User-Centered Design of Maryland Judiciary Website

Final Report

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Contents

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.
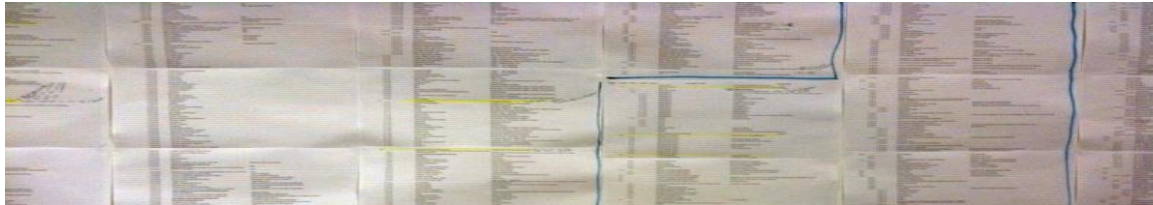

Figure 1. Web content inventory of the existing Maryland Judiciary website. This printout facilitated the creation of the new information organization.

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

2.3 E-Services:
Traffic Ticket
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
Educational Resources
Mock Trial

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
Apply for a Job

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

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.

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

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?

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.

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Table 1. Task 1 Information.

Task 1: What are the different courts in the Maryland Judiciary System?										
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
New 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	N	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

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.
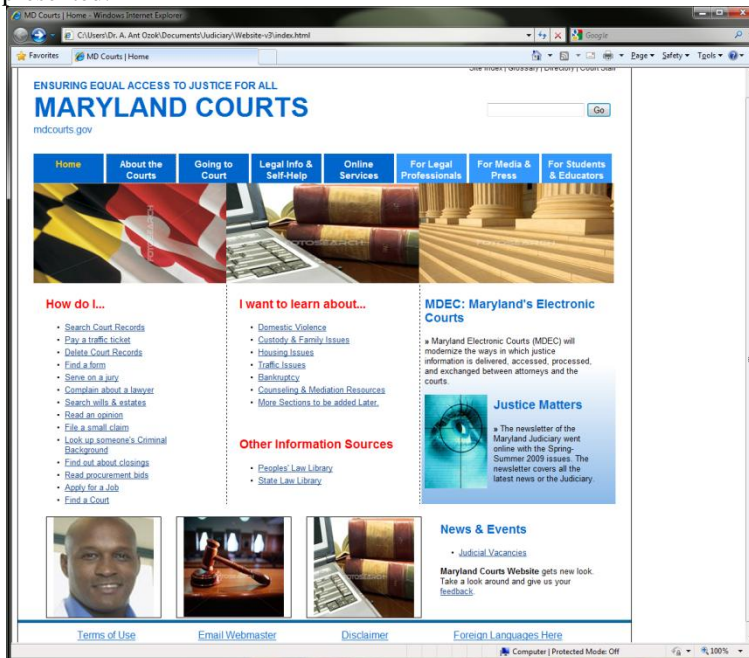
Figure 1. Home page of the new design.
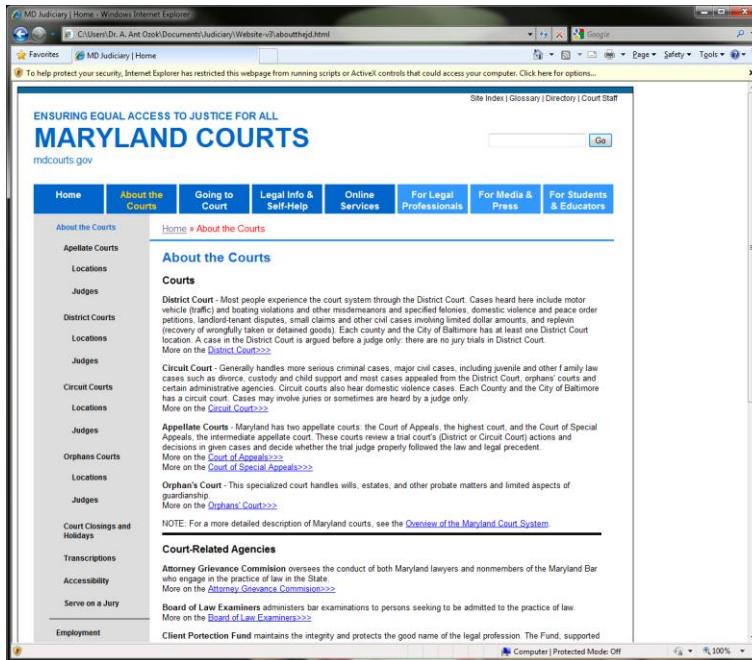
Figure 2. About the Courts Page.

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.
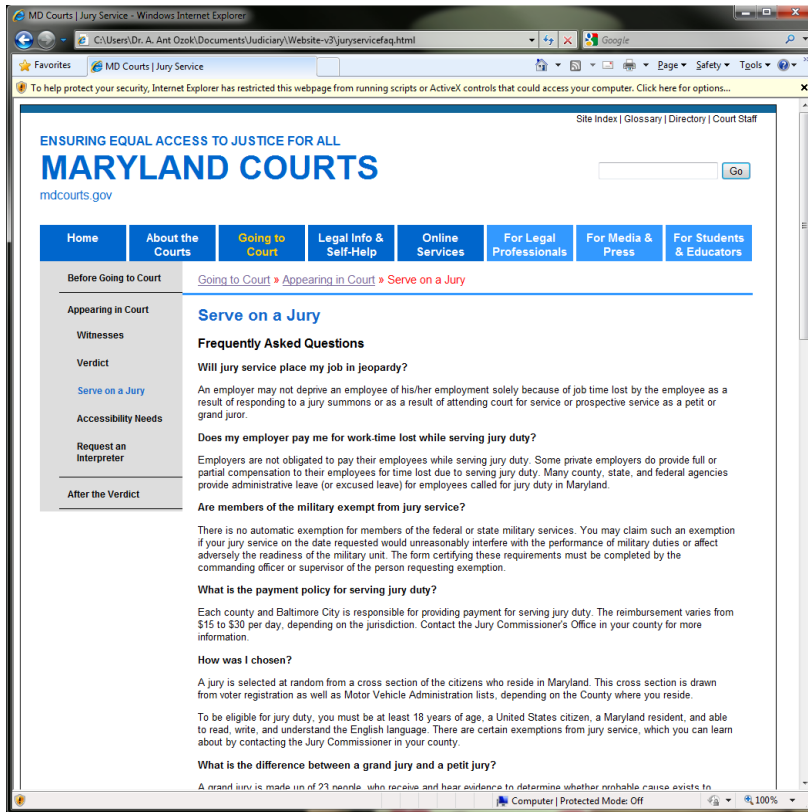
Figure 3. Serve on a Jury Page

Table 2. Task 2 Information

Task 2: 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?										
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
New Design										
Success/Failure	S	S	S	S	S	S	S	S	S	S
Ideal Path Y/N	N	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
Current Design										
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 results were significantly improved compared to those of the initial design where 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.
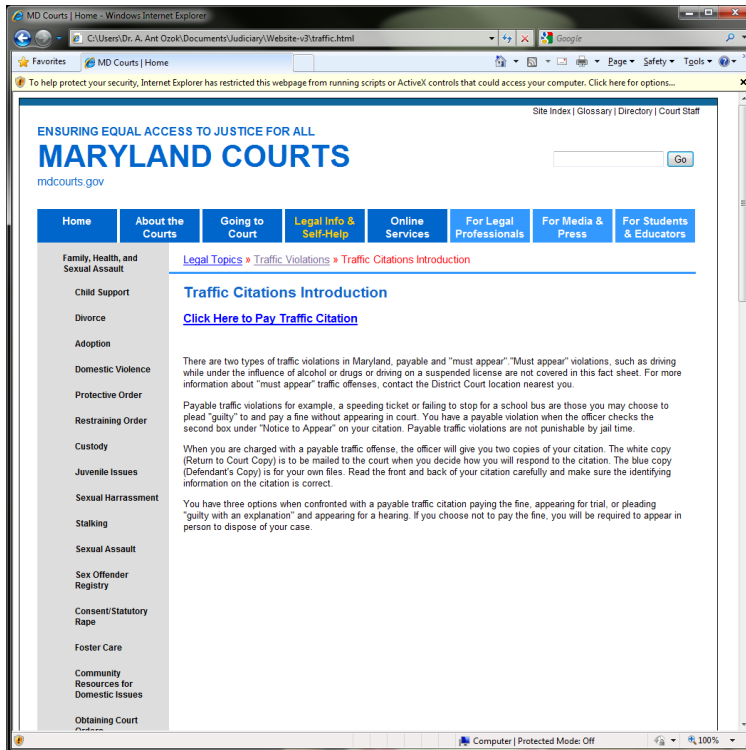
Figure 4. Page Containing Information on Paying a Traffic Violation

Table 3. Task 3 Information

Task 3: You need to pay a traffic violation. Find where you can make your payment online.										
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
New Design										
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	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)	00:25	00:41	00:50	00:39	00:34	01:17	00:34	00:40	00:14	00:19

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.
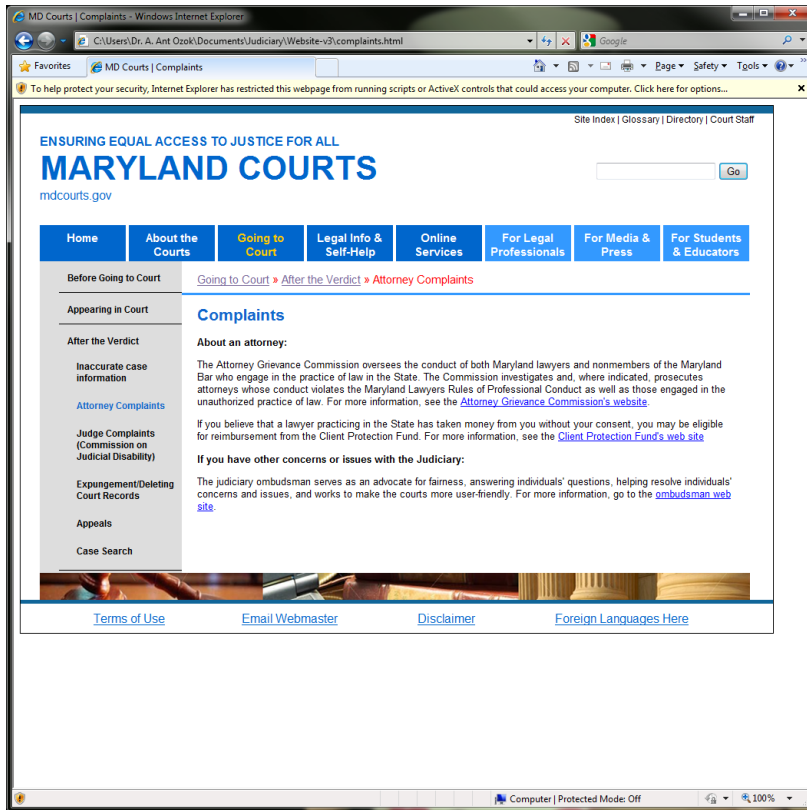
Figure 5. Attorney Grievance Information Page

Table 4. Task 4 information

Task 4: You don't think your lawyer is doing a good job on your case. Where would you file a complaint against your lawyer?										
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
New Design										
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	N
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

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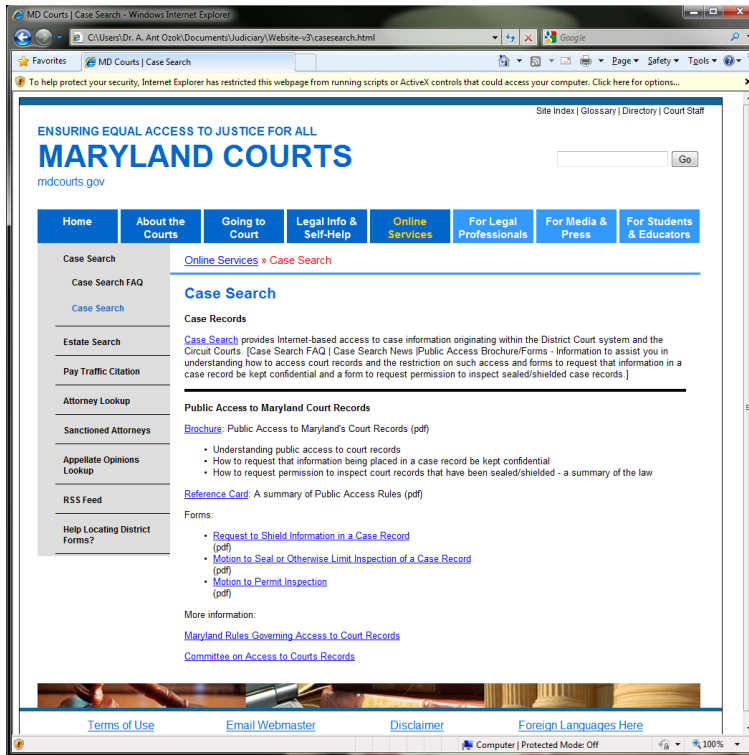
Figure 6. Page Containing the Form to Remove Information from a Court Record

Table 5. Task 5 information

Task 5: You want your personal information in a court case removed from the Judiciary's online CaseSearch tool. Who do you have to contact?										
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
New Design										
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.

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
New Design										
Success/Failure	S	S	F	S	F	S	S	S	S	S
Ideal Path Y/N	N	N	N	N	N	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	N
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.
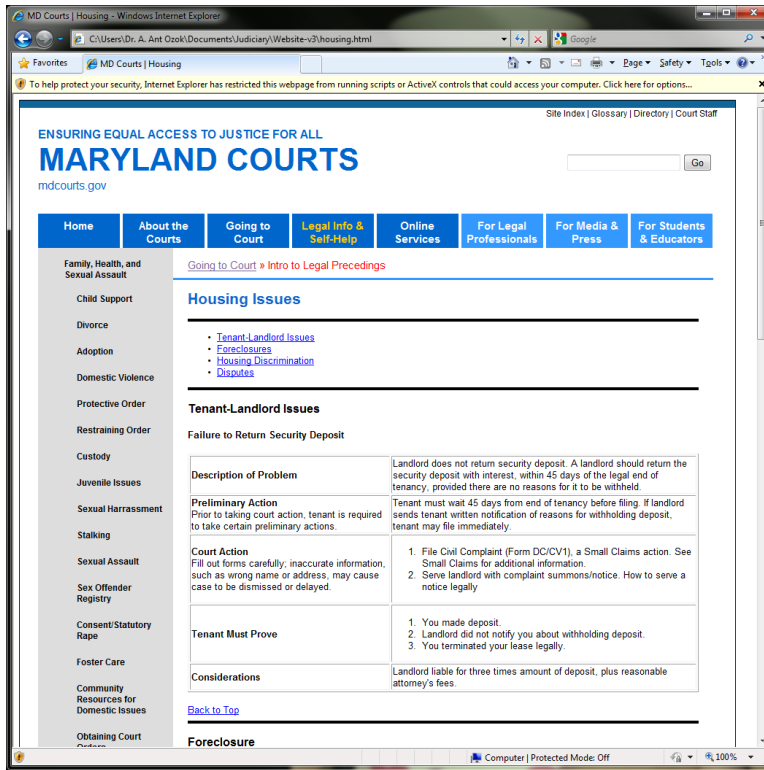
Figure 8. Page on Tenant-Landlord Issues

Table 7. Task 7 information

Task 7: Your former landlord hasn't returned your security deposit. Where would you find information on how to proceed in court?										
	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
New Design										
Success/Failure	F	S	F	S	S	F	S	F	S	S
Ideal Path Y/N	N	Y	N	Y	Y	N	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

Table 8. Task 8 Information

Task 8: You want to look up someone's criminal background. Please locate where you could find such court records.										
	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

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.

Table 9. Task 9 Information

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	N	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

Ideal Path Y/N	N	Y	N	N	N	N	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 10 Information

Task 10: You have been told you need to file a Civil Appeal Prehearing Information Report Form. Where would you find that 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	N	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.
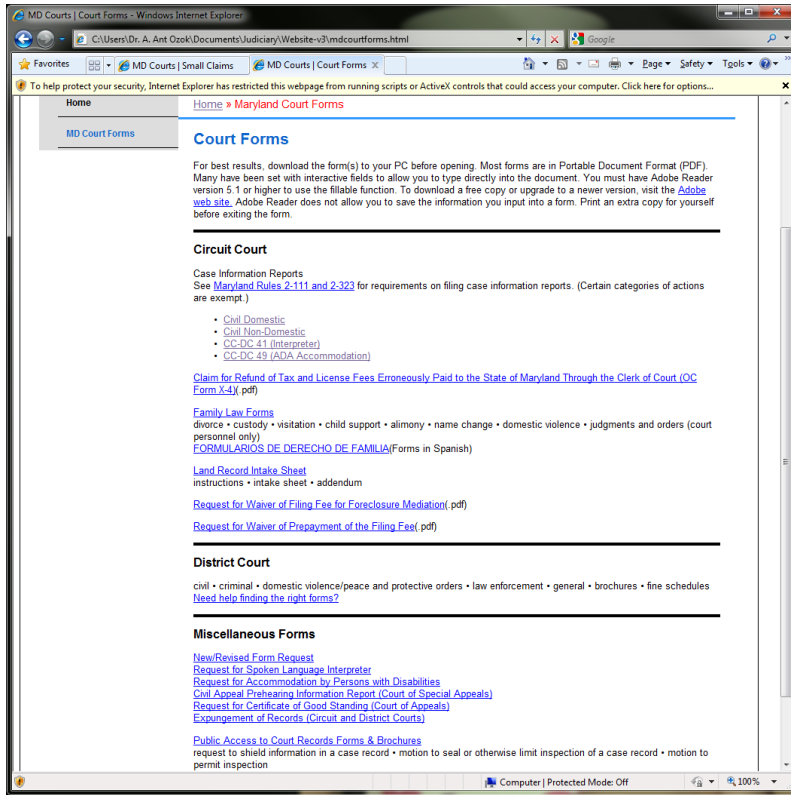
Figure 9. Court Forms Page

Table 11. Task 11 information

Task 11: 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?										
	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	N	N	Y	Y	N	Y	N	N	N	N
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	N	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

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.
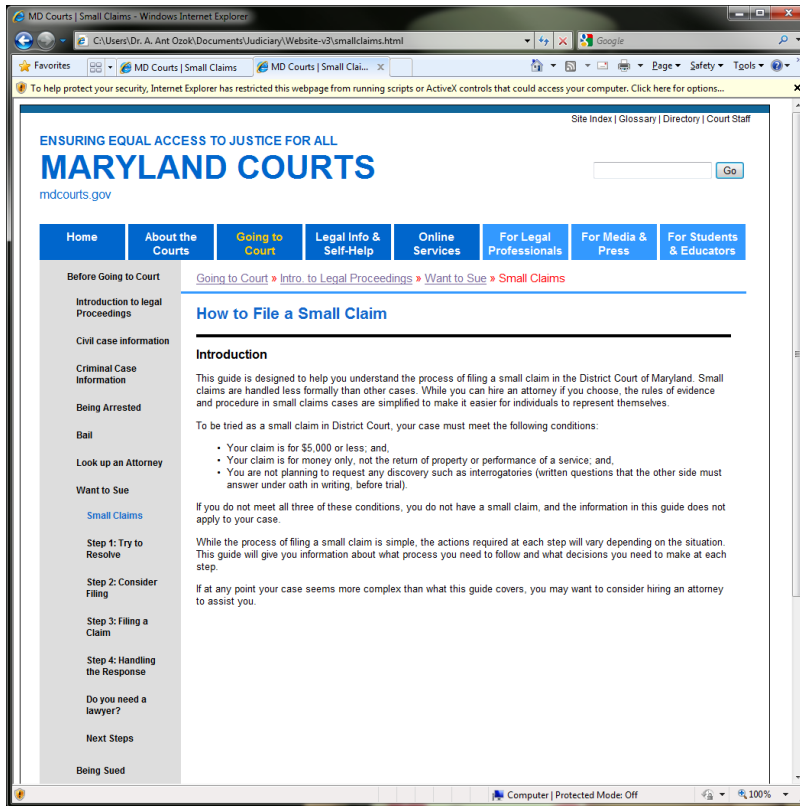
Figure 10. Filing a Small Claim Page

Table 12. Task 12 Information

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	N	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

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
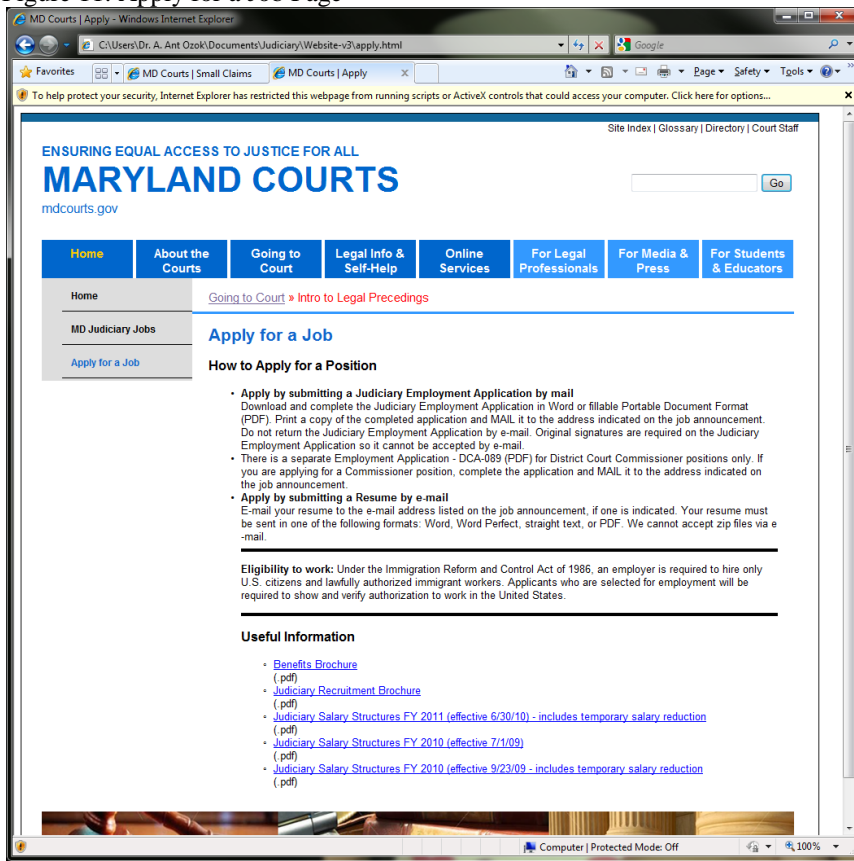
Table 13 summarizes the performance variable differences between the current and new designs, with significant time gains presented in bold. It is apparent that most tasks resulted in improved performance times and success rates. This allows for a potential recommendation for adoption of the layout and 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 Number	Average Completion Time-Current Design	Average Completion Time-New Design	Time Gain Percentage	Success Rate-Current Design	Success Rate-New Design	Ideal Path-Current Design	Ideal Path-New 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.

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

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 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."

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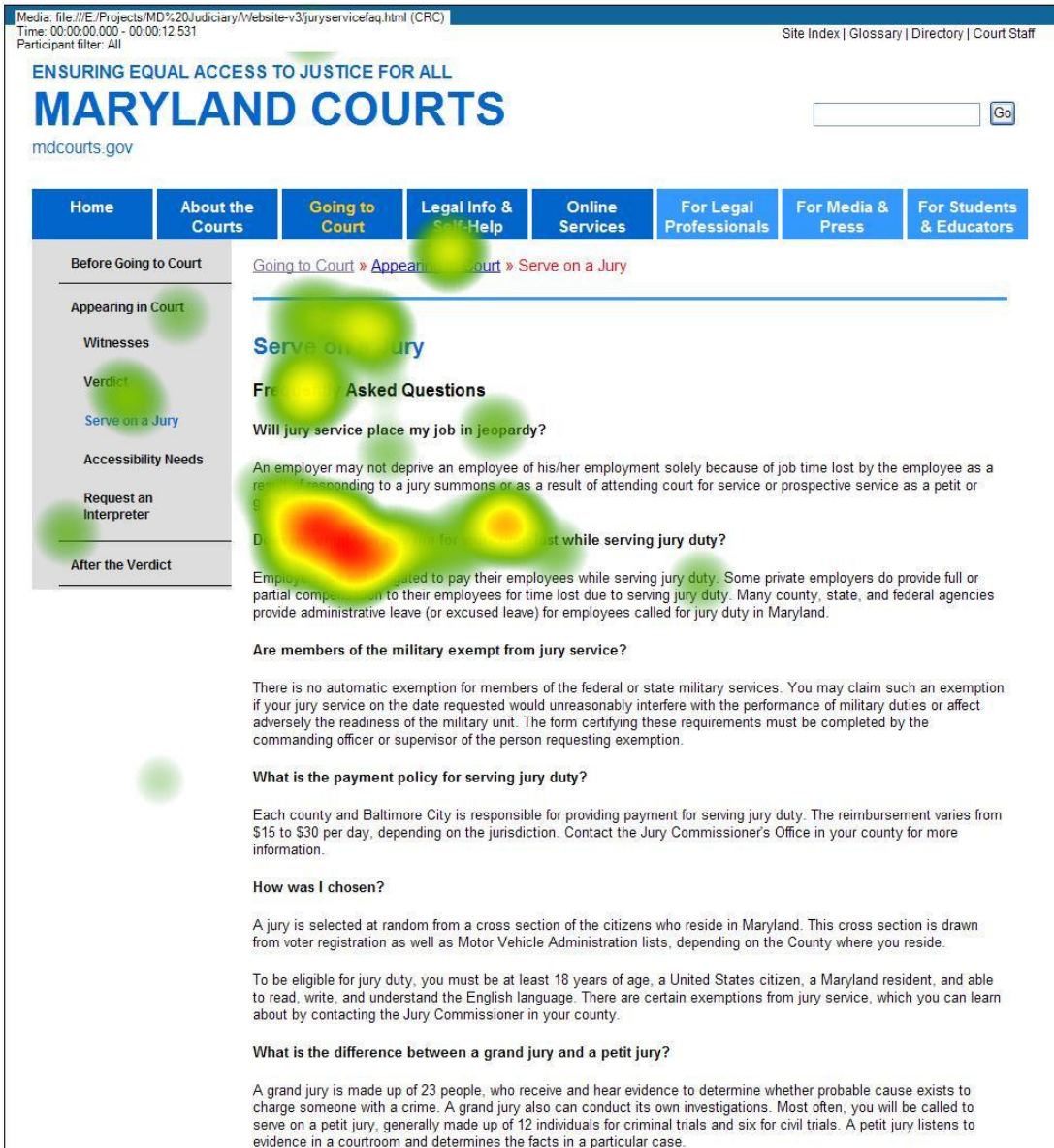
Figure 15. Task 3 (Traffic Violation) Heat Map Graphic

Figure 16. Task 4 (Attorney Complaint) Heat Map Graphic
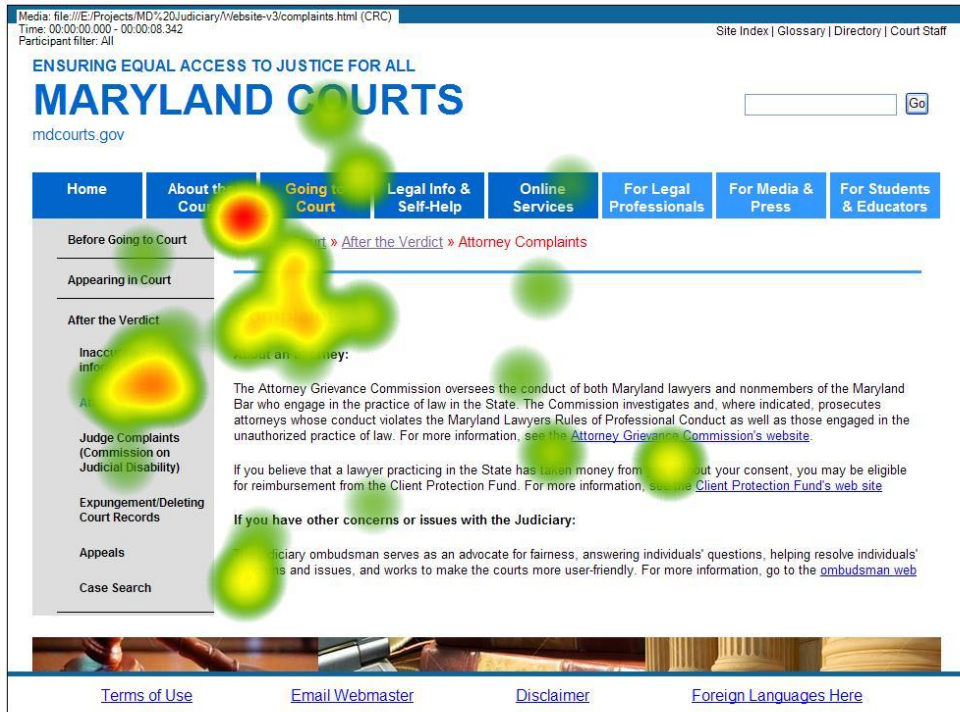
Figure 17. Task 5 (Court Record Deletion Request) Heat Map Graphic
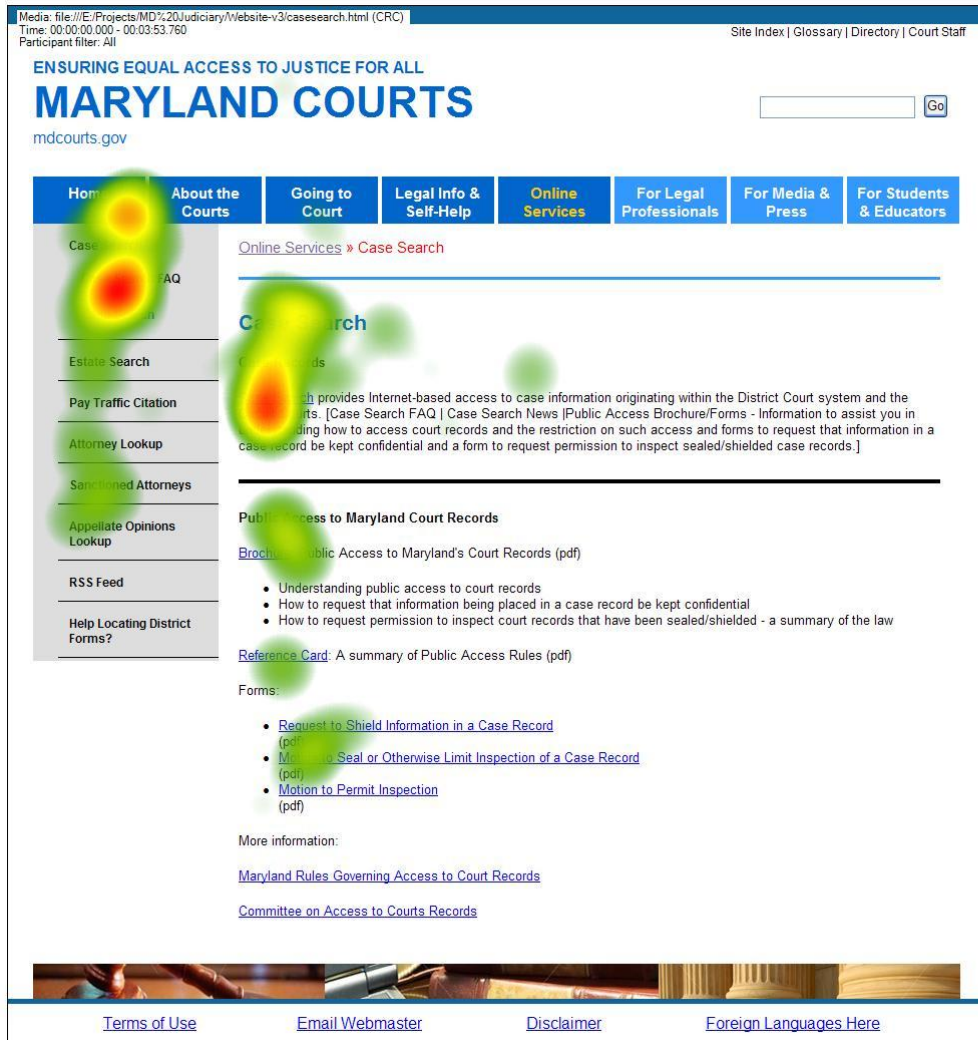
Figure 18. Task 6 (Wheelchair Access) Heat Map Graphic

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

Figure 20. Task 8 (Court Records Lookup) Heat Map Graphic
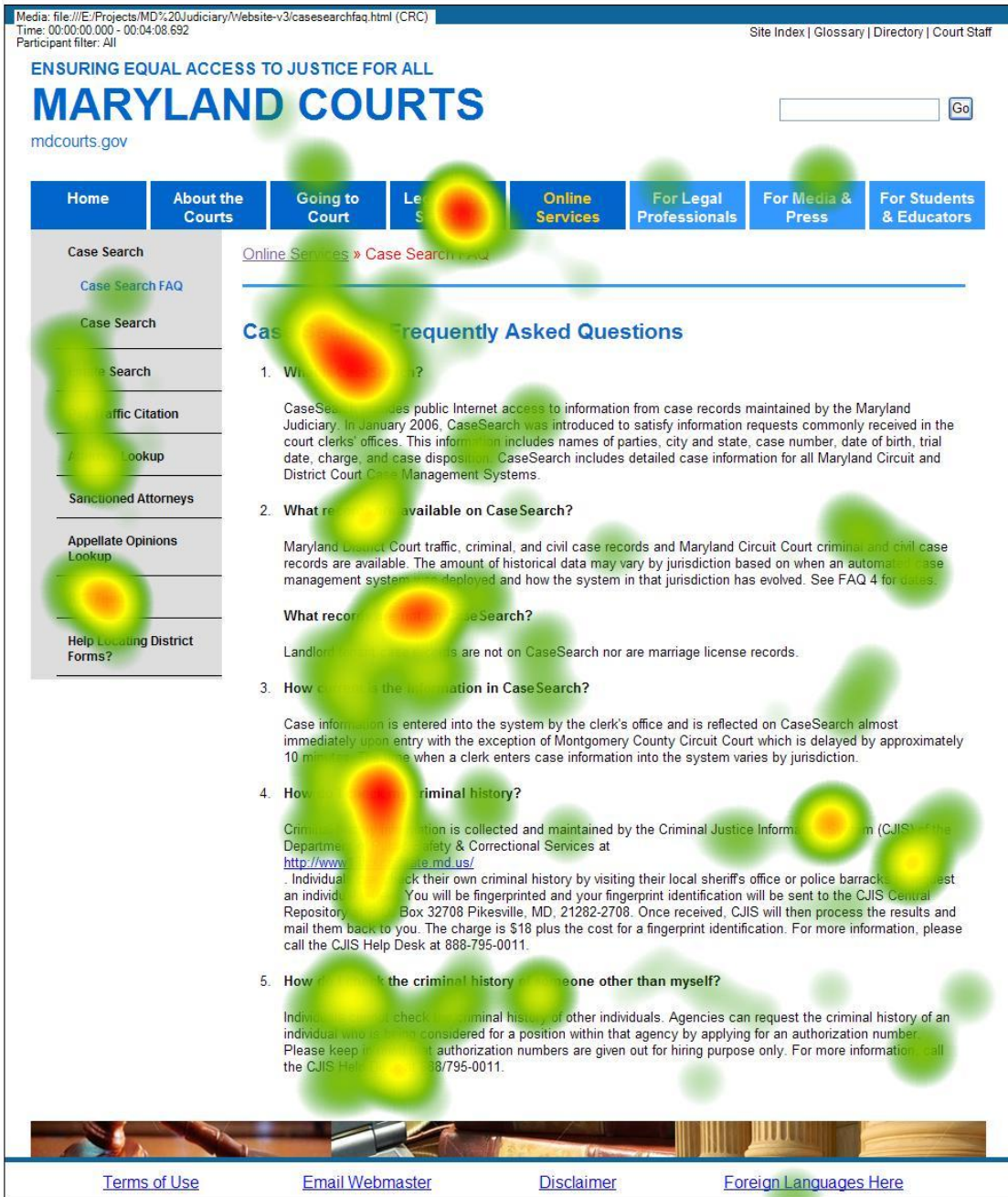
Figure 21. Task 9 (Neighbor Dispute) Heat Map Graphic

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

Figure 23. Task 11 (Small Claim Filing) Heat Map Graphic
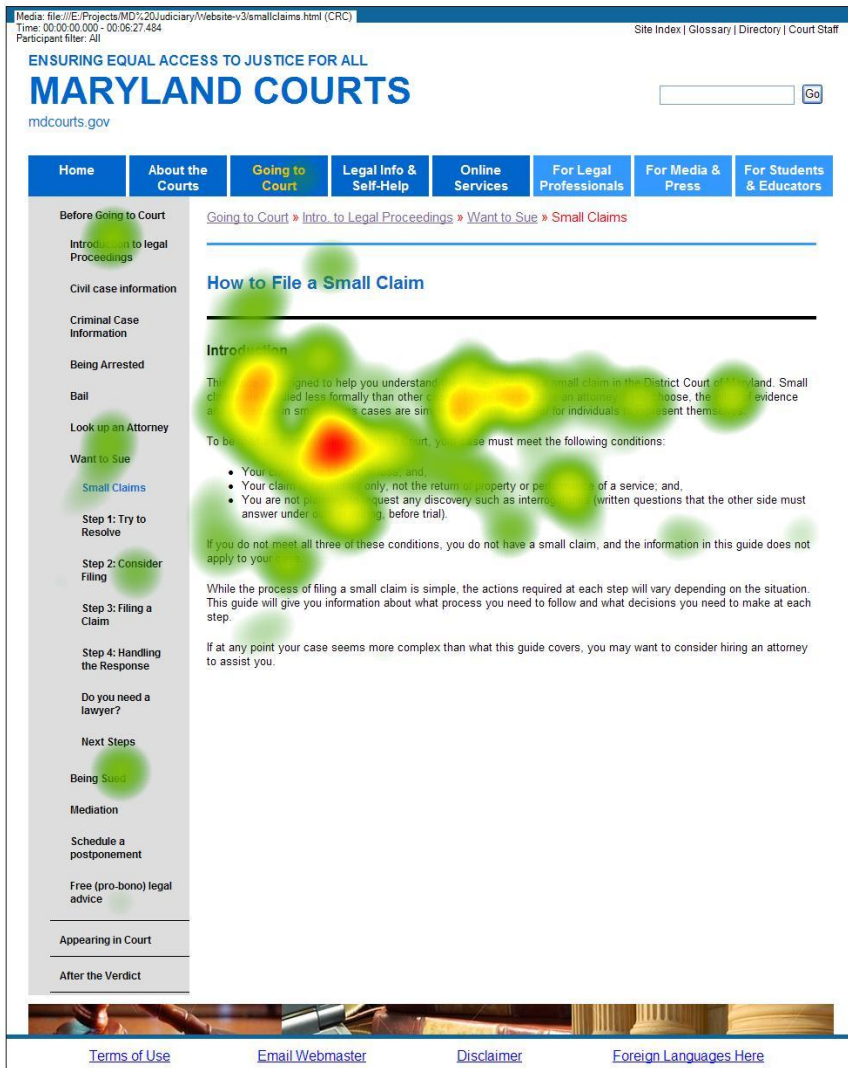
3. Web Accessibility Guidance

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 - http://jigsaw.w3.org/css-validator. 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 <th> tags will assist screen reader users to gain an overview of content. For tables used for decorative or layout purposes, <th> 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 Accessibility Compliance Checklist.

- 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: http://www.section508.gov/index.cfm?FuseAction=Content&ID=12. Recent updates are available at: http://www.access-board.gov/sec508/refresh/draft-rule.htm.

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

The Americans with Disabilities Act 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 http://www.plainlanguage.gov). 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 - 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?

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]

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

References

[1] Section 508 Law. Available: http://www.section508.gov/index.cfm?FuseAction=Content&ID=3
[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
  - 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
  - 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: http://user-experience.org/uefiles/navstress/
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.

Ensuring Equal Access to Justice for All

MARYLAND COURTS
mdcourts.gov

Site Index | Glossary | Court Staff

Search

Home | Courts | Legal Help | E-Services | Lawyers | Press | Education

Family Issues
Court Orders
Sexually Motivated Crimes
Mental Health Issues
Financial Issues
Traffic Violations
Register of Wills
Housing Issues
Healthcare Malpractice
Business License
Small Claims
Background Checks
Victim Assistance
Discrimination
Pro-Bono Legal Advice
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
  Ombudsman
  ADR/ Mediation
    About Mediation
      Mission Statement
      Locations
      Definitions of Terms
      FAQ
    For Volunteers
    For Interns
    Contact
In Court
Cases

Legal Help > Before Going to Court > Mediation/ADR > About Mediation

About Mediation

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Sarah Kauffman Data Management and Public Information Coordinator

Mission Statement

It is the mission of the District Court of Maryland to provide equal and exact justice for all who are involved in litigation before the Court.

In order to promote a more civil society and to assist the District Court of Maryland in its mission, the Alternative Dispute Resolution (ADR) Office of the District Court of Maryland works to:

1. 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;◆
2. Establish and maintain high quality alternative dispute resolution programs that empower litigants;
3. Encourage the use of ADR options early on and throughout the litigation process.
4. Ensure that the ADR options are appropriate and accessible.

For more information please E-mail us at:
adroffice@mdcourts.gov
Telephone:
(410) 260-1676

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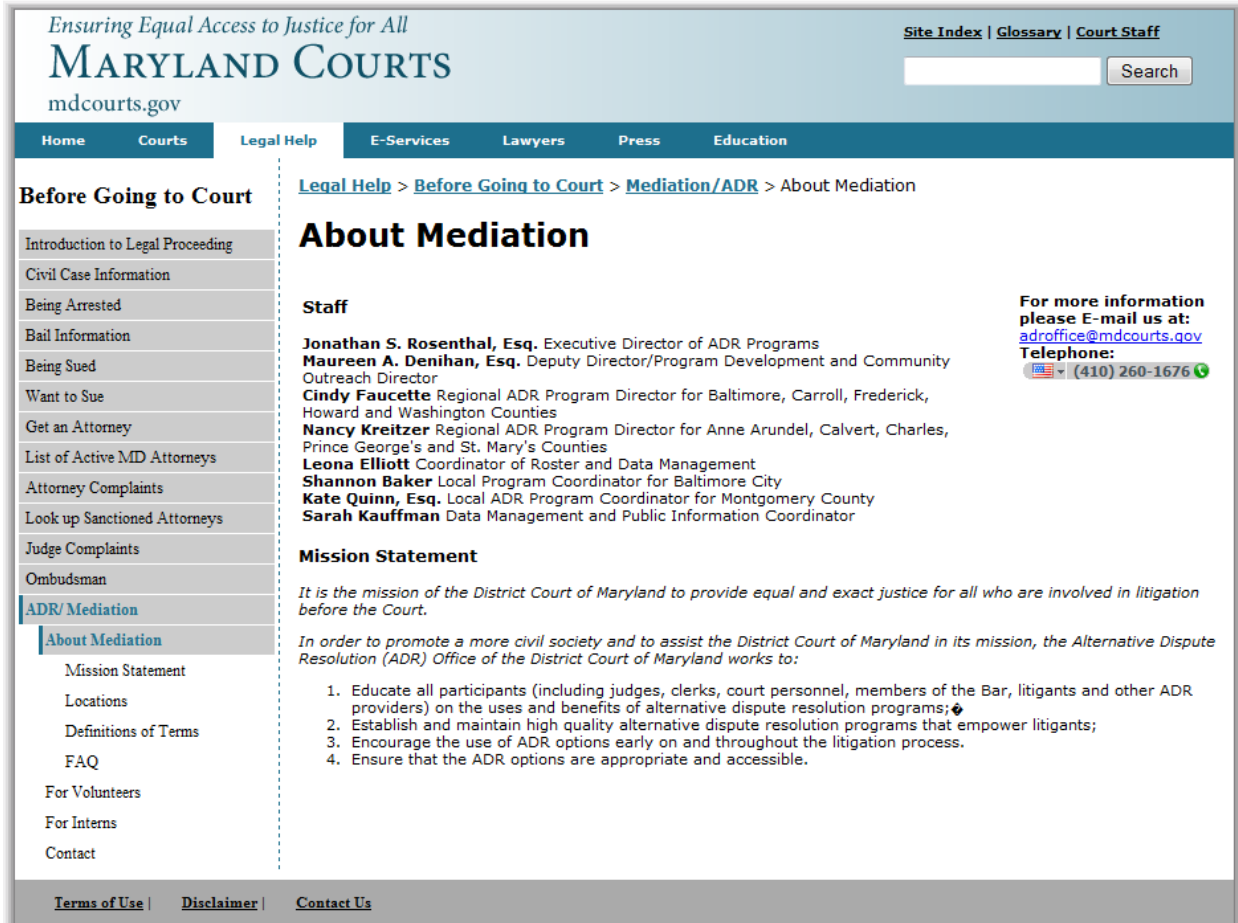Figure 24. Lower level designs with the lengthy navigation option.

Ensuring Equal Access to Justice for All

MARYLAND COURTS
mdcourts.gov

Site Index | Glossary | Court Staff

[Search]

Home **Courts** **Legal Help** **E-Services** **Lawyers** **Press** **Education**

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
Ombudsman
ADR/ Mediation
  About Mediation
    Mission Statement
    Locations
    Definitions of Terms
    FAQ
  For Volunteers
  For Interns
  Contact

Legal Help > Before Going to Court > Mediation/ADR > About Mediation

About Mediation

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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 (http://www.web-indexing.org/) 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:

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

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):
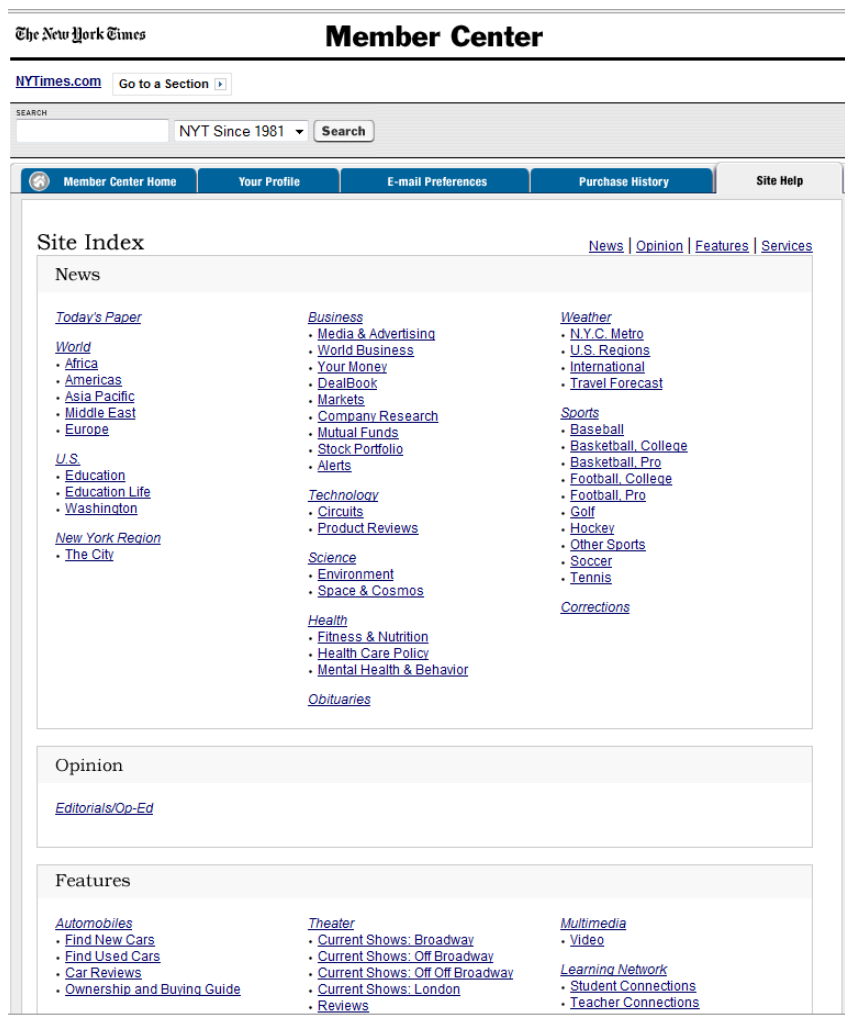

Figure 28. New York Times site map: http://www.nytimes.com/ref/membercenter/help/siteindex.html

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.
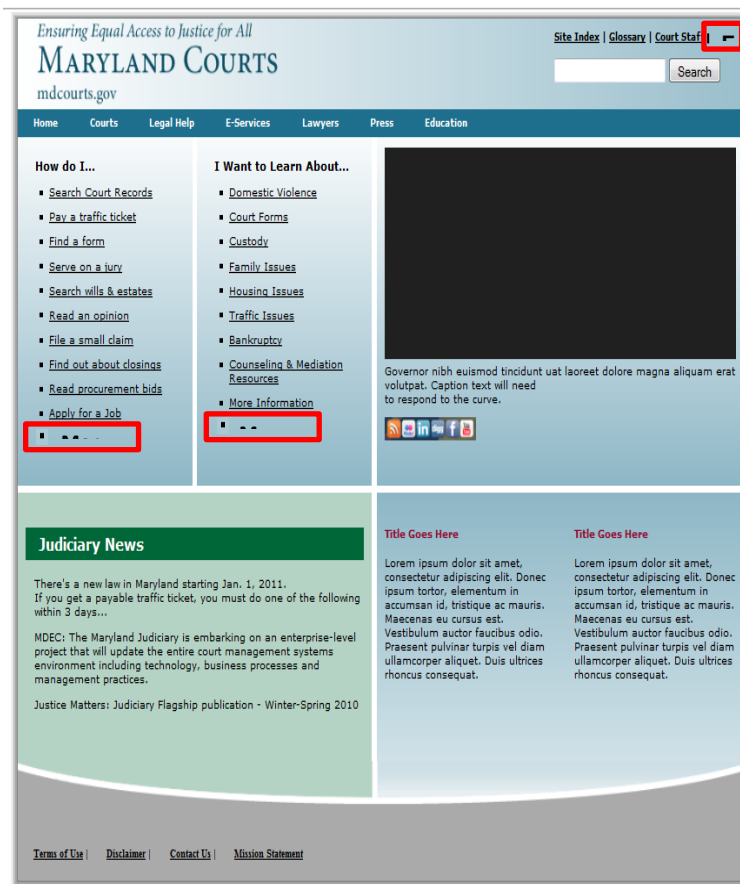
Figure 29. Access to the FAQ pages.

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

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

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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May 11, 2011

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:
1. 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:
   http://www.w3.org/TR/WCAG10-CSS-TECHS/#units
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 http://jquery.malsup.com/cycle/. 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 (http://www.weblogexpert.com/) 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.
7. 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 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.

5. 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:

1. 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).