 (Table 8) involved locating a "court records search" function on the site. It was the first link on the How Do I... section, and required two mouse clicks. The information could be found on the same page as the one on **Figure 6**. Completion times varied among participants, with an average time of 44.6 seconds (Std. Dev. = 66.6 sec.), compared to an average completion time of 106.8 seconds (Std. Dev. = 63.3 sec.) with the initial design. The high standard deviation indicates variation among participants. However, it can be concluded that the new design has resulted in performance improvement as the success rate increased from 50% to 80%, and 50% took the ideal path as opposed to 20% in the initial design. A clear presentation of the search function in the new design appears to have a positive impact on the success rate among participants to locate the relevant information.

As with the previous design, **Task 9** (Table 9) involved a deeper investigation to locate the relevant information concerning the neighbor. Participants again needed to click on the Housing Issues link (Task 7, Figure 8) but needed to scroll further down to locate the information about disputes. Task completion time was not significantly improved with the new design, with an average time of 123.1 seconds (Std. Dev. = 120.122), compared to 149.5 seconds (Std. Dev. = 104.1 sec.). Additionally, only three participants completed the task successfully, with one of them thinking they were not successful. The low success and slow completion times are likely to be the result of a mismatch between the label "Housing" and the task's terminology of "neighbor." It was also suggested that the question was ambiguous and could be confused with obtaining a peace order. The labels in the new design will be refined during the implementation of the new site.

Task 9: You want your neighbor to stop harassing you. What can you do to make her stop?											
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
Success/Failure	F	F	F	S	F	S	S	F	F	F	
Ideal Path Y/N	Ν	N	N	N	N	Y	N	N	N	N	
Time on Task (min:sec)	00:41	00:34	02:00	04:21	02:08	02:49	00:48	00:09	06:24	00:37	
				Current	Design						
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	
Success/Failure	F	S	F	F	F	F	S	F	S	F	

Table 9. Task 9 Information

Ideal Path Y/N	Ν	Y	N	Ν	N	Ν	Y	N	Y	N
Time on Task (min:sec)	01:37	00:34	00:54	05:41	01:51	04:33	00:37	03:36	03:12	02:20

Table 10. Task 1	0 Informa	tion								
Task 10: You ha	ave been †	told you 1	need to fi	le a Civil	Appeal P	Prehearin	g Inform	ation Re	eport Fo	rm.
Where would yo	ou find th	at form?								
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Success/Failure	F	S	S	S	S	S	S	S	S	S
Ideal Path Y/N	N	Y	Ν	Y	Y	Y	Y	Y	Y	Y
Time on Task (min:sec)	00:29	00:20	00:44	00:06	00:03	00:09	00:58	00:37	00:52	04:37
				Current	Design					
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Success/Failure	F	S	F	S	S	S	S	F	S	S
Ideal Path Y/N	N	N	N	Y	Y	Y	N	N	N	Y
Time on Task (min:sec)	01:53	01:18	01:23	00:43	00:19	00:38	00:36	02:26	01:53	00:17

Task 10 (Table 10, Figure 9) was about locating a form and had high variation but its completion time was significantly improved in comparison to the initial design, with an average time of 35.5 seconds (Std. Dev. = 58.7 sec.), compared to 68.6 seconds (Std. Dev. = 44.7 sec.). Forms could be found by locating the Find a Form link from the home page, and then scrolling down on the Court Forms page (Figure 9). 90% of the participants completed the task successfully, but only one participant took the ideal path. It is concluded that the new design allowed for an easier reach of the asked information on the page for this particular task.

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Figure 9. Court Forms Page

Table 11. Task 1			for a sta	no and th	or horon	t noid th	. ¢2000 +	h ar ara	ware Ca	-
Task 11: Your c file a case agains					•	-		ney owe	you. Ca	n you
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Success/Failure	S	S	S	S	S	S	S	F	S	F
Ideal Path Y/N	Ν	N	Y	Y	Ν	Y	Ν	N	Ν	Ν
Time on Task (min:sec)	00:33	00:24	00:09	00:18	02:31	00:09	00:58	00:37	00:52	04:37
				Current	Design					
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
Success/Failure	S	F	S	S	S	S	S	S	S	S
Ideal Path Y/N	Y	Ν	N	N	N	Y	Y	N	N	Y
Time on Task (min:sec)	00:38	03:23	02:47	02:38	01:23	00:40	00:49	01:00	01:33	01:34

Table 11. Task 11 information

Task 11 in the new design resulted in a 32.2% improvement of completion time, with an average time of 66.8 seconds (Std. Dev. = 84.6 sec.). The correct information was under the File a Small Claim link on the first page (Figure 10). 80% of the participants successfully completed this task, with 30% choosing the ideal path. The relatively smaller performance improvement may be due to the difficulty participants had in determining that they need to file a small claim for this situation. For this reason, a list of issues that qualify

as small claims can be listed at the top of the page that discusses small claims. This will allow users to access this information through search as well and also provides education in legal topics for the end users.



Figure 10. Filing a Small Claim Page

Table 12. Task 1.												
Task 12: You wa	Task 12: You want to apply for a position you saw on the website. Can you e-mail the application?											
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10		
Success/Failure	S	S	S	S	S	S	S	S	S	S		
Ideal Path Y/N	Y	N	Y	Y	Y	Y	Ν	Y	Y	Y		
Time on Task (min:sec)	00:05	00:13	00:08	00:25	00:07	00:05	00:34	00:03	00:02	00:02		
				Current	Design							
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10		
Success/Failure	S	S	F	S	S	S	S	S	S	S		
Ideal Path Y/N	Y	N	N	Y	Y	Y	Y	Y	Y	Y		
Time on Task (min:sec)	00:37	01:14	00:36	00:23	00:29	00:29	00:40	00:58	02:05	00:40		

Table 12. Task 12 Information

Task 12 (Table 12) aimed at having participants locate information for potential job seekers. The correct link was on the main page, second to last on the list of How Do I... Links and contained job-related information (Figure 11). The mean time was 10.5 seconds (Std. Dev. = 10.8 sec.) which was significantly better than the average completion time of 49.1 seconds with the initial design (Std. Dev. = 30.6 sec.), and

all participants were successful with 80% taking the ideal path. Based on the results, it was concluded that the new design resulted in significant performance increase among participants.

Figure 11. Apply for a Job Page



Table 13 summarizes the performance variable differences between the current and new designs, with significant time gains presented in bold. It is apparent that most tasks resulted in improved performance times and success rates. This allows for a potential recommendation for adoption of the layout and navigation-related design features for the ultimate new design.

Table 13. Performance values for current and new designs (significant time gains are presented in bold)

Task	Average	Average	Time Gain	Success	Success	Ideal Path-	Ideal Path-
Number	Completion	Completion	Percentage	Rate-	Rate-New	Current	New
	Time-Current	Time-New		Current	Design	Design	Design
	Design	Design		Design			
1	72.8	11.4	84.3%	100%	100%	90%	100%
2	92.0	50.2	45.4%	80%	100%	60%	60%
3	37.3	6.5	82.6%	100%	100%	90%	90%
4	83.0	61.7	27.7%	90%	70%	50%	30%
5	138.8	54.8	60.5%	20%	90%	20%	40%
6	94.6	84.0	11.2%	50%	80%	20%	50%
7	71.9	43.6	39.4%	70%	60%	50%	40%
8	106.8	44.6	58.2%	60%	80%	70%	70%
9	149.5	123.1	17.7%	30%	30%	30%	10%
10	68.6	35.5	48.3%	70%	90%	40%	80%
11	98.5	66.8	32.2%	90%	80%	40%	30%
12	49.1	10.5	78.6%	90%	100%	80%	80%

2.3 User Satisfaction Comparison between the Current and New Designs

User Survey Quantitative Analysis

The user satisfaction and recommendations are analyzed via the comparison of the survey results for both the current and new designs. Table 14 presents the comparison of survey scores concerning user satisfaction for both designs. Significant score differences are highlighted in red. As in the initial survey design, each survey item (question) was formulated as a statement and presented with a Likert scale, with a score of 7 indicating strong agreement, a score of 4 indicating having a neutral opinion, and a score of 1 indicating strong disagreement about the statement in the survey item.

Survey Question	Current Design Mean	Current Design Standard Deviation	New Design Mean	New Design Standard Deviation
1. Overall, the website was easy to use.	3.7	1.9	5.6	1.0
2. I think I made a lot of mistakes using the website.	3.5	1.2	2.6	1.3
3. The screens were well-designed.	3.8	2.0	5.8	1.4
4. There were too many steps to complete some of the tasks.	3.7	1.8	2.6	1.3
5. Generally, the website was interesting.	4.2	2.2	5.4	1.6
6. I had trouble understanding the content on the website.	3.3	1.8	1.9	1.3
7. The screen instructions were understandable.	4.8	1.7	6.1	1.1
8. I was not able to work fast on this website.	5.3	2.1	2.7	1.9
9. The designs of the different pages on the website were consistent with each other.	5.5	1.3	5.9	0.9
10. I would not recommend this website to others.	4.2	2.3	1.7	0.9
11. Using the website was a good use of my time.	4.3	2.0	6.2	0.9
12. Using the website was a frustrating experience.	4.3	2.8	2.7	2.1
13. Overall, I was satisfied with the website.	3.3	2.3	6.0	0.7
14. Using the website was a stressful experience.	3.9	2.6	1.7	0.9
15. I would continue to use this website.	4.1	2.8	6.2	0.9

Table 14. Satisfaction survey results comparison between current and new designs

Table 14 results concerning the significant differences between the current website design and the new design can be summarized as follows:

- The site design was overall better received by the participants. Increased satisfaction scores indicate a significant improvement in the quality of the user experience from the current design to the new design. Additionally, in general, the screens were found to be designed better in the new site. Participants found the site less stressful and frustrating to work on compared to the participants of the initial site.
- The site was found significantly easier to use with the new design. The reasons for this increase are discussed in the next section on qualitative responses. Participants on this site scored the speed with which they could work much higher than participants on the initial site.
- The desire to continue using the site was very high, indicating a solid amount of satisfaction using the site. Participants found using the site a good use of their time, giving very high scores in response to this question.

• Responses to the following questions have shown smaller improvements: whether they made mistakes on the site, the number of steps to complete the tasks, how interesting the site was, and understanding the content on the site. While the increases are smaller, there is still improvement.

1.1 Qualitative Analysis of Interview Results

The interview process was identical to the process in the first phase. Participants were asked whether they found the Web site useful overall, whether they would recommend it, what kinds of difficulties they had with the site, what the most positive and negative aspects of the site were, and a few more questions. The qualitative responses are discussed in categories below:

General Opinions

In general, the site was found to be useful for finding information concerning MD Judiciary. Every participant indicated they would use the site if the need would arise. There was a consensus on the relative ease with which the needed information could be located. Overall, the site was seen as useful and easy to use. Quotes included the following:

"Most of the things were good."

"I can't think of any improvements."

"The design was very much like other Web sites."

"Fairly flat. Not too many clicks."

"Fairly clean."

"Everything was pretty straightforward."

"Content-wise I had no trouble finding the answers."

"If I am looking for information, it is a good use of my time."

"Yeah, for any site with that much info and that many places you can go, it was easy to use the Web site. It is not hard, but so many directions to go."

"Easy to use, straightforward on how to do something."

"I would use it to find information on the MD judiciary system."

"I think it is a great tool."

"It is amazing that the information is just out there for you."

"It seemed friendly. A site that seems friendly may make things easier."

Most Positive Aspects:

Most of the praise to the site came due to the straightforward presentation of the relevant information, the organization of the information, the naming of the menus, and the layout of the pages. Quotes included:

"Familiarity. The way you have menus on top and information on the side. The information you seek was organized.... If I didn't find [the information] on the side I'd look on the bottom.... I tend to look at menus on the left."

"Once I scrolled through the menus then I knew what was where."

"I did like the 'How do I..." section."

"The menus on top were very well broken down."

"Links from front page were easy, quickly accessible. It didn't take long to [find the sought info.]"

"It had easily accessible information."

"It was self-explanatory."

"I thought everything on the side line [local navigation menu] was very self-descript[ive]."

Several users commented on the usefulness of the quick links that represent frequently accessed content and services:

"... geared towards the average person, what you are trying to do... would give you a list of what everyone would be trying to do on the Judiciary Web site."

"Continue doing research on what are the most common things...what are the most commonly looked for items and kind of highlight those."

Ouotes concerning the page layout and look and feel included:

"It was like a lot of Web sites. It makes it look familiar... That made it easy."

- "[It was] fairly typical of government database access Websites." "... typical of Maryland Assessor's Office."
- "It had a crisp clean look to it, there wasn't a lot of business going on in it."

"There was a lot of white on the screen which I like."

Areas for Improvement

While users liked the menus in general, they found some of the labels vague and did not always understand them:

"I felt it was well organized, but sometimes I didn't know if it was in that menu or this menu." "Topics sometimes don't agree with what you're trying to do." "Some of the boxes on help helped, some weren't clear. Forms should be a box by themselves."

The labels in the new design will be refined during the implementation of the new site.

There were a few complaints about the organization of the forms which was not part of this redesign project, such as:

"The forms should be broken down differently: Personal, etc...."

Font Size

"Some menu items on top were difficult to read, I actually had to highlight them." "I only like bigger fonts."

The findings in general to some extent indicate that participants had some difficulty in appropriately distinguishing between the menu items "Going to Court" and "Legal Info & Self Help." It can therefore be advised that these two items be combined to allow the participants to more easily determine the pages where they can locate the information they are looking for. Additionally, the findings indicate that if the users cannot map their question to terms that match the interface, they get lost. In the case of Task 9, for example, a number of participants didn't map the concept of their neighbor to the housing label and therefore had problems. This may have been caused by the confusing wording of this task.

2.4 **Eve Tracking Data**

The heat map data allows the researchers to determine where the gaze of each participant was located. The longer the gaze on a particular area, the "hotter" that particular area appears. In aggregate heat maps, such as Figures 12, gaze data is presented from all participants in one image. The individual participants' gaze times spent in certain areas are combined. Red indicates the longest time spent on an area; yellow indicates a lesser amount of time; green indicates the least amount of time.

In most of the pages, eye tracking heat map outputs indicated that participants first looked at the left hand side and top menus. The gaze data supported the design in terms of the important information being presented in places the users first look at. One representative heat map graphic is presented for each task and the home page (with the exception of the last task). On the home page users looked on the two most important navigation elements the most: the top global navigation and the quick link lists in the center of the page. While traffic is lighter at the end of the list, the whole list of quick links was looked at by the users. For content pages, users followed typical web browsing patterns and looked at the top and left side of the content area, scanning the beginnings of the lines in the upper half of the pages. Due to this pattern, long scrolling pages of content are not recommended.

Figure 12. Home Page Heat Map Graphic





Figure 13. Task 1 (Courts) Heat Map Graphic



Figure 14. Task 2 (Jury Duty) Heat Map Graphic

ile:///E:/Projects/MD%20Judiciar 0:00:00.000 - 00:00:10.559 ant filter: All	wwebsite-voirianid.fitthi (CRG)	Site Index Glossary Directory Court
SURING EQUAL ACC	ESS TO JUSTICE FOR ALL	
IARYLA	ND COURTS	G
courts.gov		
Home About t Court		
Family, Health, and Sexual Assault	Legal Topics » Traffic Violations » Traffic Citations In	troduction
Child Support		
Divorce	Tr oduction	
Adoption	Clic Internet Clication	
Domestic Violence		
Protective Order		e and "must appear"."Must appear" violations, such as driving suspended license are not covered in this fact sheet. For more e District Court location nearest you.
Restraining Order	Payable traffic violations for example, a speeding ticket or f	failing to stop for a school bus are those you may choose to
Custody	plead "guilty" to and pay a fine without appearing in court. second box under "Notice to Appear" on your citation. Pay	You have a payable violation when the officer checks the able traffic violations are not punishable by jail time.
Juvenile Issues	When you are charged with a payable traffic offense, the of	ficer will give you two copies of your citation. The white copy
Sexual Harrassment		bu decide how you will respond to the citation. The blue copy back of your citation carefully and make sure the identifying
Stalking	You have three options when confronted with a payable trat	fic citation paving the fine, appearing for trial, or pleading
Sexual Assault		you choose not to pay the fine, you will be required to appear in
Sex Offender Registry		
Consent/Statutory Rape		
Foster Care		
Community Resources for Domestic Issues		
Obtaining Court Orders		

Figure 15. Task 3 (Traffic Violation) Heat Map Graphic



Figure 16. Task 4 (Attorney Complaint) Heat Map Graphic



Figure 17. Task 5 (Court Record Deletion Request) Heat Map Graphic



Figure 18. Task 6 (Wheelchair Access) Heat Map Graphic

SURING EQUAL ACCES	SS TO JUSTICE FOR ALL			
	ND COURTS			
courts.gov				
Home About the Courts	e Going to Legal Info & Court Self-Help	Online For Legal Services Professiona		For Studer & Educato
Family, Health, and Sexual Assault	Going to Court » Intro to Legal Precedings			
Child Support				
Divorce	Housing Issues			
Adoption	_			
Domestic Violence	• sues			
Desta de la contra	mination			
Protective Order	• L			
Protective Order Restraining Order	• Lmination			
	Tenant-Landlord Issues			
Restraining Order	• L			
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Restraining Order Custody Juvenile Issues	• L	Landlord does not return securit security deposit with interest, wi tenancy, provided there are no r	ithin 45 days of the lega	al end of
Restraining Order Custody Juvenile Issues Sexual Harrassment	E Tenant-Landlord Issues Failum Control Problem Preliminary Action	security deposit with interest, wit tenancy, provided there are no re Tenant must wait 45 days from e	ithin 45 days of the lega easons for it to be withh end of tenancy before fil	al end of eld. ing. If landlord
Restraining Order Custody Juvenile Issues Sexual Harrassment Stalking Sexual Assault Sex Offender	• L Tenant-Landlord Issues Faile Security Deposit Description of Problem	security deposit with interest, wi tenancy, provided there are no re Tenant must wait 45 days from of sends tenant written notification tenant may file immediately.	thin 45 days of the lega easons for it to be withh end of tenancy before fil of reasons for withholdi	al end of eld. ing. If landlord ng deposit,
Restraining Order Custody Juvenile Issues Sexual Harrassment Stalking Sexual Assault	Tenant-Landlord Issues Faile Description of Problem Preliminary Action Prior to taking court action, tenant is required	security deposit with interest, wi tenancy, provided there are no re Tenant must wait 45 days from e sends tenant written notification	ithin 45 days of the lega easons for it to be withh end of tenancy before fil of reasons for withholdi n DC/CV1), a Small Clai al information.	al end of ield. ing. If landlord ng deposit, ims action. See
Restraining Order Custody Juvenile Issues Sexual Harrassment Stalking Sexual Assault Sex Offender Registry Consent/Statutory	Tenant-Landlord Issues Failum Problem Preliminary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action Fill out forms carefully; inaccurate information, such as wrong name or address, may cause	security deposit with interest, wi tenancy, provided there are no re Tenant must wait 45 days from o sends tenant written notification tenant may file immediately. 1 File Civil Complaint (Form Small Claims for addition 2. Serve landlord with comp notice legally 1. You made deposit.	ithin 45 days of the lega easons for it to be withh end of tenancy before fil of reasons for withholdi n DC/CV1), a Small Clai al information. laint summons/notice. H	al end of leld. ing. If landlord ng deposit, ims action. See How to serve a
Restraining Order Custody Juvenile Issues Sexual Harrassment Stalking Sexual Assault Sex Offender Registry Consent/Statutory Rape	Tenant-Landlord Issues Failum Problem Preliminary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action Fill out forms carefully; inaccurate information, such as wrong name or address, may cause	security deposit with interest, wi tenancy, provided there are no re Tenant must wait 45 days from e sends tenant written notification tenant may file immediately. 1. File Civil Complaint (Form Small Claims for addition 2. Serve landlord with comp notice legally	ithin 45 days of the lega easons for it to be withh end of tenancy before fil of reasons for withholdi n DC/CV1), a Small Clai al information. laint summons/notice. I u about withholding dep	al end of leld. ing. If landlord ng deposit, ims action. See How to serve a

Figure 19. Task 7 (Landlord-Tenant) Heat Map Graphic




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courts.gov					
courts.gov					
Home About Cou			or Legal fessionals	For Media & Press	For Student & Educator
Family, Health, and Sexual Assault	Going to Court » Intro to Legal Preceding				
Child Support					
Divorce	Housing Issues				
Adoption					
Domestic Violence	• <u>To</u> <u>d Issues</u> • <u>Fo</u>				
Protective Order	 <u>Housing enscrimination</u> Disputes 				
Restraining Order					
Custody					
	Tenant-Landlord Issues				
Juvenile Issues	Failure to Return Security Deposit				
Juvenile Issues Sexual Harrassment	Failure to Return Security Deposit				
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Sexual Harrassment Stalking Sexual Assault Sex Offender	De coblem Preliminary Action Prior to taking court action, tenant is required to take certain preliminary actions.	security deposit with tenancy, provided ther Tenant must wait 45 of sends tenant written m tenant may file immed 1. File Civil Comp Small Claims fi	merest, within re are no reaso lays from end notification of re liately. laint (Form DC or additional in	45 days of the lega ons for it to be withh of tenancy before fili easons for withholdin c/CV1), a Small Clai	Il end of eld. ing. If landlord ng deposit, ims action. See
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Sexual Harrassment Stalking Sexual Assault Sex Offender Registry Consent/Statutory Rape Foster Care Community Resources for	De coblem Prelimmary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action Fill out forms carefully; inaccurate information such as wrong name or address, may cause	security deposit with tenancy, provided ther Tenant must wait 45 of sends tenant written i tenant may file immed 1. File Civil Comp Small Claims fi 2. Serve landlord notice legally 1. You made depo	Anterest, within re are no reaso lays from end notification of m liately. laint (Form DC or additional in with complaint osit. t notify you ab	45 days of the lega ons for it to be withh of tenancy before fill easons for withholdin /CV1), a Small Clai formation. summons/notice. H	I end of eld. ing. If landlord ng deposit, ims action. See How to serve a
Sexual Harrassment Stalking Sexual Assault Sex Offender Registry Consent/Statutory Rape Foster Care Community	De oblem Preliminary Action Prior to taking court action, tenant is required to take certain preliminary actions. Court Action Fill out forms carefully; inaccurate information such as wrong name or address, may cause case to be dismissed or delayed.	security deposit with tenancy, provided ther Tenant must wait 45 c sends tenant written r tenant may file immed 1. File Civil Comp Small Claims fi 2. Serve landlord notice legally 1. You made dep 2. Landlord did no	Accest, within re are no reaso lays from end otification of re liately. laint (Form DC or additional in with complaint osit. t notify you at y your lease le	45 days of the lega ins for it to be withh of tenancy before fill easons for withholdin /CV1), a Small Clai formation. summons/notice. F bout withholding dep gally.	II end of eld. ing. If landlord ng deposit, ims action. See How to serve a

Figure 21. Task 9 (Neighbor Dispute) Heat Map Graphic



Figure 22. Task 10 (Locating a Form) Heat Map Graphic



Figure 23. Task 11 (Small Claim Filing) Heat Map Graphic

3. Web Accessibility Guidance

Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage the development of technologies that will help achieve these goals. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology [1]. Standards have been designed to improve levels of access to software applications, web sites and various other technologies. When developing or updating a web site, it is imperative that these standards are adhered to. An abridged set of guidelines are presented as part of this document, along with recommendations on ways to evaluate web sites to address a universal audience.

General Guidelines for Designing or Revising HTML Pages [See references 2 and 7 at the end of this section]

- A text equivalent should be provided for every non-text element. Examples include providing alternative text for images by using the "alt" attribute. The alternative text for images should be informative, yet not verbose. If a longer description is required, a link can be made to a separate page through the use of the "longdesc" attribute. Ensure that alternative text is used for images which are also hyperlinks. If the image or imagemap is purely used for decorative purposes (e.g. spacer images), null or empty alt values can be used (e.g. alt="") to convey to screen reader users that the graphic is non-informative.
- Equivalent alternatives should be provided if multimedia is presented. Examples include providing synchronized captions for Flash animations and videos. These will assist both screen reader users and individuals who may be deaf or hard of hearing, to gain an overview of the multimedia content presented. Transcripts can be provided alongside the animations or videos. If a video is presented without sound, an auditory description track or transcript would be required. Flash animations should be accessible via a keyboard, in addition to a mouse or other input device. Further information on accessibility guidance for Flash is available at: http://webaim.org/techniques/flash/.
- Web pages should be designed so that all information conveyed with color, is also available without color. Ensure there is a suitable contrast between the background and font colors. If information is conveyed through color, other methods must be used to communicate this information to screen reader users, individuals with lower levels of vision, and individuals experiencing difficulties with color perception.
- Documents should be organized so they are readable without requiring an associated style sheet. A check can be performed to ensure that the style sheet itself is accessible - <u>http://jigsaw.w3.org/css-validator</u>. In terms of fonts, avoid using small size characters, and limit the number of font styles applied to the page. This will help to reduce confusion on the part of the user.
- Row and column headers should be identified for tables. Column and/or row headers should be used for tables containing informative data. The tags will assist screen reader users to gain an overview of content. For tables used for decorative or layout purposes, tags are not necessary. Markup should be used to associate data cells and header cells for data tables that have two or more logical levels of row or column headers. Data table cells can be associated with the appropriate headers using the "scope" or "id"/"headers" attributes. Examples of how to do this are available at: http://www.webaim.org/techniques/tables/data.php.
- Headings, hyperlinks and labels for buttons should convey a sense of meaning to the user. Terms such as "click here" or "click this", are rarely useful to screen reader users, as it is difficult to establish the context of what these terms are referring to. Content presented should be developed using the appropriate tags. For example. <h> tags are preferred for headings, rather than using images containing text to convey the same information.

- **Frames should be titled with text that facilitates frame identification and navigation.** The title should describe the frame's purpose or content. The "title" attribute can be used to do this.
- If there is no other solution to making a web page completely accessible, a text-only page with equivalent information or functionality should be provided. Ensure that the text-only version is up-to-date with the main version, and maintained with the same level of care as the other pages.
- Content and functionality provided by scripting (e.g. Javascript) should be directly accessible to assistive technologies and the keyboard. Testing is essential to ensure that scripts do not conflict with screen readers. It is also recommended to provide non-Javascript alternatives to scripted pages. This can be done using the <noscript></noscript> container tags. Content may be marked up/formatted within these tags. Further information on the accessibility of Javascript is available at: http://www.webaim.org/techniques/javascript/#accessibility.

If using AJAX, note that Javascript may need to be enabled to run the content. When new content is presented within a web page using AJAX, additional visual cues and text are needed to notify both mainstream and screen reader users. Further information is available at: http://webaim.org/techniques/ajax/.

- When electronic forms are designed to be completed on-line, the form should allow individuals using assistive technologies to access the information, field elements, and functionality required for completion and submission of the form. To do this, <input>, <textarea>, and <select> tags should have label elements associated with them in the markup. The "title" attribute can also be used.
- Navigation schemes should be consistent throughout the site. This helps users understand how to use the site and where to find information. A good heading structure using <h1>, <h2> etc, also facilitates navigation. If a complex hierarchical menu structure is needed, consult the ARIA guidelines for design recommendations (http://webaim.org/techniques/aria/). Users should be able to skip repetitive navigation links. This is particularly beneficial for individuals using a screen reader. To do this, a hyperlink should be provided to skip over navigational menus or other lengthy lists of links. The "skip" link can be visually masked using CSS, if required.
- When a timed response is required, the user should be alerted and given sufficient time to indicate more time is needed to complete the task.
- When a web page requires that an applet, plug-in or other application be present on the client system to interpret page content, the page must provide a link to the plug-in or applet. A selection of links to plug-ins are presented in the <u>Accessibility Compliance Checklist</u>.
- Further information on pop-up windows, font sizes, and language specifications are available at: http://doit.maryland.gov/policies/Documents/nvaguidance/Web Accessibility Checklist.pdf.
- All Powerpoint presentations, Word documents, spreadsheets, PDFs, and other documents which will be present on the web site will need to be accessible via assistive technologies. Software such as CommonLook, PAW and Adobe Acrobat can be used to make PDFs more accessible through appropriate tagging. In the event that documents cannot be made fully accessible, alternatives to the documents must be provided (e.g. an accessible HTML version of a document instead of or in addition to the PDF).
- Encourage feedback from users on accessibility. This can be achieved through listing contact details for the web design team on the web site, along with accessible feedback forms.

Obtaining Guidelines

A comprehensive set of the Section 508 guidelines are available at: <u>http://www.section508.gov/index.cfm?FuseAction=Content&ID=12</u>. Recent updates are available at: <u>http://www.access-board.gov/sec508/refresh/draft-rule.htm</u>.

The State of Maryland also has developed their own set of recommendations which closely follow Section 508. These are available at <u>http://doit.maryland.gov/policies/pages/nva.aspx</u> (select the <u>Compliance</u> <u>Checklist</u> option).

The <u>Americans with Disabilities Act</u> has recently been amended. Public entities are required to implement other accessibility changes (e.g. ticketing, communication etc) by the 2012 deadline.

Evaluating Web Pages for Accessibility Compliance

To minimize the challenges faced by users, the following steps should be taken [See references 3, 4, 5, and 7 at the end of this section]

- 1. Automatic validation tools should be used by designers and testers. These tools identify a range of problems associated with web pages, such as missing alt text and inappropriate link text. Suggestions include using the following tools to gain a comprehensive overview of accessibility: (1) Section 508 validator (http://www.section508.info), (2) WAVE (http://wave.webaim.org), and (3) WCAG validator (http://validator.w3.org). Style sheets can be checked using the CSS validator (http://jigsaw.w3.org/css-validator). Recommendations are provided by the tools to address any discrepancies with the code. Changes can be made and then further testing can be performed.
- 2. **Manual checking should also be performed by designers and testers.** Only humans can make the subjective judgment calls that make content not just "technically accessible," but truly usable and understandable.
 - Language should be simple. The site's content should be developed using plain language standards <u>http://www.plainlanguage.gov</u>). This will help users with lower levels of proficiency in the English language and/or cognitive disabilities better understand the site.
 - **Page content without graphics.** The graphics-loading feature of a web browser can be turned off when accessing the site, for purposes of testing. To do this in Internet Explorer 7, select "Tools" on the tool bar, followed by "Internet Options." Select the "Advanced" tab and deselect "Show pictures". When browsing the page without graphics, ensure that appropriate alternatives are provided for graphical information.
 - **Page content without audio.** To temporarily disable audio in Internet Explorer 7, select "Tools" on the tool bar, followed by "Internet Options." Select the "Advanced" tab and deselect "Play sounds". When browsing the page without audio, ensure that the user is able to access all the content from the page.
 - **Re-size fonts using browser controls.** To manipulate the font size in Internet Explorer 7 on a PC, select the "CTRL" key and the "+" or "-" keys. Page content should be clear to the user even when the font size is changed. As some older adults and users with low levels of vision may use screen magnifiers to view content on the screen, testing should examine the way that pages would appear when enlarged. A trial version of a magnifier can be downloaded for free at http://www.aisquared.com/zoomtext.
 - Accessing sites using multiple screen resolutions, through different browsers. Examples include Internet Explorer, Firefox, Safari, Chrome and Opera. As many individuals access web sites using a mobile device, pages should ideally be tested through a range of displays.
 - Using the keyboard to access content. Screen reader users often use a keyboard to interact with web pages. A trial version of a screen reader can be downloaded at no cost by designers and testers (e.g. JAWS <u>http://www.freedomscientific.com/downloads/demo/FS-demo-downloads.asp</u>, Window Eyes <u>http://www.gwmicro.com/Window-Eyes/Demo</u>/. The web pages can be tested using the screen reader to determine the following:

- a. Did the screen reader access all of the content?
- b. Was the alternative text for images appropriate and equivalent enough to convey the content and meaning of the image?
- c. Was the reading order of the content logical?
- 3. User testing One of the best ways to determine the accessibility of web pages is to get feedback from individuals with disabilities. Sometimes features of the site which designers believe would increase accessibility end up being very confusing or inaccessible. Be willing to make changes based on user testing.
- 4. **Repeat the Process -** Web accessibility is a continual process and one that should be evaluated often. Each of the steps should be followed when web content is added or changed.

Further Information [See reference 6 at the end of this section]

- <u>World Wide Access: Accessible Web Design</u> universal design applied to the development of web pages (publication and video).
- <u>Web Accessibility: Guidelines for Administrators</u> guidance for non-technical administrators regarding how to assure that websites in their organizations are accessible to everyone.
- <u>AccessWeb</u> a discussion list and collection of resources on the design of accessible websites.
- <u>Designing Software that is Accessible to Individuals with Disabilities</u> guidelines for the design of accessible software.
- <u>Creating Video and Multimedia Products that are Accessible to People with Sensory Impairments</u> - guidelines for the design of accessible multimedia.
- <u>Design guidance for HTML 5</u> provides an overview of tags which are accessible in different browsers.

References

- [1] Section 508 Law. Available: <u>http://www.section508.gov/index.cfm?FuseAction=Content&ID=3</u>
- [2] WebAIM Section 508 Checklist. Available: http://www.webaim.org/standards/508/checklist
- [3] Draft Information and Communication Technology (ICT) Standards and Guidelines. Available: http://www.access-board.gov/sec508/refresh/draft-rule.htm
- [4] Evaluating Web Site Accessibility. http://www.webaim.org/articles/process/evaluate.php
- [5] Web Accessibility: Guidelines for Administrators. Available: http://www.washington.edu/doit/Brochures/Technology/web_admin.html
- [6] Technology and Universal Design. Available: http://www.washington.edu/doit/Resources/technology.html
- [7] Maryland Department of Information Technology- Non-Visual Accessibility Checklist for Web Sites
- http://doit.maryland.gov/policies/Documents/nvaguidance/Web_Accessibility_Checklist.pdf

4. Usable Web Design Guidelines

"After all, usability really just means making sure that something works well: that a person of average (or even below average) ability and experience can use the thing ... for its intended purpose without getting hopelessly frustrated." - Steve Krug

When designing usable websites, the above quote should be kept in mind. While it sounds common sense, it is important that designers make sure that their creativity and the latest technology solutions are put in the service of their users' needs and that first and foremost they strive to make the website usable and accessible for their users.

General Usability Guidelines

Steve Krug's web design guidelines

Krug's 1st Law of Usability: Don't make me think!

Web pages should be self-evident or at least self-explanatory because most users are going to spend far less time looking at the pages we design than we'd like to think. We have to allow users to figure out the purpose of the page and their next steps in a matter of seconds.

Krug's other guidelines for web design

- Create a clear visual hierarchy on each page (using size, positioning, nesting):
 - The more important something is, the more prominent it should look
 - Things that are related logically are also related visually
 - o Things are "nested" visually to show what's part of what
- Take advantage of conventions (especially layout, labels, and navigation)
- Break up pages into clearly defined areas
- Make it obvious what's clickable
- Keep the noise down

Jakob Nielsen, one of the best known experts of web usability, defines the following five facets of usability:

- 1. **Learnability**: How easy is it for users to accomplish basic tasks the first time they encounter the design?
- 2. Efficiency: Once users have learned the design, how quickly can they perform tasks?
- 3. **Memorability**: When users return to the design after a period of not using it, how easily can they reestablish proficiency?
- 4. **Errors**: How many errors do users make, how severe are these errors, and how easily can they recover from the errors?
- 5. **Satisfaction**: How pleasant is it to use the design?

The guidelines in the following sections aim to ensure that the website reaches these five goals of usability.

Three main sources for web design guidelines have been reviewed to compile this document:

- 1. Nielsen, Jakob; Loranger, Hoa. (2006) Prioritizing Web Usability. New Riders Press; 1st edition. ISBN-10: 0321350316. ISBN-13: 978-0321350312.
- 2. Krug, Steve. Don't Make Me Think: A Common Sense Approach to Web Usability.
- 3. Rosenfeld, Louis; Morville, Peter. Information Architecture for the World Wide Web, 3rd edition O'Reilly & Associates; ISBN: 0596000359

The Homepage

According to Jakob Nielsen, the following content elements should be present on every homepage

- Site identity and mission: the tagline and/or welcome blurb
- Site hierarchy: Global navigation system
- Search
- Teases: highlights of site content
- Timely content: updates and news
- Deals: if appropriate
- Shortcuts: to frequently used content
- Registration: if appropriate

It is important for the homepage to make the site's purpose clear and explain who the site represents and what the purpose of the site is. A few ways to achieve this are to include a one-sentence tagline and/or a very brief welcome blurb or mission statement, to write a window title with good visibility in search engines and bookmark lists, and to group all corporate information in one distinct area. It is also very important to make sure that users can find what they need starting from the homepage. Designers should emphasize the site's top high-priority tasks and include a search box. It is also advisable to reveal the site's content through content samples, such as previews of pictures, interesting segments of text presented on the homepage. Link names should begin with important keywords as users often do not read beyond the first few words of each line. Using meaningful graphics and keeping clutter to a minimum are also important guidelines for homepages.

If a homepage contains most of the required information, it should be able to answer the following questions:

- 1. What is this [site about]?
- 2. What do they have here?
- 3. What can I do here?
- 4. Why should I be here and not somewhere else?
- 5. Where do I start?

Information Organization

The way information is organized on a site provides the foundation for the navigation of the site. Information has to be organized in a way that make sense for the majority of the users and also reflect sponsor needs. Web content is difficult to organize as it is very heterogeneous and it is described by ambiguous natural language. Organizational politics also often make it difficult to organize content in a way that serves user needs. Exact (alphabetical, chronological, geographical) and ambiguous (topic, task, audience, metaphor, hybrid) organization schemes co-exist on websites. Most often web content is organized into an ambiguous organization scheme, by topic, user task, or audience. Websites also frequently include two navigation systems, one organized by topic or task and another by audience. When two navigation schemes exists, users can access the same content through both systems. For example, a university's undergraduate application form can be linked both from the Admissions navigation category of the site and from the Prospective Students category. The following guidelines can help create a well designed information organization system:

- Create groups of logically similar items
- Categories should be mutually exclusive
- Form categories that cover all possibilities
- All items should naturally go to one category only
- Categories should be comprehensible and distinctive to all important user groups of the system
- Labels should be descriptive, easy to understand, meaningful to users
- Use familiar terminology, but ensure that items are distinct from one another
- Complex polyhierarchies are confusing

• Breadth over depth in web site hierarchies, but try to balance

Once the categories have been created, items should be sequenced in each category. The order of items in the menu is important, and should take natural sequence into account when possible:

- Time
- Numeric ordering
- Physical properties

When the items in a category have no task-related orderings, the designer must choose from such possibilities as:

- Alphabetic sequence of terms
- Grouping of related items
- Most frequently used items first
- Most important items first.

Navigation

Users need to navigate through an inherently confusing space of many interconnected nodes to find content. The design of navigation on websites is crucial to ensure that users can successfully find their way in websites. The navigation system of any website should answer these questions:

- Where am I? What is this?
- Where have I been? How do I get back?
- Where can I go?

The questions can be answered if these guidelines are followed: Where am I?

- 1. Relative to the Web as a whole
- Always display logo or branding
- Use consistent page layout and design
- Use consistent interaction methods
- 2. Relative to the site
- Show the structure of the site in global and local navigation
- Highlight the section the user is in in the global navigation
- Display breadcrumbs on every page

Where have I been? How do I get back?

- Breadcrumbs
- Browser Back button
- Use consistent visited link colors

Where can I go?

- Make the site structure visible
- Well-designed information organization and navigation will help:
 - Users can guess what is under a heading
 - All pages can only go under one heading
- Use multiple navigation techniques:
 - Structural links: global and local navigation
 - Contextual links: more information about particular chunks of content
 - Associative links: links to similar content, suggestions based on interest

Global Navigation:

- Shows the site structure and main sections of the site for navigation
- Present on every page
- Design concerns:
 - Should tell the user where (s)he is:

- Highlight or expand section where the user is
- If much navigation required: keep on screen
- For reading-intensive sites: can scroll out
- Keep it consistent

Local Navigation

- Navigation structure within an area of the site
- Don't make your site very deep (depends on size)
- Should be very clearly differentiated from the global navigation
- Make sure users can navigate to:
 - Any other top level categories from the global navigation or at least the home page
 - o Sibling categories
 - Levels below

After the navigation has been designed, it is advisable to carry out a navigation test. One such test is Keith Inkstone's Navigation Stress Test: <u>http://user-experience.org/uefiles/navstress/</u> Take a page from a lower level of the site and try to answer all the questions in the test. Mark the page elements that answer each question.

Label Design

Labels play several important roles in websites. Navigation menu items, headings, contextual links are all labels. These labels should be developed as part of a cohesive labeling system where the labels remain the same when referring to the same concepts and web content. Consistency is a prime design goal for labeling systems. Labels should be consistent in terms of:

- Style (Punctuation, Cases)
- Presentation (Font, Colors, White spaces, grouping)
- Syntax (Questions, verb-based, noun-based)
- Granularity (stay on one level)
- Comprehensiveness (users might expect certain labels in the context with others providing them enabled faster scanning)
- Audience (use terms the audience understands and expects)

Labels can come from the site content or content authors, from comparable and competitive sites, controlled vocabularies and thesauri, and the users themselves.

Writing for the Web

Ultimately, web users come to the site for the content. In order to keep them there you have to carefully write your content. Writing for the web is different from writing for print publications as reading in print is different from reading online. Users on the web do not read long sentences and continuous text on most typical web pages, they scan and skim text. To write scannable text, content creators need to follow these guidelines:

- Don't try to fit too much in. What is the main point you need to make to capture customers or readers?
- Use half the word count than conventional writing, avoid redundant and unnecessary words
- Make content easy to understand at a glance by using bullets, lists and subheads to break up sections
- Present one idea per paragraph in short paragraphs
- Use the inverted pyramid: start with the conclusion/most important part followed by explanation/less important details
- Use a simple writing style
- Use emphasis (bold highlight) to help people see what is most important if they're scanning
- Highlight keywords

- Avoid scrolling as much as possible, unless the page is a content document such as a journal article or other long document
- Use active voice and action verbs. Never start a sentence with "There is..."
- Use a style guide and be consistent with your style
- Be specific rather than vague and abstract
- Don't state the obvious or the negative
- Write for your target audience—emphasize what's important to them.

5. Subordinate Site Implementation

The homepage of the template site implementation contains improvements as compared to the site used in the second usability evaluation. The layout, header, colors, fonts, and the navigation options have been redesigned. A four-column format has been introduced. The content and layout has been simplified with fewer static images included.



The Judiciary team selected the Alternative Dispute Resolution (ADR) Office of the District Court of Maryland subordinate site implementation for the illustration of the navigation scheme and implementation. Two alternative solutions were developed. The first solution shown in Figure 24 where all levels of the navigation are shown on the left side menu. Due to the large amount of content on the site this created a very long scrolling menu and thus an alternate solution was devised shown in Figure 25.



Figure 24. Lower level designs with the lengthy navigation option.

MARYLANI	D COURTS	Search			
mdcourts.gov					
Home Courts Leg	al Help E-Services Lawyers Press Education				
efore Going to Court	Legal Help > Before Going to Court > Mediation/ADR > About Mediation				
ntroduction to Legal Proceeding	About Mediation				
ivil Case Information					
eing Arrested	Staff	For more information please E-mail us at:			
ail Information	Jonathan S. Rosenthal, Esq. Executive Director of ADR Programs	adroffice@mdcourts.gov			
eing Sued	Maureen A. Denihan, Esq. Deputy Director/Program Development and Community	Telephone:			
Vant to Sue	Cindy Faucette Regional ADR Program Director for Baltimore, Carroll, Frederick,	Cindy Faucette Regional ADR Program Director for Baltimore, Carroll, Frederick,			
et an Attorney	Howard and Washington Counties Nancy Kreitzer Regional ADR Program Director for Anne Arundel, Calvert, Charles,				
ist of Active MD Attorneys	Prince George's and St. Mary's Counties Leona Elliott Coordinator of Roster and Data Management				
ttorney Complaints	Shannon Baker Local Program Coordinator for Baltimore City Kate Quinn, Esq. Local ADR Program Coordinator for Montgomery County				
ook up Sanctioned Attorneys	Sarah Kauffman Data Management and Public Information Coordinator				
udge Complaints	Mission Statement				
mbudsman	It is the mission of the District Court of Maryland to provide equal and exact justice for all w	ho are involved in litigation			
DR/ Mediation	before the Court.	no are involved in highlion			
About Mediation	In order to promote a more civil society and to assist the District Court of Maryland in its m	ission, the Alternative Dispute			
Mission Statement	Resolution (ADR) Office of the District Court of Maryland works to:				
Locations	 Educate all participants (including judges, clerks, court personnel, members of the Bar, litigants and other ADR providers) on the uses and benefits of alternative dispute resolution programs; ♦ 				
Definitions of Terms	 Establish and maintain high quality alternative dispute resolution programs that empower litigants; Encourage the use of ADR options early on and throughout the litigation process. 				
FAQ	Ensure that the ADR options are appropriate and accessible.				
For Volunteers					
For Interns					

Figure 25. Final lower level design with shortened navigation.

This second solution was selected as the final design. In this design the users can navigate the first two levels of the structure of the site on the top global navigation. Once a category is selected, its title is presented in the heading over the left-side local navigation and the breadcrumbs. The local navigation within that category is presented on the left side menu. Ten pages were implemented in this sample subsite implementation. The code for the subsite implementation was transferred to the Judiciary.

The final templates are implemented using HTML, CSS, PHP, JavaScript, and jQuery. The navigation menus are coded in HTML and implemented into each page through PHP includes. The drop down functionality of the main navigation is implemented by nested "UL"s, and using CSS to define the "drop down" effects. The feature window with changing images is implemented using the jQuery cycle plugin. The jquery file included with the templates to manage this implementation is "jquery.cycle.all.js". Information for this plugin and its features can be found at http://jQuery.makeup.com/cycle/.

The lower level and sub site implementation adds the accordion menu to the left sidebar. The accordion effect is accomplished using a combination of Nested ULs JavaScript, CSS, and PHP. The behavior of the accordion menu is controlled using the JavaScript file "menu.js" and the jQuery library is "jquery.min.js". Modifications to the accordion menu behavior should be made using the "menu.js" file. The layout of the accordion menus is handled by CSS in style.CSS and styleIE.CSS. The menu itself is implemented on the pages using PHP includes. In order to highlight the appropriate pages the menu code includes a PHP script to retrieve the name of the current page. PHP If statements are used to highlight the appropriate navigation items in the list.

For the sub site implementation, the sidebar menu includes only links listed under "before going to court". The top two levels of the navigation are still available through the global navigation at the top of the page. The accordion menu can be configured to show up to 4 levels.

The final subsite template implementation has been evaluated to assess its accessibility. Dr. Ravi Kuber used the JAWS screen reader, the WAVE, W3C WCAG HTML, and W3C WCAG CSS validators, and reviewed the code to ensure the all the elements of the sub-site are accessible. The code passed all the checks and validations.

Some of the solutions that make the site accessible are:

- Users of screen readers can listen to all the menu items via JAWS using keystrokes.
- There is an invisible skip link option at the beginning of the left-hand menu, giving screen reader users the option to move to the main content rather than having to listen to the menu options each time.
- The pages resize very well keeping all formatting and content intact which is important for users with lower levels of vision.
- There is an invisible label next to the search box for users of screen readers to aid the searching process.

6. Website Index

The term website index is sometimes used to describe either an A-Z index of web content on a site or a topical site map that reflects the navigation structure of the site. In this report we use the term site index with its more traditional meaning of an A-Z index. Website indices are easy-to-use tools for users to access web content based on their familiarity with back-of-the-book indices. Website indices usually contain an alphabetized list of web content chunks from the site where the labels have been gathered from the site's content. Synonyms and spelling variants are usually provided for labels. Multi-word phrases are usually included in their original and inverted forms. Sometimes topical groupings of labels are included to help navigation. The Web & Electronic Indexing Special Interest Group (<u>http://www.web-indexing.org/</u>) provides many useful resources for the creation of website indices, including a list of consultants. An alternate solution can be to hire a summer intern from a department of Library and Information Science, for example the University of Maryland's College of Information Studies (iSchool). Students of library and information science will have the sufficient training in indexing to create a usable site index.

The site index for the Maryland Judiciary website should be created after most levels of the hierarchy of the site and most of the content chunks have been defined. Cheryl Lemmens, an independent indexing and editorial services provider, describes the process of creating a site index for a specific website in the following steps:

"Web Site Indexing: Sample Index Faculty of Information Studies, University of Toronto

The FIS site index was created to provide a central point of access for users of the FIS Web site, in the traditional alphabetical back-of-the-book format - particularly appropriate for the former Faculty of Library and Information Science.

The Indexing Process

When I create a Web site index, I follow a set procedure to ensure that every indexable page is included and properly entered. Here's how it works:

* An alphabetical list template is set up - generally as a Word document first, although I sometimes work in HTML right away - with each letter of the alphabet entered from top to bottom. At this stage, the first entry is automatically "Home Page." A few other entries can also be made, using high-level site navigation elements as a guide. For the FIS Web site, these high-level entries included "About FIS" (inverted to appear as "FIS, About"), "People," "Programs," "Research," and "Resources." A main entry for contact links - which I usually word generically as "Contact Information" - can also be included at this stage.

* Each page of the Web site is visited, including all external pages accessible from the site.

* Each page and its URL (Uniform Resource Locator, or Web site address) are entered into the alphabetical list template. External links are identified, and any broken links are noted.

* Entries are inverted wherever appropriate so that the most important term appears first (e.g., "Alumni Association, FIS").

* Entries are posted in more than one place, if appropriate, to allow users to look up items under different terms. For example: "Dissertations (Completed)" is also posted as "Theses, Ph.D. (Completed)."

* "See" and "see also" references are added as necessary. For example: "Projects, Students - see Student Showcase."

* Entries are listed under their abbreviations or acronyms as appropriate, with "see" references. For example: "FISSC - see Student Council, FIS."

* Some entries are grouped together as subentries under a main entry that identifies their common theme. The main entry "Student Associations," for example, includes subentries for four such groups.

* Entries are formatted as hypertext links only where appropriate. The "umbrella" entries described immediately above, for example, are often presented in plain text because they serve to bring together a group of subentries that can be formatted as links.

* Links to each letter of the alphabet are added at the top, as well as "Back to Top" links for easier use.

* Finally, it sometimes helps to identify, and provide quick access to, the most important or most visited sections or pages of the site. For the FIS site index, I created a section called "Find it quickly!" to put these areas in plain view above the screen "fold."

I invite you to visit the FIS site index and to see whether your site would benefit from a similar alphabetical index. Such a systematic guide to site content - based on the same principles as the traditional, familiar back-of-the-book index - can only enhance your online presence, and will certainly help your users find what they're looking for. "

Source: http://www.lemmens.ca/websample.htm, accessed June 20, 2011.

Her recommendations are very detailed and thorough and the resulting index will have many useful features for the users of the Judiciary website. If an index of this complexity is selected for the final implementation, the layout format recommended by Cheryl Lemmens can be followed:

http://www.lemmens.ca/FIS Site Index.pdf (accessed June 20, 2011)

If a less complex index layout is selected, then a two- or three-column format for the alphabetized index list can be used, such as in these two examples:

🐃 In	ternationa	1		What	s New Site M	ap Site I	index Contac	t Us Glossary	
Э й	lonetary Fu	ind						Search	
Home	About the IMF	Research	Country Info	News	Videos	Data an	d Statistics	Publications	
						See A	lso		
	Website In		N O P Q R S	T U V	W X Y Z	•	IMF Count Informatio		
			J				IMF Memb	ers'	
Accrued Int	terest, treatment of		Jamaica				Quotas and		
Address			Japan				Power, and	Board of	
Administra	tive Tribunal of the I	MF	Japan Administere	ed Accounts	For Technical		Governors		
Afghanista	n, Islamic State of		Assistance and Tr	aining		- F	Site Map		
Albania			Jordan				First Time		
Algeria			Job Opportunities				First 1 ime	VISITORS	
Angola			Joint Africa Institu	te		- E	Business H		
Annual Me	etings			Joint BIS-IMF-OECD-World Bank Statistics			Holiday Schedule		
Annual Rep	port		on External Debt						
Antigua an	d Barbuda		Joint Staff Advisor	·			Free Email No	otification	
Anti-Money	/ Laundering		Joint Vienna Instit			Receiv	e empile when	wa post paw	
Architecture, International Monetary System		Joint World Bank-IMF Library				Receive emails when we post new items of interest to you.			
Archives			Journalists Page				ribe or Modify y		
Argentina									
Armenia, R	tepublic of		JVI Joint Vienna I	nstitute					
Article IV, I	List of Recent Consul	tations	K			^			
Article IV M	lissions, Concluding	Remarks	Kato, Takatoshi						
Article IV S	taff Reports		Kazakhstan, Repu	ublic of					
Articles of a	Agreement		Khan, Mohsin S.						
Aruba, King	gdom of the Netherla	nds	Kenya						
Asia and th	he Pacific, Regional O	Office for	Kiribati						
Asian Crisi:	5		Korea, Republic o	f					
Australia			Kosovo						
Austria			Kuwait						
Author Info	ormation		Kyrgyz Republic						
Azerbaijan,	, Republic of		L			A			
Assessmer	nt Letters		Lao People's Dem	ocratic Repu	iblic				
3			Latvia, Republic o	f					
Bahamas,	The		Lebanon						
Bahrain, Ki	ingdom of		Legal Issues and Governance						
Balance of	Payments		Lending						
Balance of	Payments Online		Lesotho						
Banglades	h		Letters of Intent						
Banking Sy	/stem		Liberia						
Desta das		Library							

Figure 26. International Monetary Fund index: <u>http://www.imf.org/external/siteindex.htm</u>

🌐 The Wo						p • Index • FAQs	
About	Countries	Data & Research	Learning	News	Projects & Operations	Publications	Topics
					Search	Al 👻	GO
		e World Ba	nĸ				
Home > S	ite Index						imail 🎒 Pri
Site Inde	ex						
						Available in: Españo	Connector 1
							i, <u>Français</u> , <u>e</u>
	A- B- C	- D - E - F - G - H - 1	- J- K- L- M	I-N-0-	P- Q- R- S- T- U- V-	W- X- T- Z	
A				к			
		e on Development Econ					
(ABCDE)		e on Development Econ	iomics		azakhstan anya		
About Us					ribati		
Acronym	s of the World	Bank			nowledge Sharing		
Afghanis	tan			Ko	orea		
	trative Tribunal				SOVO		
	Services				sovo, Rebuilding		
	ub-Saharan				uwait		
	re & Rural Dev	elopment		Ky	rrgyz Republic		
Agricultu AIDS/HI	ral Extension						back to to
AIDS/HI AIDS-Eco				L			
Albania	JIIOIIICS			1.5	bor Markets		
Algeria					ind Policy		
Angola					ind Resources Management	t	
		e of Development Econ	omics		IO PDR		
Annual N					tin America and Caribbean		
Annual F					itvia		
Anti-Cor					w & Development		
	& Barbuda				banon		
Arabic La Archives	anguage Site				nding & Assistance		
Argentin					nding Instruments sotho		
Armenia					beria		
	of Agreement				brary Site (Bank-IMF) & JOL	IS	
Art Prog	ram				bya		
	rnative Energy	Program			felong Learning		
Ask Us				Lif	thuania		
Austria					ttle Data Book		
	id Human Influ	enza			ans & Credits		
Azerbaija	311		back to top		w-Income Countries Under	Stress	
в			Sack to top	Lu	embourg		back to to
				м			Sacre of the
Bahrain Banglad	ash				(D. (.))		
	cuments				'R of Macedonia		
Barbado					acroeconomics & Growth adagascar		
Belarus	-				adagascar alaria		
Belgium					alavi		
Belize					alaysia		
Benin					aldives		
Bhutan				Ma			
	Documents Bio	diversity			aps		
	Governors				arshall Islands		
	Executive				auritania		
Bolivia Bond Of	fering & Debt S	ocurition			auritius		
	ind Herzegovin				edia Contacts		
Botswan		a			ember Countries axico		
Brazil	-				exico iddle East and North Africa		
Broadcas	st				Micronesia		
B-Roll Fo	ootage				illennium Development Goa	ls	
B-Span:	Webcasting fo	r Dev't			ning		
Bulgaria					oldova		

Figure 27. The World bank: http://web.worldbank.org/WBSITE/EXTERNAL/0,,contentMDK:20130466~pagePK:50016803~piPK:500 16805~theSitePK:13,00.html

In addition to the site index, a topical site map can be easily created based on the navigation system, such as the New York Times' Site map (notice that they use the term site index for their site map):

New Hork Eines Member Center					
Times.com Go to a Section 🕨					
NYT	Since 1981 👻 Search				
Member Center Home	Your Profile E-mail Preferences	Purchase History	Site Help		
member center nome	Tour Frome E-man Frenerences	Purchase history	and help		
Site Index		News Opinion Feature	Ires Services		
News					
Today's Paper World - Africa - Anaricas - Asia Pacific - Middle East - Europe US - Education - Education Life - Washington New York Region - The City	Business • Morid Business • Your Money • DealBook • Markets • Company Research • Mutual Funds • Stock Portfolio • Alerts Technology • Circuits • Product Reviews Science • Environment • Stace & Cosmos Health • Health Care Policy • Mental Health & Behavior Obiluaries	Weather • N.Y.C. Netro • U.S. Regions • International • Travel Forecast Szorts • Baseball • Basketball.College • Basketball.College • Football.Pro • Gottall.Pro • Gottall.Pro			
Opinion					
Editorials/Op-Ed					
Features					
Automobiles • Find New Cars • Find Used Cars • Car Reviews • Ownership and Buying C	Theater • Current Shows: Broadway • Current Shows: Off Broadway • Current Shows: Off Off Broadwa • Current Shows: London Reviews	<u>Multimedia</u> • <u>Video</u> <u>Learning Network</u> • <u>Student Connections</u> • <u>Teacher Connections</u>			

Figure 28. New York Times site map: <u>http://www.nytimes.com/ref/membercenter/help/siteindex.html</u>

7. FAQ Pages

Frequently asked questions (FAQs) are often included on websites to answer those questions that the users of the site most often pose to helpdesks. FAQs usually include information about the use of the website, the conditions of the services provided, technical information about products and services, and other information that users frequently request. The Judiciary website FAQs include information related to legal problems.

The current FAQ overlaps with the content under the planned Legal help section of the site to a large extent and the questions are very similar to those presented on the homepage lists. In consultation with the Judiciary team the following design solution was developed. Questions from the FAQ list will be combined with the two lists of questions and topics presented on the homepage. The extended list will be presented on a page that can be accessed from a link under the last item of the two lists on the homepage and from the FAQ link in the upper right hand corner of the homepage and other pages, as shown in Figure 29.



Figure 29. Access to the FAQ pages.

In FAQ pages it is a good idea to organize the questions by topics. Since this is the same type of information as the legal help, it is recommended to group the questions into the same groupings. Another useful feature of FAQ pages is to select a set of the most frequently asked questions and present those both in their topical groups and as a separate "Top Questions" group. These can be the same as the ones on the homepage.

The FAQ pages should first present a list of topics and then questions related to those topics. The questions should be differentiated from the answers visually. The following two examples show possible layouts for the topically-organized lists of FAQ questions:



Figure 30. Colorado Judiciary - tab based system of FAQs: http://www.courts.state.co.us/FAQs/Index.cfm

ETS HOME GRE HOME FO	R TEST TAKERS FOR INSTITUTIONS SEARCH: ETS.ORG	Go
€ GR		STORE FAQs CONTACT US
	FOR 1	TEST TAKERS
ETS Home > GRE > General Test	> Frequently Asked Questions	
Revised General Test (If you test on or after August 1, 2011) General Test	For Testing Before August 1, 2011	
(If you test <i>before</i> August 1, 2011)	Frequently Asked Questions About the GRE®	
About the Test	General Test	
Register for the Test		
Prepare for the Test	The current GRE® General Test will be administered through July 2011; however, dates and times will vary by location and availability. Seats will fill up quickly so candidates are	Ready to take the GRE® General Test?
On Test Day	encouraged to register early. Administrations from July 24, 2011 – July 31, 2011 are currently	Register Now >
Scores	reserved for special ETS administrations as well as system preparation for launch of the	
 Frequently Asked Questions 	GRE® revised General Test on August 1, 2011. Prospective test takers can get the most up-to-date information on test center availability through the <u>GRE online registration system</u> .	The GRE revised General Test is Coming
Subject Tests	+ General Questions	With changes that can mean good news for you. Learn more >
	+ Test Content	
	 Test Administration 	Tools for Success GRE® Search
	How is the GRE General Test administered?	Service, ETS® Personal
	The GRE General Test is administered in a secure testing environment on a	Potential Index,
	continuous basis at computer-based test centers in most locations around the world.	the ETS My Credentials Vault SM
	In addition, the paper-based General Test is administered up to three times per year in regions of the world where the computer-based test is not available.	service and more. Learn more >
	+ Computer-based GRE General Test	Test Prep from ETS Nobody knows our tests
	Registration	better than we do. We offer free practice tests,
	How do I register for the computer-based GRE® General Test?	tips and software to help you prepare for your GRE
	You can register for the computer-based GRE General Test online, by phone, by mail	General Test. Learn more >
	or fax. For more details see: <u>Register for the Computer-based GRE General Test</u> . How do I register for the paper-based GRE General Test?	GRE General Test for

Figure 31. ETS – collapsible categories for the FAQ: <u>http://www.ets.org/gre/general/faq</u>

After considering these examples, the Judiciary team drafted the screen below for the combined topic/question FAQ page:

How do I	I want to hear about		
 Search Court Pay Traffic Ticket 	 Domestic Violence Custody & Family Issues 		
 + Family Issues[topic headings which will drop down to the following questions similar to the ETS site you referenced] • How can I get a divorce? 			

- How do I get custody of my child?
- · How do I increase Child Support?
- How do I increase my visitation rights?
- How do I change my name?

+ E-Services

- Can I pay my traffic ticket online?
- How can I get my case record removed from your website?Can I pay my fine online?

+ Jury Service

- How much will I be paid?

- Can I get out of Jury service?
 Can my employer fire me if I have to serve on a jury?
 What is the difference between regular jury service and Grand Jury service?

Figure 32. Draft design for the modified FAQ page by the Judiciary team.

Appendix 1. MD Judiciary Website Redesign Code Transfer Meeting Questions

MD Judiciary Website Redesign Code Transfer Meeting Questions

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Code Questions: These have been discussed in the meeting with Thomas Wilhelmy and Patrick Carrington. The necessary code sections have been identified and described.

- 1. css need lay out and explanation screen and print css
- 2. identify JavaScript used
- 3. drop down menu code thoroughly explained so we can modify as needed. How to keep it accessible?

Technical Questions:

- What should be used as font standards, i.e., use em, pt or px The W3C recommend using 'em' for setting font sizes, compared to 'pt'. There's more information at: <u>http://www.w3.org/TR/WCAG10-CSS-TECHS/#units</u>
- 2. How will we manage changes to the global navigation through the use of includes? Are includes accessible?
 - Includes are implemented to be accessible in the templates.
- 3. Are rotating images accessible? The rotating images are also implemented to be accessible using a jquery plugin called cycle. More information on this plugin can be found at <u>http://jquery.malsup.com/cycle/</u>. The markup for the images and captions are hardcoded onto the page. Make sure to include alt tags for any images added.
- 4. What is your recommendation for video format and webcasts in the future html 5 vs. flash? For HTML5 guidance, examine the ARIA guidance at http://webaim.org/techniques/aria/ and the list of support at: http://www.html5accessibility.com/. To make Flash accessible - http://webaim.org/techniques/flash/ Whichever is selected, try to caption each video and test this with screen reader users, to ensure that the captions are accessible. If captioning cannot be done, transcripts provide a good alternative.
- 5. Can you recommend analytic tools we are currently using Webalyzer. Our team has experience with Google Analytics and WebLogExpert (<u>http://www.weblogexpert.com/</u>) and both have been judged to be useful tools.
- 6. Will the designs be tested for cross browser compatibility? The templates have been tested in IE7, IE8, IE9, Firefox, Safari, Chrome, and Opera.
- What should we consider in the future to deliver content and gather content FormRouter, PERL, or something else?
 There was discussion of various recommended technologies (mySQL, PhP, Perl, Ruby), and

There was discussion of various recommended technologies (mySQL, PhP, Perl, Ruby), and a suggestion that Ted could provide contact information for his company that deals with web database solutions.

Usability Questions:

1. How do we include breadcrumbs on all pages?

While attempting to add the breadcrumbs it was found that the chosen solution will not work in UMBC userspaces area due to a lack of access to the servers root folder. The solution is simple but the Judiciary will have to test the configuration on their own server. Some suggestions:

- Build the hierarchy to match the desired breadcrumbs structure
- Test while only a few pages to maintain

- The file name for the pages will appear as the last "crumb", unless modified in the "backlinks.php" file
- Refer to "www.mindpalette.com/tutorials/breadcrumbs/index.php" for more information and helpful tips for modifying the appearance of the breadcrumbs.(towards the bottom of the webpage)

Other potential alternative solutions can be:

http://stackoverflow.com/questions/2594211/php-simple-dynamic-breadcrumb http://duvinci.com/projects/javascript/crumbs/

2. Concerning social media - rss feeds, blogs, smart phones, apps, etc., how best to implement on the site?

A twitter account can be set up to communicate news. The RSS feed can be maintained. Of the Facebook functions, the most basic function that can be added is the "Like" button which allows users to share content with their friends. If this is implemented, the verb "recommend" is probably a better option for the Judiciary site than the verb "like". Since additional social plugins with Facebook functionality are not in widespread use at this time, it is not recommended to include them on the site since it can cause confusion for users who are not frequent and expert users of these tools. Another optional solution can be to set up a Facebook page for the organization to communicate in addition to the Twitter account. However, updating and maintaining these should be appropriately planned as an inactive and out-of-date Twitter account or Facebook page can have a negative impact on the brand. Another important consideration is that the Judiciary site should cater to all citizens of Maryland and this group as a whole will not comprise of early adapters of social media.

- 3. Should we be designing the website for mobile devices? This is a policy decision. The use of mobile devices to access web content is widespread and will grow. However, the first priority should be to update the website and resources should be concentrated on this task.
- 4. Where should we place a mission statement? The About the Courts category from the global navigation and the bottom utility navigation bar are both good places for this and duplication between these two should not be a problem.
- Regarding the media section (images, videos) how often should they be changed?
 Since most of the users are members of the general public and will not visit the site daily, it is sufficient to change this content once a month or at most once every two weeks.
- 6. Are the topics under "How Do I" and "I Want to Learn About" sections determined by log files, interviews?

The list that is implemented in the templates is based on the results of our research.

Accessibility Questions:

- Should we incorporate an "increase font size option" is this a worthy accessibility feature? Since browsers can provide this functionality, it is not necessary to implement it in the site itself.
- 2. Should we use "skip to navigation" for secondary pages and beyond? This is implemented in the templates.
- 3. Do we need to repeat navigation links at the bottom of the web pages for accessibility compliance? No need to repeat the information, as navigation links are clear on the prototype. In the event that the user needs to scroll for a long period of time, it may be advantageous to repeat links in this way
- 4. Can you recommend screen reader applications to test our current and future webpages? A trial version of a screen reader can be downloaded at no cost by designers and testers (e.g. JAWS - http://www.freedomscientific.com/downloads/demo/FS-demo-downloads.asp, Window Eyes - http://www.gwmicro.com/Window-Eyes/Demo/. The web pages can be tested using the screen reader to determine the following:

a. Did the screen reader access all of the content?

b. Was the alternative text for images appropriate and equivalent enough to convey the content and meaning of the image?

c. Was the reading order of the content logical?

5. Can you recommend tools to create accessible pdf files - currently using PAWs and Netcentric. Software such as CommonLook, PAW, Netcentric and Adobe Acrobat can be used to make PDFs more accessible through appropriate tagging. In the event that documents cannot be made fully accessible, alternatives to the documents must be provided (e.g. an accessible HTML version of a document instead of or in addition to the PDF).