

Investigation of Applying the Delphi Method to a New Card Sorting Technique

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Abstract

Open card sorting is a quantitative pre-design method which is used by information architects to gather information from users to aid in the design of an information architecture. There are a number of drawbacks to the method, some severe enough to compromise the quality and validity of the results. A modified approach to open card sorting called Modified-Delphi Card Sorting is proposed, modeled after a forecasting technique called the Delphi method which has been used in business, military and technology knowledge gathering. Instead of independent participant results which must then be analyzed as a whole, the proposed method conducts the study centered around a single result structure which can be more easily analyzed. Participants independently work together through moderated collaboration to provide their individual insights and be assisted by other participants' work. The method requires fewer participants for higher quality results which are more easily analyzed to produce material to aid in the design of an information architecture. A case study which was used to validate this method is also described.

Introduction

Card sorting is a participatory user-centered design activity which information architects use to gain insights how users of their designs organize and navigate information. Participants of a card sorting study are given a set of cards which contain a piece of information on each individual card. The participant then sorts the cards in to piles and labels them. This method is used to draw out underlying mental models of information and provide an artifact of those models which can be used by the information architect to find patterns for aiding in creating or validating a design.

There are several types of card sorting methods which are used in information architecture design. They can be categorized in to two types: pre-design methods used during the design process, and post-design methods used after an architecture is created. Pre-design methods are used to aid in the creation of an information architecture which includes open card sorting. Open card sorting is a method where participants sort cards in to piles with very few restrictions on what they can do. This method is meant to provide very early input in to a new design, especially when information is new or ambiguous. Analyzing results from this method provide a quantitative way to generate information to aid in design. Post-design methods are used to validate or add information to an existing information structure, such as close card sorting and its variations. Closed card sorting is a method where participants organize cards in to pre-existing categories, or add new cards to already sorted cards. Analysis of the qualitative and quantitative results from this kind of study are used to help validate or add new content to an existing design. A variation on the closed card sorting method is inverse card sorting, also known as a reverse card sort lookup. An existing structure is provided and participants are asked to find low-level content based on the high-level information provided to them. This is a quantitative way for validating a design, similar to a quiz or a test.

Addressing Open Card Sorting

This project is concerned with and addresses pre-design methods, particularly the strengths and weaknesses of open card sorting. Although relatively cheap to set up, open card sorting has hidden costs which make it unsuitable for a pre-design activity, especially on a small or tight development budget. Since open card sorting is often conducted as a quantitative method, it requires many participants in order to make any justifiable conclusions. Getting results from open card sorting works by finding strengths and relationships between many cards to come up with a general average of all the participants. Analysis methods include variations of affinity mapping and relevance calculations, but require many data points to form any conclusions.

Tullis and Wood (2004) present strong evidence of requiring 20-30 participants if you want a .90 to .95 correlation in your results. However in practice, many professionals typically use 5-10 participants in open card sorting. The large number of participants Tullis and Wood recommend is expensive for a validation study let alone a pre-design

activity. As a result, practitioners are sacrificing the quality of their results and use open card sorting as input for insight rather than an aid for generating a design.

Besides the costs involved in achieving reliable results, there are other drawbacks in using open card sorting. For participants, open card sorting is difficult and mentally exhausting. All participants begin with a clean slate and are asked to describe their mental model for the set of information. In Information they have little or no experience with, this can be very difficult. Information which already has pre-existing social or political constructs, a lot of effort is wasted recreating them – effort which could be used for addressing the more difficult parts of the information. For practitioners, analysis can be time consuming and difficult. When conducting open card sorting with physical cards, each session must be recorded in to a spreadsheet or software package. There are a number of software applications which help with generating relationship diagrams and statistical analysis, but these results are meaningless without the recommended 20 to 30 participants. A pattern matching approach, such as affinity mapping, requires a lot more manual analysis. For each participant (20 to 30) there are 50 to 100 cards, which results in a lot of work.

By discussing these weaknesses, several goals surface as potential areas for improving current methods:

- Use fewer users, we're not using enough anyway
- Limit repeated work to help participants work on the real problems
- Reduce costs so it makes more sense as a practical pre-design activity

These goals point to an approach that relies less on raw numbers and more on quality of results, where the work and feedback of a single participant is regarded as more than just a data point.

Moderated Information Gathering

The Delphi method is an interactive forecasting technique developed by the RAND Corporation in the 1950's. It was developed as an objective way of gathering a knowledge base of military intelligence and experience without influence of politics, rank, or opinion. It has been since applied to other domains such as technology, population sciences, and business.

The Delphi method is collaboration with a controlled bias through the moderator. There are three key elements to the Delphi method: structuring of information flow, feedback to the participants, and anonymity for the participants. Participants are often knowledgeable experts in a field who may have a personal stake in the resulting knowledge base generated from the study.

During the Delphi method, each participant is...

- asked to provide an answer to a problem or question
- given the combined work of previous participants
- allowed to modify their work after review

The moderator helps combine the session results and present the material to the participants, careful to filter any bias or include personal opinion or experience which may be important. This direct interaction of the moderator is an important communication channel between the participants, however has also been noted as one of the weaknesses in the protocol.

There are several important concepts to keep in mind about the Delphi method and why it has benefits over other group communication methods. It is basically a moderated “Wisdom of Crowds” (Surowieki, 2004). Instead of direct manipulation, participants interact with each other through the artifacts they leave at the end of their session. An individual participant may not have the answer, but a piece of it which they can share with the next participant who may find value in it or not.

The opinions of others can be influential, valuable, insightful, or useless in a certain context. By moderating this information, participants are alleviated of peer pressures and other performance anxieties which are often found in focus groups or other group collaboration methods.

There are already a few user-centered design methods which incorporate principles from the Delphi method. The Delphi method for interviewing is a popular technique for gathering user research data from a client, for example, research of user groups.

In this case, participants would be client employees who are involved in the product. The participant is asked who they think are users of their product. Once they provide their answer, they are provided with the combined list of the previous participants answers. They are then allowed to modify their answer based on this new information.

What usually results from this review is one of three things: the participant included a user group which was not previously listed, the participant did not consider a user group from the combined list which they think is valid, or the participant will notice a combination of groups which include the same information. The participants results are combined to the list by the moderator for use with the next participant. This interviewing process is continued until a consensus has been reached, or obvious patterns of conflict and agreement have been identified.

Iterative user testing during the development cycle can also incorporate this concept of moderated information flow. Participants interact with a prototype of a product and may provide information which leads to new design insights or ideas. During the study, this feedback is integrated in to an alternate design and is provided to participants to comment on after they have seen the original design. The later participants will potentially see alternatives which incorporate input from many of the previous participants in the study.

Applying Delphi to Card Sorting

When modifying the Delphi method for use in card sorting, each participant is...

- given the previous participants' work to review
- allow to modify their work after review

The step which asks the participant to first provide their answer is omitted for several reasons. Card sorting is already a cognitively intensive activity, and by requiring participants to participate in an open card sort, review work which may be similar or different from their own, and then modify the combined participants' answer is a lot of work and may discourage them from making too many changes and becoming active in the result. Remember, the Delphi method calls for knowledge experts who have a personal stake in the information, and so they are not discouraged by the amount of work required to have their say. Participants recruited for usability studies do not usually have a personal connection with this information. Since the participants do not have a personal stake in the results (as many of the scenarios involving the Delphi do) and the participants' work they are working with are considered peers, there is less influence to restrict their opinion which frees them to agree, criticize, or make changes.

Additionally, the goal of the Delphi method is to find a single consensus in a body of

knowledge. In information architecture, there is rarely a single correct answer, but several suitable answers which will accommodate 80% of the audience.

And so the modified method which can be used for card sorting is simple and straight forward:

1. The seed participant creates the initial structure from a stack of cards
2. The study participants comment on the previous participant's work and make changes to create their own work
3. The card structure changes throughout the study, evolving in to a model of every participants' work

The seed participant could be decided in a number of ways. They could be a participant, a group of participants collaborating (only as the seed), an information architect aiding a participant, or an information architect. In the case that an information architect generates the seed structure, the first participant should not be told that the information architect created the structure, but another participant. An information architect would be considered higher than a peer, and knowledge of their work may induce bias. Also, participants should never be told how many previous participants have worked on the structure, because the number may be intimidating or create some other type of pressure.

Recruiting for the M-Delphi method is similar to any other user-centered design study. The Delphi method is traditionally a method of expert opinion, and the users of a product could be considered an “expert” of the product. Depending on the goals or needs of the product, you may recruit participants who are the target users and mixed user types, a single user group of particular interest, or the primary user group.

Analysis can be done the same as the Open card sorting method using affinity mapping or other pattern matching technique. Special attention should be taken in the final participant's work since they will have the influence of all the previous participants. For the most part, their work should be very similar to the results analysis.

The goal of this method is to be a more practical pre-design activity to aid in the design of an information architecture. Lowering costs of conducting a study, improving the quality of results from each participant, and reducing the amount and complexity of analyzing the results are all potential and expected benefits.

Case Study: University of Baltimore Law School Website

The University of Baltimore Law School conducted a usability study of a new website design in the Fall of 2006. Results from that usability study showed that many of the issues found were due to a poor information architecture, and a new architecture should be designed. This became an opportunity to conduct parallel sessions of the M-Delphi and Open card sorting methods.

The Law School website is a good data set for this study because it is a real world problem. Using a data set such as weather or food may not produce realistic results because they already have preexisting social constructs on how people organize that kind of information.

M-Delphi and Open Card Sorting Studies

The studies were conducted in a usability lab with a large table and collection of 90 index cards containing high-level topics from the current University of Baltimore Law School website. The M-Delphi and Open card sorting studies were conducted separately using the same mixture of participant types.

18 participants of the target user types were recruited. These user types included:

- Law students
 - Pre-law students interested in law school
 - Current law students
- Law school staff
 - Professors and other faculty members
 - Administration and support staff
- Law professionals
 - Attorneys
 - University alumni
 - Support specialists such as paralegals, records managers, etc.

Students and staff are the most frequent users, however, it was important to support professionals seeking information about clinics and seminars, especially alumni who are interested in donating to the school.

8 participants were used for the M-Delphi method and 10 participants were used for the

Open method. Although there is evidence that 20-30 participants should be used for the Open method, practically it is not practiced that way, and this smaller number will provide an n to n comparison of return per participant.

The following instructions (summarized) were given to the Modified-Delphi card sorting participants:

Here are cards which represent topics on the Law School website. They have already been sorted by a previous participant in a way that made sense to them. I would like you to take a look at their work and then make any modifications you feel would make better sense to you. This includes the labels they have given to the groups.

You may change a label if it is unclear. If you feel something is missing, you may add it, or if you feel something does not fit, you can discard it.

The following instructions (summarized) were given to the Open card sorting participants:

Here are cards which represent topics on the Law School website. I would like you to take a look at all of the cards, then organize them in groups in a way that makes the most sense to you.

Once you have your groups I want you to give each one a name. You may change a label if it is unclear. If you feel something is missing, you may add it, or if you feel something does not fit, you can discard it.

The results from the M-Delphi and Open card sorting sessions were analyzed in an affinity map. For both studies, similar categories were grouped together before counting the cards. After the cards were mapped, a final information structure was generated based on the frequency they appeared in a category. The results are referred to as M-Delphi or Open information structures rather than information architectures since the raw results have only gone through a filter and not a formal information design procedure.

	M-Delphi results	Open results
> 50% participant agreement with card placement	66/90 cards (73%)	19/90 cards (21%)
> 50% participant agreement with final categories	8/11 final categories	9/10 final categories

Table 1: Participant card agreement

In the results from the M-Delphi session, 66 of the 90 cards had a greater than 50%

agreement with participants. At least half of the participants had come to an agreement on how to organize 73% of the cards. Also, 9 of the 10 final categories were represented in this agreement. In the results from the Open session, only 19 of the 90 cards had a greater than 50% agreement. At least half of the participants did *not* agree on how to organize 78% of the cards. This method also yielded 11 final categories of which 8 were represented in the 19 card agreement.

Special interest was taken in the final participant's results of the M-Delphi method. In theory, this final iteration has had influence from the previous structures and should be very similar to the generated information structure. In this final structure, 8 of the 10 categories were present. One of the categories was merged and renamed, which would make the number closer to 9 of the 10 final categories. Only 7 cards did not match with the final information structure. There were several "floater" cards which were important enough to the participant to be on a high level. Less than the original 90 cards were used. 9 of the new cards were added throughout the study and were represented here. There were approximately 75 total cards in the final structure; several of the cards were multiple cards grouped together.

The final information structures for the M-Delphi (Appendix 1) and Open (Appendix 2) card sorting methods are available in the Appendix.

Inverse Card Sort with Law School Website Users

To test the new information structures with users, an online survey was conducted with additional Law School-related participants. This was a within subject study where each participant answered 10 questions for each of the information structures. The questions were derived from a survey administered during the first study which asked what topics were the most important. Each participant was given a question and asked to select which category they would find the information in. The order in which the information structures were presented was counter balanced to prevent a learning bias. Half of the participants answered the questions for the Delphi structure first, and half of the participants answered the questions for the Open structure first. There were 7 total participants, including 4 current law students, 2 law professionals, and 1 pre-law student.

	# Correct / 7 (M-Delphi)	# Correct / 7 (Open)
1. Where would you find information about the last day to drop or add a class for the semester?	6	4
2. Where would you read the Dean's Notes Newsletter?	5	5
3. Where would you find the application to the Tax Law Clinic?	5	4
4. Where would you find information about the Judge Solomon Liss Visiting Scholars program?	1	0
5. Where would you request a copy of your transcripts?	1	1
6. Where would you find information about the Student Council?	0	1
7. Where would you find help with connecting your computer to the school network?	7	5
8. Where would you find the form to substitute a class at another institution?	1	4
9. Where would you find information about the Attorney Practice Internship?	4	5
10. Where would you find a copy of the Honor Code?	3	3
Total # correct out of all answered questions	33/70	32/70

Table 2: Results of inverse card sort of final information structures

Overall, both the Delphi information structure and the Open information structure performed the same. For the questions “Where would you find information about the last day to drop or add a class for the semester” and “Where would you like to find help with connecting your computer to the school network”, the Delphi information structure did slightly better. However, the Open information structure did slightly better for the question “Where would you find the form to substitute a class at another institution?”.

Most of the questions were answered correctly 50% of the time, however there were three questions which did very poorly in both the Delphi information structure and Open information structure. Only one participant correctly answered where they would find information about the Judge Solomon Liss Visiting Scholars program (Delphi information

structure). Only one participant correctly answered where they would find information about the Student Council (Open information structure). Finally, only two participants correctly answered where they would request a copy of their transcripts (both Delphi and Open information structure). These results strongly suggest that these and related topics are not entirely clear in the two resulting information structures from the study. This does not answer if these topics could be found through exploration of the information or better context.

Validation with Information Experts

A within subject study was conducted online which asked several information experts to conduct a heuristic review and comparative ranking on the two information structures. On average, the information experts had 3 or more years of professional experience as an information expert and spent most of their time at work doing information architecture-related activities. 15 information experts answered the heuristic review and 14 information experts answered the comparative ranking question. The two information structures were provided in separate documents displayed as an outline and information about the goals of the website and user groups and information were provided.

The order of the information structures was counterbalanced to prevent a learning bias, and titles of the structures were anonymized as Information Structure A and Information Structure B. They five heuristics are based on industry standards and best practices and have been enumerated by various information architects. The ratings ranged from 1 (very poor), to 3 (average), to 5 (very good).

	Rating / 5 M-Delphi	Rating / 5 Open
1. Breadth and depth are balanced	4.0	3.4
2. Labels are clear and meaningful	4.1	3.8
3. Data is of similar granularity and dimension	4.1	2.9
4. Naming scheme is consistent and logical	4.0	3.1
5. Visual hierarchy is clear	4.1	3.6
6. Organization fits users' needs	4.1	3.4
Overall rating (individual question, not an average of the heuristic score)	3.9	3.2

Table 3: Results from expert heuristic review of information structures

The ratings provided for the M-Delphi information structure are very similar with very little difference between the different heuristic dimensions, scoring consistently as “good”. The Open information structure has much more variability between the dimensions, with scores ranging in the “poor” to “average” scale, never reaching a “good” score.

It is also interesting to note how the information experts provided an overall rating for both the structures which is lower than the actual average of the heuristic score. The average heuristic score of the M-Delphi information structure is 4.1, a 0.2 difference from the provided overall score. The average heuristic score of the Open information structure is 3.4, a 0.2 difference from the provided overall score.

After rating each information structure, the information expert was also asked if the provided structure would be useful to aid in the design of a final information architecture. All of the information experts agreed that the M-Delphi information structure would be useful, however two experts did not believe the Open information structure would be useful.

Additionally, the information experts were also asked to rank the two information structures and answer which was better, the M-Delphi or Open, or if they were the same.

	# of votes
The M-Delphi information structure is better than the Open information structure	10
The two information structures are about equal	2
The Open information structure is better than the M-Delphi information structure	2

Table 4: Ranking scores of information structures

The results from this ranking correlate with the heuristic review and comments provided by the reviewers. The information structure generated by the M-Delphi method has clearly made a more positive impression and is higher valued by the information experts than the information structure generated by the Open method.

Conclusions & Discussion

The modified-Delphi card sorting method has potential to be an alternative to the pre-design Open card sorting method which information architects often use to aid in the design of an information architecture. Benefits of using this method over the Open method include cost savings due to fewer participants and an increase in quality from the results generated from the study. The two methods have been compared by conducting two separate studies using the same data and participant configuration, and validated by inverse card sorting by user group participants and reviewed and rated by information experts.

During the card sorting sessions, the M-Delphi card sorting participants often asked questions or talked freely about what they were doing, similar to what would be found in a study using the Talk Aloud Protocol (TAP). The Open card sorting participants were a stark contrast and hardly talked during the entire session, even to ask questions. It is possible that the cognitive load on the M-Delphi participants was lesser than the Open participants, which freed them to discuss their work and become more active in the problem solving process.

Also during the M-Delphi card sorting session, 3 of the participants (not including the seed participant) decided to start from scratch and scooped up all the cards in a pile before beginning their work, destroying the previous participants' work. This was expected to create a noticeable change in the evolving structure, however during analysis, there was still a great similarity between the participants who based their work

off of others and the participants who started from scratch. In the participant instructions they were asked to review the provided structure before beginning their work. This “priming” of the data may have influenced those participants on some scale. Also, the fact that they started from scratch is not a bad thing. Some of the comments from these participants indicated that they were already familiar with the information and felt more comfortable organizing it on their own terms.

While analyzing of the M-Delphi and Open card sorting data, the Open session data took almost twice as long to analyze, even though there were only two additional participants. This may be in part to the diversity in the cards compared to the Delphi session data which was relatively similar from participant to participant.

For an n to n return of participants, the modified-Delphi method has been shown to provide better results for creating an information architecture. Information experts rated it higher on a heuristic scale and in a comparative ranking. This does not match with the performance data of the two structures which was almost the same, however results from the inverse card sort suggest the information structures are too raw for user consumption and would need additional refinement before they are true information architectures. This is not a bad thing, and supports the fact that these methods merely provide information for aiding in design, and do not generate an information architecture.

Results from the University of Baltimore Law School website study are encouraging, however additional studies in various areas of information domains need to be conducted to fully validate the method. Unfortunately, parallel modified-Delphi and Open card sorting studies are expensive and not practical in every day use. In total, 40 participants were recruited for the various activities used to verify the method. For a unique audience, such as a Law School Website, finding participants was part of the challenge, especially on a small budget and localized environment.

It can only be through the repetitive application of the modified-Delphi card sorting method that we can continue to reinforce the benefits it provides and explore ways to refine and improve the process. This paper and previous presentations on the method may serve as guides to practitioners for conducting their own modified-Delphi studies. Publication and discussion of their results provides an open forum for the community and will help define the future adoption of the method.

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Further Reading

- Lamantia, J. Analysing Card Sort Results with a Spreadsheet Template. Boxes and Arrows. August 26, 2003.
http://www.bboxesandarrows.com/view/analyzing_card_sort_results_with_a_spreadsheet_template.
- Linstone, H. A. and Turoff, M. (editors). The Delphi Method. Addison Wesley Longman Publishing Co. December 1975.
- Maurer, D. and Warfel, T. Card sorting: a definitive guide. Boxes and Arrows. April 7, 2004. http://www.bboxesandarrows.com/view/card_sorting_a_definitive_guide.
- Paul, C. L. Resources for Modified-Delphi Card Sorting.
<http://www.obso1337.org/hci/delphi/>.
- RAND Corporation. Publications on the Delphi method.
<http://www.rand.org/pardee/pubs/methodologies.html#delphi>.
- Rosenfeld, L. Information Architecture Heuristics. August 17, 2004.

http://www.louisrosenfeld.com/home/bloug_archive/000286.html.

Surowieki, J. *The Wisdom of Crowds: Why the Many are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations*. Brown. 2004.

Tullis, T., and Wood, L. *How Many Users Are Enough for a Card-Sorting Study?* Proceedings of UPA 2004.

Appendix 1: Modified-Delphi Card Sort Information Structure

- **Admissions/Prospective Students**
 - About the School
 - Academic Requirements
 - Admissions Process
 - Application
 - Application Forms & Instructions
 - Financial Aid Information
 - How to Apply
 - Information for Applicants
 - Inter-Institutional Registration
 - International Students
 - Recruitment Schedule
 - Residency Requirements
 - Scholarships & Loans
 - Transferring to UB
 - Tuition
 - Visiting Students
- **Academics/Curriculum**
 - Academic Calendar
 - Catalog/Course Listings
 - Concentrations
 - Course Descriptions
 - Curriculum Overview
 - Graduate Tax Program
 - Honor Code
 - Legal Skills Program
 - Request a Transcript
- **Faculty**
 - Adjunct Faculty
 - Faculty News
 - Faculty Profiles
 - Graduate Tax Program Faculty
 - Legal Skills Faculty
- **About UB Law School**
 - About Baltimore City
 - Calendar of Events
 - Dean's Notes Newsletter
 - History of the School
 - Location & Directions
 - News & Events
 - School Statistics
- **Alumni**
 - Alumni Association Committees
 - Alumni Calendar of Events
 - Alumni Career Experts
 - Alumni Events & Programs
 - Alumni Resources
 - Alumni Stories
 - Information for Alumni
- **Career Services**
 - Attorney Practice Internship
 - Information for Employers
 - Internships
 - Interviewing Tips
 - Job Listings
 - Job Vacancy Announcement Form
 - Judge Solomon Liss Visiting Scholar Program
 - Judicial Internship
 - Public Interest Fellowship
 - Sandy Rosenberg Scholarship
 - Summer Programs
 - Upcoming Career Services Events
- **Campus Services**
 - Bookstore
 - Campus Maps & Locator
 - Center for Student Involvement
 - Computer Support
 - Library Hours
 - Library Policies
 - Library Services
 - Student Counseling Services
 - Student Life
 - Student Organizations
 - University Facilities & Services
- **Clinics**
 - About Clinical Programs
 - Clinical Application Forms
 - Clinical Policies
 - Clinical Programs
 - Criminal Practice Clinic
 - Disability Law Clinic
 - Family Law Clinic
 - Family Mediation Clinic
 - Tax Law Clinic
- **Maryland Bar Exam**
 - Bar Exam Courses
 - Maryland Bar Exam Application
- **Centers & Programs**
 - A.M. Law Program
 - A.M. Law Seminar Series
 - Center for Families, Children & the Court
 - Center for International & Comparative Law
 - Snyder Center for Litigation Skills
 - Study Abroad Programs
 - Writing Competitions
 - Writing Programs

Appendix 2: Open Card Sort Information Structure

- **About UB Law**
 - About Baltimore City
 - About the School
 - Bookstore
 - Campus Map & Locator
 - History of the School
 - Location & Directions
 - School Statistics
 - Student Life
 - Student Organizations
 - University Facilities & Services
- **Centers & Programs**
 - About Clinical Programs
 - Center for Families, Children & the Court
 - Center for International & Comparative Law
 - Clinical Application Forms
 - Clinical Policies
 - Clinical Programs
 - Criminal Practice Clinic
 - Curriculum Overview
 - Disability Law Clinic
 - Family Law Clinic
 - Family Mediation Clinic
 - Graduate Tax Program
 - Legal Skills Program
 - Snyder Center for Litigation Skills
 - Study Abroad Programs
 - Summer Programs
 - Tax Law Clinic
 - Writing Program
- **News & Events**
 - Calendar of Events
 - Dean's Notes Newsletter
- **Information for Current Students**
 - Academic Calendar
 - Center for Student Involvement
 - Class Cancellation
 - Computer Support
 - Honor Code
 - Student Counseling Services
- **Library**
 - Library Hours
 - Library Policies
 - Library Services
- **Faculty**
 - Adjunct Faculty
 - Faculty News
 - Faculty Profiles
 - Graduate Tax Program Faculty
 - Legal Skills Faculty
- **Alumni**
 - A.M. Law Program
 - A.M. Law Seminar Series
 - Alumni Association Committees
 - Alumni Calendar of Events
 - Alumni Career Experts
 - Alumni Events & Programs
 - Alumni Resources
 - Alumni Stories
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 - Request a Transcript
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 - Sandy Rosenberg Scholarship
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 - Transferring to UB
 - Tuition
 - Visiting Students
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 - Maryland Bar Exam Application
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 - Inter-Institutional Registration
 - Writing Competitions

