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CIM 622: UX Research Methods

Open Card Sort Study: Non-Directive / Hastily

February 13th, 2019

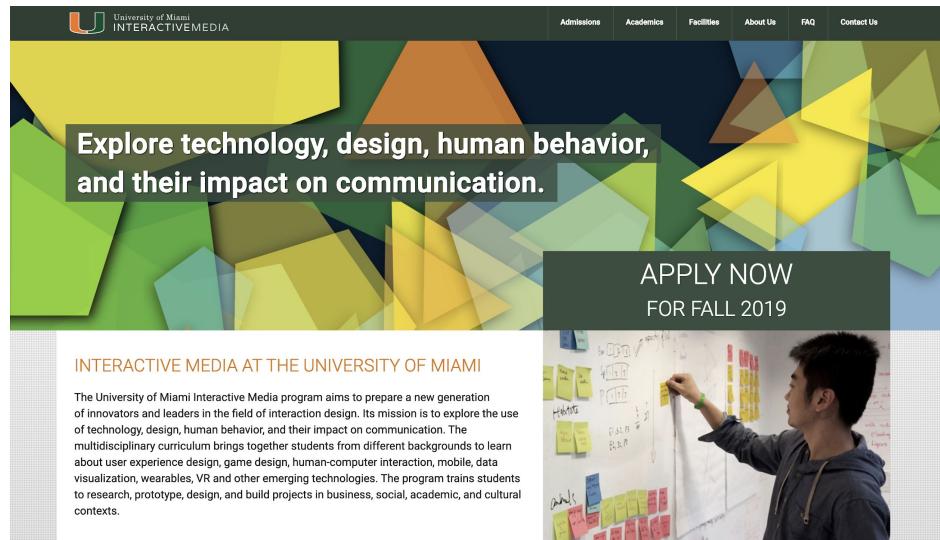
INTRODUCTION

University of Miami's Interactive Media website is designed for people who want to apply to the program, students and professors who would like to search information about the program and current happenings, as well as other visitors including alumni and community partners.

Research Goal:

To improve the navigation usability of the website.

Our team of researchers have conducted an open card sorting study in a non-directive and hastily scenario to inform navigation design.



WEBSITE HOMEPAGE - NAVIGATION

TOP NAVIGATION*

- Admission
- Academics
- Facilities
- About Us
- FAQ
- Contact Us

WEB PAGE NAVIGATION*

- Apply now
- Other projects
- Contact Information
- Get newsletter
- Resources



* Refers to *Handbook of Usability Testing* by Jeffrey Rubin, p40

* Refers to *Handbook of Usability Testing* by Jeffrey Rubin, p33

TOP NAVIGATION TAB - CURRENT

The diagram illustrates the current top navigation tabs for a website, each pointing to its respective section below:

- Admissions** (Orange background): Points to the "Graduate School" section.
- Academics** (Orange background): Points to the "Academics" section.
- Facilities** (Orange background): Points to the "Facilities" section.
- About Us** (Orange background): Points to the "About us" section.
- FAQ** (Orange background): Points to the "FAQ" section.
- Contact Us** (Orange background): Points to the "Contact Us" section.

Graduate School

- Requirements for Application
- International Students
- Tuition & Fees
- Portfolio Guidelines
- Undergraduate**
- Minor in Interactive Media

Academics

- Academics
- M.F.A. Interactive Media
- B.S.C. in Interactive Media
- Minors

Facilities

- User Experience Lab
- VR Lab
- Interactive Media Center
- New Experience Research & Design Lab

About Us

- About us
- Faculty
- Faculty & Student Awards
- Internships and Jobs
- Partnership Opportunities
- Donors

FAQ

Application deadline is in 109 days →

- MFA Program FAQ's
- MFA Admissions FAQ's
- Miami FAQ's

Contact Us

Get in touch

At the University of Miami, we pride ourselves on offering individualized support year-round to answer your questions and provide guidance.

If after exploring our website, you find that you have further questions or need assistance, please don't hesitate to contact us. Our office hours are available Monday through Friday, 8:00 AM to 4:30 PM.

Mailing address for follow-up applications and types of correspondence

Graduate Studies Office
University of Miami School of Communication
5100 Brunson Drive
Coral Gables, FL 33146

Telephone number

General Inquiries:
305.284.2265

Graduate Office
305.284.5236

Email
grinfeder@miami.edu

I do not have a design or programming background. Can I apply?

No previous programming or design experience is necessary for this program. People from diverse backgrounds are what strengthens our program. Of course, if you already know some programming or have design experience you are also invited to apply.

WEB PAGE NAVIGATION - CURRENT

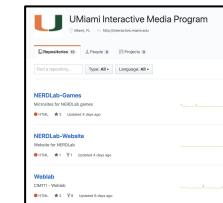
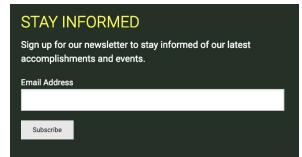
The screenshot shows the Interactive Media website's homepage. On the left, a large green button says "Apply Today". To its right is a sidebar with the following sections:

- Graduate School
- Requirements for Application
- International Students
- Tuition & Fees
- Portfolio Guidelines
- Undergraduate** (highlighted in orange)
- Minor in Interactive Media

Below this is a search bar. Further down, there's a section titled "Priority application deadline is in 108 days" with a link. The sidebar continues with:

- Other Projects
- Miro, the Mirror
- SurvIVR
- Special Olympics
- On a High Note
- Motion Break
- Princess Run
- Airport Delays
- Coastal Resilience Challenge 2016
- ArtiHuman
- U.S. Infant Mortality
- China's Outbound Travel Trends
- My Robotic Hand
- Batman: 100 Billion Dollar Man
- Calle 8 VR Movie
- Yum Shopi Mobile App

At the bottom left, there's a grid of small images representing various student projects.



- Click to send email to Kim
- Linked Logo* to [School of Communication website](#)
- Click to receive newsletter of IM events and accomplishments

RESEARCHER - PRE-STUDY METHODS

ADMISSIONS

- Graduate School
 - Requirements for Application
 - Contact [soccomm@umiami.edu](#)
 - application website
 - Internships
 - Download sample bank letter
 - Contact [inf.admisi@umiami.edu](#)
 - Tuition & Fees
 - Contact office of Financial Aid
 - UM office of financial assistance website
 - Financial aid rates
 - Online submission
 - Design
 - Official School of Communication Application
 - Undergraduate Minor in Interactive Media
- Transcripts

ACADEMICS

- Overview of the course
 - Teaching Philosophy
 - Benefits of pursuing this course: Work in corporations, ad agencies, entertainment industry, non-profits, etc.
 - Unique teaching methods
 - Apply before it is too late
 - Available resources
 - Degrees offered
 - Combine your major with a suitable minor of your interest
 - Stay informed by subscribing to our [newsletter](#)
 - Get in touch with us

CONTACT US

- Graduate Office
 - Office hours

FACULTIES OFFERED

- Prime location, in the heart of Miami
- School: School of Communication
- Name of building where the program is taught: Wolfson Building

*Initial phase of content analysis per tab in navigation bar

OptimalSort

- About a student-faculty cooperative that functions as an incubator for initiatives that collaborate locally, nationally, and in the global space
- Overview of the program
- Portfolio guidelines for applying to the program
- How to apply to the program
- Requirements for applying to the program
- Details about application the process
- Program tuition and fees
- List of Frequently Asked Questions (FAQs) about the program
- List of Frequently Asked Questions (FAQs) about Miami
- Description of a research facility that provides educational opportunities for students and offers a full range of research services to clients
- Contact Information for program admissions
- How to send application supporting documents
- Program application deadlines
- Online application for the program
- Information about financial aid
- Program contact information

ITEM LIST / "CARDS"

- Researchers analyzed the current website by collecting phrases, keywords, and themes across all site pages
- Each researcher was responsible for specific pages, and after dissecting each page, all researchers merged terms to reflect the full site content, total of 40 items
- The researcher's moderator (i.e. professor) assigned a standardized item list of cards to use in the study, total of 43 items
- The items on the given list were input into Optimal Sort

RESEARCHER - PROCEDURE

1. Item list and demographics established, as well as researcher packet.
2. All data input into Optimal Sort program, and launched study site.
3. Each researcher responsible for collecting data from 12 participants (half male, half female), total 48 participants.
4. An open card sort study was conducted with 43 cards that described the website, grouped by user discretion, and prioritized.
5. Time was noted by the Optimal Sort program, and additional notes were taken by researchers during and after the study.
6. After participant data was collected, analysis of qualitative and quantitative data were combined with user centered design methods, as well as in combination with Optimal Sort analytics.
7. Research informs recommendation for redesign of the website.



RESEARCHER

DATA COLLECTION SHEET

- To note observations during the card sort task and post-exercise questionnaire commentary.

University of Miami - Data Collection Sheet - Moderator

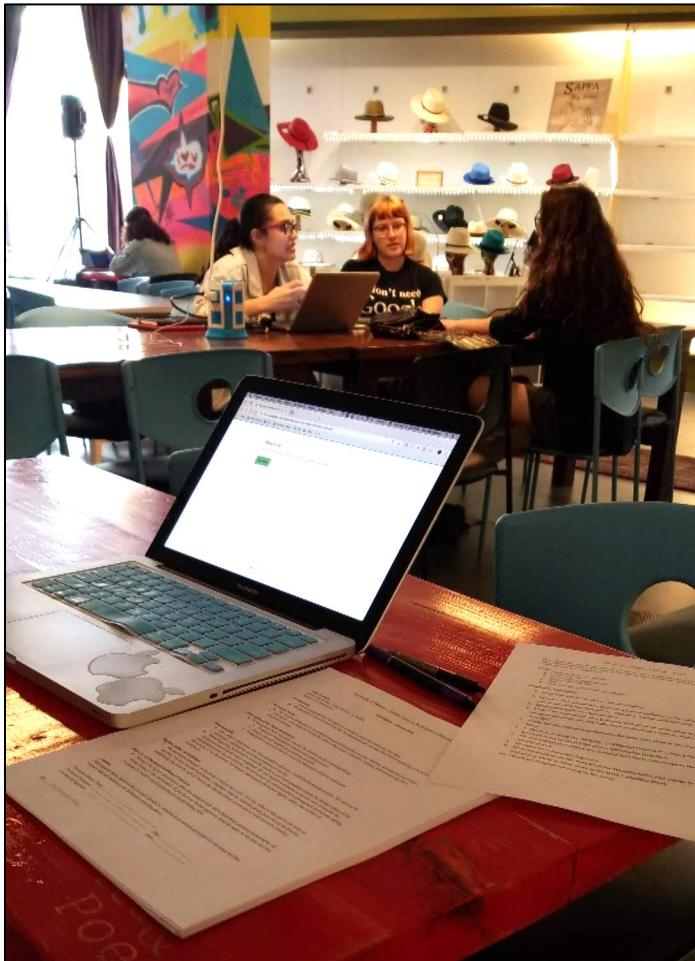
Notes during the Card Sort Exercise

*Comments and observations about the user and/or task.

Notes during the Post-Exercise Questionnaire

*Grouping strategy

*Prioritization or hierarchies of the groups



METHODS

EQUIPMENT

- Laptop with Internet
- Optimal Sort study website:
<https://a8rp83dn.optimalworkshop.com/optimalsort/hastily-card-sort/>
- Screen Grab application on computer
- Researcher Packet:
 - Moderator Script
 - Participant Consent Form
 - Post Exercise Questionnaire
 - Data Collection Sheet
- Pens (qty. 2)

PARTICIPANT - PROCEDURE

CONSENT FORM

Participant Consent Form

Title of Study:
Open Card Sorting - Non-Directive & Hastily
(Approx. 15-20 Minutes)

Introduction

- You are being asked to participate in a research study on examining item lists.
- We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study

- The purpose of the study is to examine user preferences for grouping, labeling, and placement of items.
- The results of the study will be used to inform the layout, navigation, content, and terminology for a proposed redesign.

Description of the Study Procedures

- If you agree to be in this study, you will be asked to do the following things:
 - Complete a demographics and post-task questionnaire.
 - Perform the task assigned as quickly as possible.
 - Complete a post-exercise survey and verbal discussion with the moderator.

Confidentiality

- This study is anonymous. You have the right to privacy, confidentiality and anonymity. We will not be collecting or retaining any information about your identity.
- We are requesting permission to record the results of your task grouping exercise by taking a photo of the computer screen after the task is completed. We also request permission to record voice if possible for quality assurance of the data collected. As well as may ask for permission to photograph participants during the exercise, to use the content in a manner that respects the human dignity, safety, and welfare of participants.

Right to Refuse or Withdraw

- The decision to participate in this study is entirely up to you. You may refuse to take part in the study at any time. You have the right to withdraw completely from the interview at any point during the process; additionally, you have the right to request that the interviewer not use any of your interview material.

Right to Ask Questions and Report Concerns

- You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you have any further questions about the study, at any time feel free to contact Dr. Millet at bmillet@miami.edu during Spring 2019.

Consent

Your signature below indicates that you have decided to volunteer as a research participant for this study and that you have read and understood the information provided above.

Participant Name: (Print) _____
Participant Signature: _____ Date: _____
Investigator Signature: _____ Date: _____

PRE-TASK DEMOGRAPHICS

Questionnaire

Please answer these questions before you get started

What is your gender? (select one)

Male
 Female
 Other

What is your age?

Race/Ethnicity (select one or more)

Caucasian
 African American
 Asian
 American Indian
 Alaska Native
 Hispanic
 Middle Eastern
 Pacific Islander
 Caribbean
 Other

POST-TASK DEMOGRAPHICS

Demographic Questionnaire

Please fill in the demographic questionnaire

Please indicate if you are any of the following: (select one or more)

Current college student
 Prospective college student
 Parent of college student
 Parent of prospective college student
 Friend or relative of college student
 Friend or relative prospective college student
 None of the above

How would you rate your technology experience? (select one)

Novice
 Competent
 Proficient

How often do you visit websites for information? (select one)

Daily
 Weekly
 Monthly
 Rarely

TASK - CARD SORT - ITEM LIST

The screenshot shows a card sorting interface. On the left is a sidebar with a list of items. A red arrow points from the top item in the sidebar to the first item in the 'Program and Application Information' group. The main area contains four groups of cards:

- Program and Application Information** (16 items):
 - About a student-faculty cooperative that functions as an incubator for initiatives that collaborate locally, nationally, and in the global space
 - Overview of the program
 - Portfolio guidelines for applying to the program
 - How to apply to the program
 - Requirements for applying to the program
 - Details about application the process
 - Program tuition and fees
 - List of Frequently Asked Questions (FAQs) about the program
 - List of Frequently Asked Questions (FAQs) about Miami
 - Description of a research facility that provides educational opportunities for students and offers a full range of research services to clients
 - Contact Information for program admissions
 - How to send application supporting documents
 - Program application deadlines
 - Online application for the program
 - Information about financial aid
 - Program contact information
- Opportunities** (10 items):
 - Information for employers who want to post opportunities for alumni of the program
 - Posting jobs for students of the program
 - Information for companies and organizations interested in developing partnerships with the program
 - Opportunities for Alumni
 - Career services and internships for students
 - How to hire our students
 - Email Newsletter sign-up to stay informed of the program's latest accomplishments and events
 - Companies and organization who partner with the program's students on projects
 - Center focused on helping students and alumni develop career-related skills
 - Where students get Internships and Jobs
- Participant and Facility Information** (8 items):
 - How to follow the program on social media
 - Faculty profiles
 - Faculty and Student Awards
 - Featured student projects
 - Studio for research and testing grounds for virtual reality experiences
 - Information for those who are interested in donating to the program
 - Program donors list
 - Description of meeting space and student-run multimedia agency
- International Students** (3 items):
 - Information for International students applying to the program
 - Application requirements for International Students
 - Language proficiency requirements for International students

At the bottom of the interface, there are buttons for 'View Instructions', 'Leave a comment', and 'Finished'. The URL in the browser bar is <https://a@rp83dn.optimalworkshop.com/optimalsort/hastily-card-sort/sort>.

NON-DIRECTIVE / HASTILY

Task: We want to see what grouping of these cards make sense to you. Once you have grouped the cards, you will name each of the groups. Sort the items as quickly as possible.

TASK - COMPLETION TIME

Time taken



11 m 8 s

It took your participants a median time of 11:08 to complete the study.

The longest time was 51:56 and the shortest was 04:35.

POST-EXERCISE QUESTIONNAIRE

University of Miami - Post-Exercise Questionnaire

Thank you for completing the first part of the study. We will now show you the photo of the items you just sorted and grouped.

1. "What was your grouping strategy?"

2. Prioritize the groups according to the labels below. Organize list per category from greatest importance to least importance.

Critical:

Important:

Unimportant:

Irrelevant (topics you would not want to include):

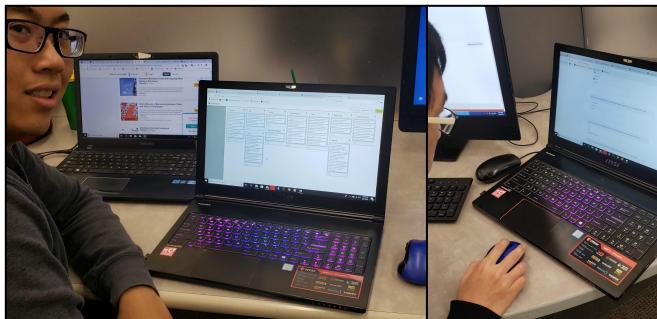
- Participants to fill-in answers.
- For researchers to assess additional qualitative and quantitative data than from Optimal Sort.
- Question 1 (Qualitative)
What was your grouping strategy?
- Question 2 (Quantitative)
Prioritize the groups according to the labels below. Organize list per category from greatest importance to least importance.
 - Critical
 - Important
 - Unimportant
 - Irrelevant
(topics you would not want to include)

METHODS - PARTICIPANTS

What is your gender? (select one)

Male	<div style="width: 50%;"></div>	50%	24
Female	<div style="width: 50%;"></div>	50%	24
Other		0%	0

- 48 participants (24 male / 24 female)
- 18 - 67 years old; Average age: 24 years old
- Current college student 72.3%
- Located in Miami, FL, co-located with researcher
- Bachelor's degree 37.5%
- 45.8% Asian, 35.4% Caucasian, 25% Hispanic



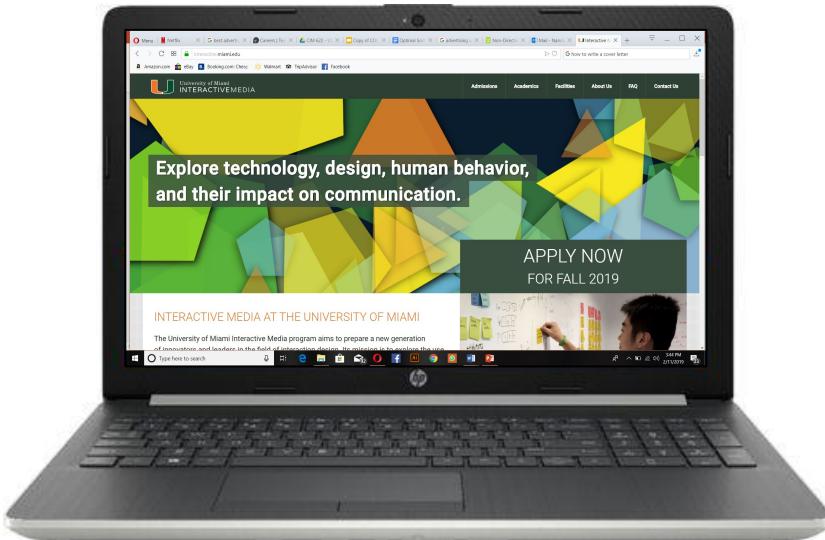
What devices do you use when visiting websites ? (select one or more)



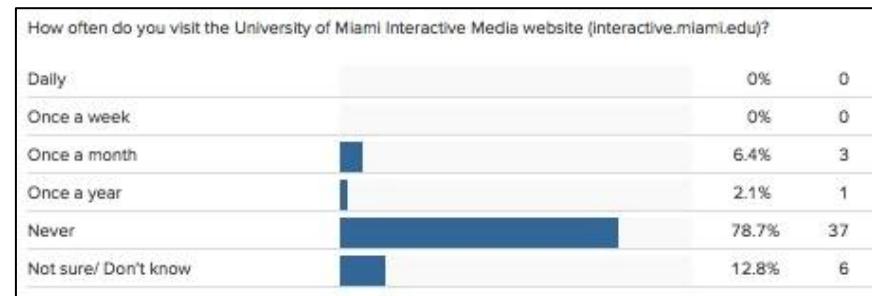
- Surfing the web: 95.7% Laptop, 80.9% Mobile (leads to importance in being mobile optimized)
- Surfing the web on mobile: IOS-Apple 72.3% vs. Android 29.8% (Other 2.1%)
- Visit websites for info: "Often" 72.3%
- Tech level: 46.8% "competent" / 48.9% "proficient"

METHODS - PARTICIPANTS

UNIVERSITY OF MIAMI INTERACTIVE MEDIA WEBSITE



- Visited IMFA website: 12.8%
- How often visit: (8.5% Total)
Once a month 6.4%, Once a year 2.1%



- Satisfaction with site:
Satisfied 6.4%, Somewhat Satisfied 4.3%,
Very Satisfied 2.1%, Not sure 87.2%

DATA ANALYSIS - PARTICIPANT SAMPLE

DEMOGRAPHICS

Age: 20

Gender: Female

Race: Caucasian

Education Level: Some College

CARD SORT INFO

Started: February 10 2019 at 4:30 PM

Time Taken: 9 minutes, 57 seconds

Location: Miami, Florida, United States

Platform: Chrome 72.0.3626.81, OS X 10.14.0, Macintosh

POST-TEST QUESTIONNAIRE

Status: Current College Student

Technology Experience Rate:

Competent

Familiarity with Information Website:

Often

Devices Used to Access the Internet
most Frequently: Tablet, Laptop,
Desktop, Mobile

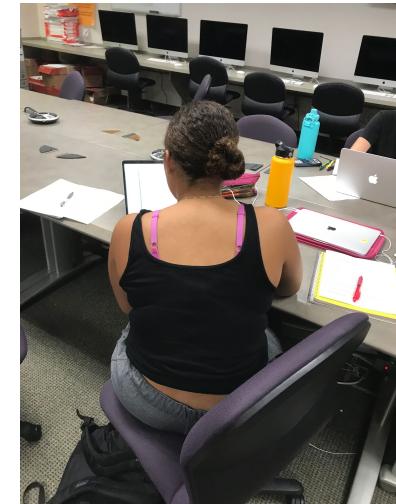
Mobile Platform: IOS - Apple

Familiarity with Miami Interactive

Media Website: Never

Satisfaction with Miami Interactive

Media Website: Not sure/ Don't know



DATA ANALYSIS - PARTICIPANT SAMPLE

ITEMS

The screenshot displays a participant's study interface with several tabs and their corresponding content:

- Questions**: How to follow the program on social media; List of Frequently Asked Questions (FAQs) about Miami; Information for employees who want to post opportunities for alumni of the program; How to send application supporting documents; How to hire our students.
- Jobs and future**: Opportunities for Alumni; Career services and internships for students; Companies and organizations who partner with the program's students on projects; Faculty and Student Awards; Featured student projects; Information for those who are interested in donating to the program; Posting jobs for students of the program; Where students get internships and Jobs.
- building and company information**: Description of meeting space and students in a multimedia agency; Center focused on helping students and alumni develop career-related skills; Studio for research and testing grounds for virtual reality experiences; Information about the building where classes are taught; Internationally companies and organizations are developing partnerships with the program.
- Program_overview**: Overview of the program; Program contact information; Language proficiency requirement for international students; Portfolio guidelines for applying to the program; Requirements for applying to the program; Access to program events calendar; Link to the student information system used to search for classes, view course schedule, and register for classes.
- Important_People**: Faculty profiles; Program donors list; Description of a research facility that provides educational opportunities to students and offers a full range of research services to clients; About a student faculty cooperative that functions as an educational institution that collaborates locally, nationally, and in the global space; Email Newsletter sign-up to stay informed of the program's latest accomplishments and events.
- Application_Information**: Contact information for program admissions; Program application deadlines; Online application for the program; Information for international students applying to the program; Details about application the process; How to apply to the program; Application requirements for international students.
- Courses_and_Finances**: Required courses; Elective courses; Information about financial aid; Program tuition and fees; Description of program concentrations.

CATEGORY LABEL

CRITICAL

IMPORTANT

UNIMPORTANT

IRRELEVANT

Program Overview

Application Information
Questions
Courses and Finances
Jobs and Futures

Building and Company Information
Important People

None

P2

University of Miami - Post-Exercise Questionnaire

Thank you for completing the first part of the study. We will now show you the photo of the items you just sorted and grouped.

1. "What was your grouping strategy?"
By grouping each card to their relative function.

2. Prioritize the groups according to the labels below. Organize list per category from greatest importance to least importance.

Critical:

- 1) Financial Aid / Internships
- 2) Student jobs / Donations
- 3) Tuition / Donations

Important:

- 4) Student Programs
- 5) Student opportunities
- 6) Student Applications
- 7) Company Partnerships

Info/Awards:

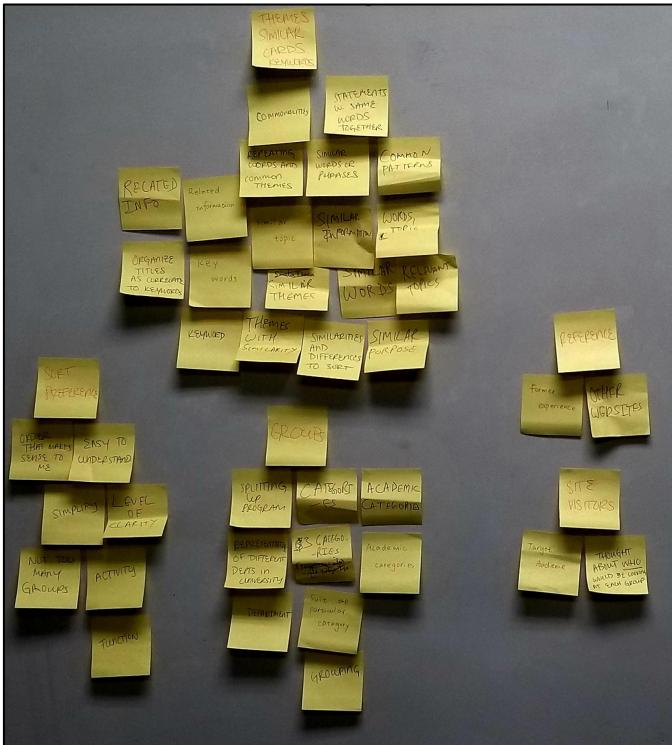
- 8) Faculty info / Awards
- 9) Campus info
- 10) News letters
- 11) F A Q S

Irrelevant (Topics you would not want to include):

P2: 1 [For Moderator Only]

QUALITATIVE DATA

WHAT WAS YOUR GROUPING STRATEGY?



*Affinity diagram to analyze participant open-ended replies.

- **Themes/ Similar Cards / Keywords**
i.e. "Similarities and differences to sort"
- **Groups**
i.e. "Different departments", "Splitting the program", "Categories"
- **Sort Preference**
i.e. "Order that makes sense to me", "Easy to understand", "Not too many groups", "Simplify"
- **Reference**
i.e. "Former experience", "Other websites"
- **Site Visitors**
i.e. "Target audience", "Thought about who would be looking at each group"

PRIORITIZATION DATA

BY PARTICIPANT

Cards	Cards Description	Critical	Important	Unimportant	Irrelevant
1	Overview of the program	1			
2	How to apply to the program	1			
3	Details about application the process	1			
	Requirements for applying to the program				
4		1			
5	Program application deadlines	1			
	Application requirements for International Students		1		
6					
7	Information for International students applying to the program		1		
8	Program tuition and fees	1			
9	Online application for the program	1			
10	Portfolio guidelines for applying to the program		1		
	How to send application supporting documents				
11		1			
12	Description of program concentrations	1			
13	Featured student projects		1		
	Email Newsletter sign-up to stay informed of the program's latest accomplishments and events				
14		1			

- Each participant's prioritization was analyzed in our raw data by the following factors:
 - Critical, Important, Unimportant, Irrelevant
- This data was analyzed by researchers merging the Post-Exercise Prioritization List with the Optimal Sort categories, In order to match participants with their category names, and then be able to rank their categories by matching the item cards with the factors (i.e. critical, etc.)

PRIORITIZATION DATA

ALL PARTICIPANTS

Top 25% (1-10 cards)

- Overview of program, Applying to program
- International students applying to program
- Tuition and fees

Middle 25% (11-21 cards)

- Student projects
- Events calendar, Newsletter
- Required and elective courses
- Building, Research facility local collaboration

Lower 50% (22-43 cards)

- Faculty, Career opportunities, Internships
- Donations, Community partnerships
- Program contact information
- Financial aid

Cards Description	Critical	Important	Unimportant	Irrelevant	Total
1 Overview of the program	44	10	3	0	57
2 How to apply to the program	44	9	1	0	54
3 Details about application process	42	11	1	0	54
4 Requirements for applying to the program	42	2	4	0	48
5 Program application deadlines	40	10	2	0	52
6 Application requirements for International Students	39	12	7	0	58
7 Information for International students applying to the program	38	13	3	0	54
8 Program tuition and fees	38	4	1	0	43
9 Online application for the program	37	4	0	0	41
10 Portfolio guidelines for applying to the program	37	4	0	0	41
11 How to send application supporting documents	36	11	1	0	48
12 Description of program concentrations	36	8	1	0	45
13 Featured student projects	35	11	6	0	52
14 Email Newsletter sign-up to stay informed of the program's latest accomplishments and events	35	20	5	0	51
15 Access to program events calendar	34	17	1	0	52
16 How to follow the program on social media	34	19	3	0	56
17 Required courses	32	18	0	0	50
18 Elective courses	31	11	3	0	45
19 Information about the building where classes are taught	30	10	3	1	44
20 Description of a research facility that provides educational opportunities for students and offers a full range of research services to clients	30	15	2	1	48
21 About a student-faculty cooperative that functions as an incubator for initiatives that collaborate locally, nationally, and in the global space	30	23	8	0	61
22 Studio for research and testing grounds for virtual reality experiences	30	12	6	0	48
23 Description of meeting space and student-run multimedia agency	29	18	6	0	53
24 Faculty profiles	29	14	7	0	50
25 Faculty and Student Awards	28	17	8	0	53
26 Where students get internships and jobs	27	34	2	1	64
27 Opportunities for Alumni	26	27	9	1	63
28 Career services and internships for students	25	32	2	0	59
29 Center focused on helping students and alumni develop career-related skills	23	31	5	0	59
30 How to hire our students	23	35	3	0	61
31 Companies and organization who partner with the program's students on projects	19	33	4	0	56
32 Program donors list	17	22	15	0	54

PRIORITIZATION & SIMILARITY MATRIX

- 3 groups of items could be put together according to the similarity matrix on the right.
- The numbers in the boxes indicate the percentage of participants that grouped those items in the same category.
- This data informs navigation design by grouping content with the greatest similarities.

74	Description of program concentrations													
59	Program contact information													
42	36	65	Contact Information for program admissions											
40	36	44	55	Requirements for applying to the program										
44	38	46	55	87	Portfolio guidelines for applying to the program									
34	31	38	53	85	82	How to apply to the program								
34	27	36	53	82	80	87	Online application for the program							
40	34	40	53	76	70	76	87	Program application deadlines						
34	25	29	48	70	72	74	85	76	Details about application the process					
34	27	31	46	74	72	80	80	74	82	How to send application supporting documents				
25	19	27	38	61	55	59	61	57	59	59	Application requirements for International Students			
25	23	31	42	65	66	68	65	55	61	57	82	Information for International students applying to the program		
25	21	29	36	63	59	53	51	46	51	51	74	80	Language proficiency requirement for International students	
53	48	44	44	51	53	44	46	46	46	53	36	36	38	Program tuition and fees

Prioritization Top 25% Results

Required courses

89 Elective courses

53	51	Link to the student information system used to search for classes, view course schedule, and register for classes	
44	41	57	Information about the building where classes are taught

Prioritization Middle 25% Results

63 Companies and organization who partner with the program's students on projects

55 61 Where students get Internships and Jobs

46 55 85 Career services and internships for students

57 55 76 76 Posting jobs for students of the program

57 51 72 72 76 How to hire our students

53 46 55 53 61 63 Information for employers who want to post opportunities for alumni of the program

36 34 57 56 57 53 59 Opportunities for Alumni

40 40 63 59 65 57 55 57 Center focused on helping students and alumni develop career-related skills

Prioritization Lower 50% Results

SIMILARITY MATRIX

Similarity (\approx Correlation):

- #### Number \geq 80 high similarity:

these items definitely should be grouped together

- 80 > Number \geq 60 significant similarity: these items should be grouped together

60 > Number \geq 40 middle
relative: these items might be grouped together

- Number < 40 low relative: these groups might be not grouped together

19 14 17 Link to the student information system used to search for classes, view course schedule, and register for classes

19 14 17 Information about the building where classes are taught

25 14 18 48 Studio for research and testing grounds for virtual reality experiences

21 23 36 40 55 Description of meeting space and student-run multimedia agency

21 21 17 40 59 Description of a research facility that provides educational opportunities for students and offers a full range of research services to clients

17 14 19 25 42 42 58 About a student-faculty cooperative that functions as an incubator for initiatives that collaborate locally, nationally, and in the global space

23 21 21 17 27 23 40 Faculty and Student Awards

25 29 12 29 27 29 31 59 Featured student projects

31 27 21 18 21 14 23 39 57 36 Faculty profiles

40 18 23 23 12 12 14 19 29 25 36 Overview of the program

40 18 14 34 10 17 8 8 19 17 21 74 Description of program concentrations

19 19 14 14 6 6 10 12 21 17 31 50 51 Program contact information

19 17 8 14 4 4 6 8 10 10 17 42 31 65 Contact Information for program admissions

25 25 12 12 6 8 6 6 2 6 8 14 36 36 53 Requirements for applying to the program

25 31 10 12 6 10 8 8 2 8 8 44 49 16 51 87 Portfolio guidelines for applying to the program

19 19 10 12 6 6 6 6 2 4 4 34 31 58 53 52 How to apply to the program

23 21 6 8 6 2 8 8 2 6 8 34 27 31 51 82 Online application for the program

23 21 8 12 8 2 10 8 4 8 10 40 31 40 52 70 Program application deadlines

23 25 6 10 6 4 10 10 2 8 8 34 25 29 48 70 71 76 Details about application process

21 19 6 10 6 2 6 6 2 6 6 34 27 31 45 74 75 76 82 How to send application supporting documents

17 14 6 8 6 0 6 4 6 8 8 25 19 27 38 51 52 53 Application requirements for International Students

10 16 4 6 2 4 4 4 0 4 4 25 23 31 42 65 6 6 6 6 65 55 64 71 82 Information for International students applying to the program

17 21 8 6 4 4 2 2 2 6 4 25 24 29 36 59 13 21 41 51 55 80 Language proficiency requirement for International students

36 31 10 14 8 8 12 8 19 17 23 53 49 14 44 51 53 44 46 47 46 53 36 39 Program tuition and fees

27 27 19 17 6 10 6 4 14 8 12 34 39 46 53 22 31 25 27 25 31 19 21 23 59 Information about financial aid

10 14 6 10 2 6 6 10 14 12 19 44 40 50 48 31 36 39 29 27 29 17 27 19 34 25 List of Frequently Asked Questions (FAQs) about the program

12 17 8 6 6 8 6 14 14 19 23 31 36 27 17 19 17 14 12 19 19 12 17 17 23 25 58 List of Frequently Asked Questions (FAQs) about Miami

19 22 14 10 12 14 12 10 25 23 21 41 42 27 38 21 25 15 24 17 10 14 12 16 12 23 23 53 31 How to follow the program on social media

14 14 12 10 17 14 17 20 29 25 29 25 27 48 34 12 12 12 6 8 4 6 8 8 10 17 17 36 35 Email Newsletter sign-up to stay informed of the program's latest accomplishments and events

25 29 44 42 23 27 21 29 29 27 23 38 14 12 27 23 25 19 14 23 12 12 8 14 10 17 12 34 23 30 36 Access to program events calendar

19 21 12 14 14 14 12 12 10 14 23 27 17 12 12 14 10 8 10 6 8 6 8 19 17 12 10 21 25 17 Program donors list

17 14 14 17 14 14 12 19 19 10 17 17 10 6 8 6 8 10 6 6 8 4 4 10 12 10 19 17 8 72 Information for those who are interested in donating to the program

2 6 8 8 10 25 21 21 2 6 2 6 10 12 10 4 4 6 4 2 2 2 0 2 0 6 2 0 8 10 10 19 21 12 27 Information for companies and organizations interested in developing partnerships with the program

8 4 14 8 21 21 29 23 17 25 6 4 4 2 6 4 6 2 4 6 2 0 4 4 2 6 8 12 10 23 24 63 Companies and organization who partner with the program's students on projects

4 8 10 10 14 21 25 19 8 17 6 0 2 2 4 2 4 2 0 0 2 0 4 4 2 0 2 6 10 10 12 8 10 10 53 61 More students get Internships and Jobs

10 10 12 14 10 17 17 14 8 12 8 4 8 4 8 6 4 4 4 4 4 4 2 2 4 2 6 10 10 10 10 8 16 95 97 Career services and internships for students

6 4 12 10 10 17 14 12 12 12 4 6 10 6 8 6 4 6 4 6 0 2 6 4 2 2 4 2 6 4 4 2 12 7 17 8 19 12 10 17 11 76 How to hire our students

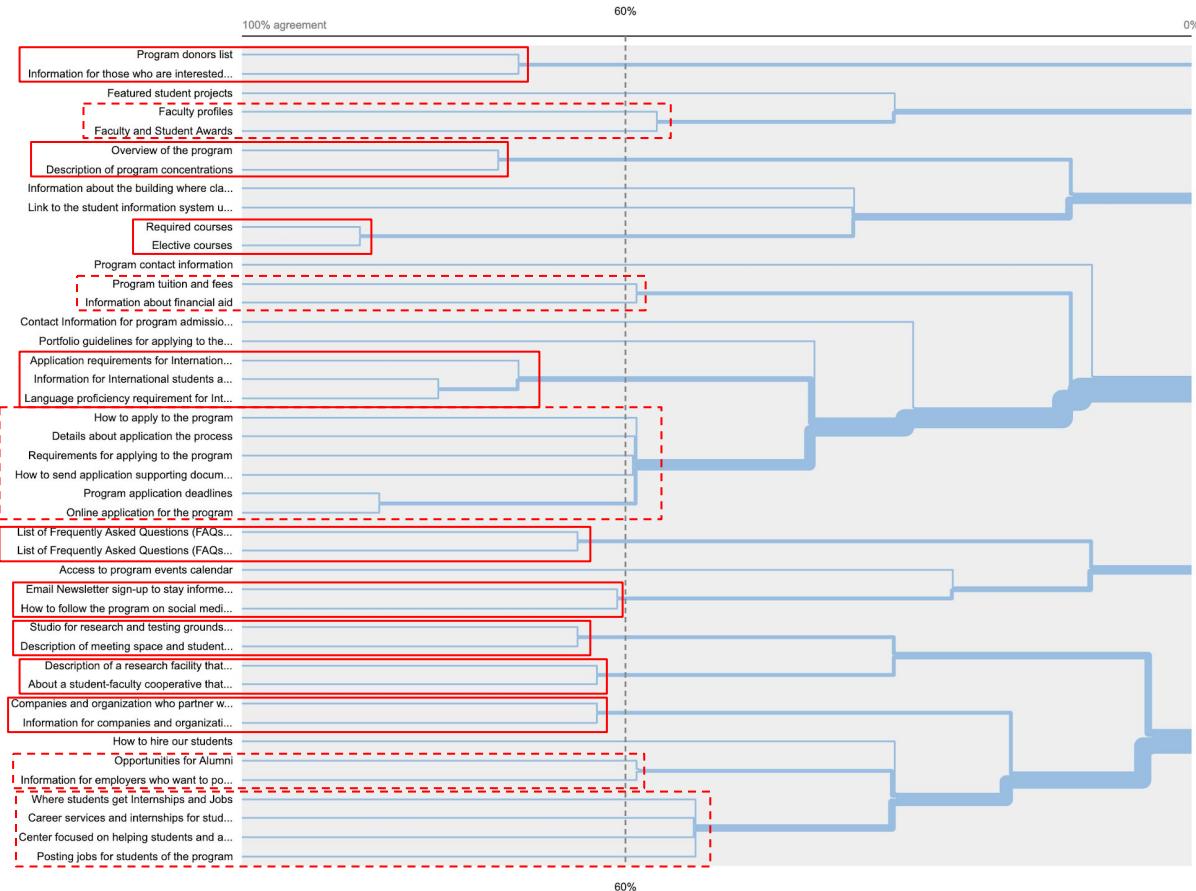
2 2 8 8 4 14 12 10 2 4 0 0 4 4 8 4 4 10 4 2 4 10 4 4 2 2 2 6 4 6 14 10 4 14 14 27 27 27 27 76 Information for employers who want to post opportunities for alumni of the program

4 4 10 8 17 17 17 10 14 17 14 6 2 4 4 6 4 4 0 0 2 0 2 2 6 2 4 2 8 8 22 8 19 19 36 34 34 34 34 Opportunities for Alumni

6 4 10 19 21 19 19 17 10 10 4 0 6 2 8 6 4 6 4 2 2 4 4 4 4 4 4 4 6 4 7 18 10 8 10 40 10 10 10 10 10 35 57 Center focused on helping students and alumni develop career-related skills

DENDROGRAM / TREE DIAGRAM

- This data informs navigation titles and groupings.
- We have drawn a line at 60% agreement on the dendrogram.
- Items in the red boxes are examples of content that can be grouped together.
- There are a total of 14 groupings with suggested names from Optimal Sort:
 - 1. Donation(s)
 - 2. Faculty (Info / Awards)
 - 3. Overall
 - 4. Course Selection, Courses
 - 5. Finances and Expenses, School Finances, Tuition and Expenses
 - 6. International Students (Information)
 - 7. Application Enquiry, Application Process, Deadlines
 - 8. FAQs
 - 9. Contact
 - 10. Multimedia
 - 11. Extended Information, Student Opportunities
 - 12. Company Partnerships
 - 13. Alumni Program, Alumni Relations
 - 14. Career Information for Students



DATA COLLECTED TO INFORM DESIGN

GROUPING STRATEGY

- “Easy to understand”
- Consider “target audience” and “who will be looking at each group”
- Total of 349 categories

PRIORITIZATION

- Top 25%
- Middle 25%
- Lower 50%

SIMILARITY MATRIX

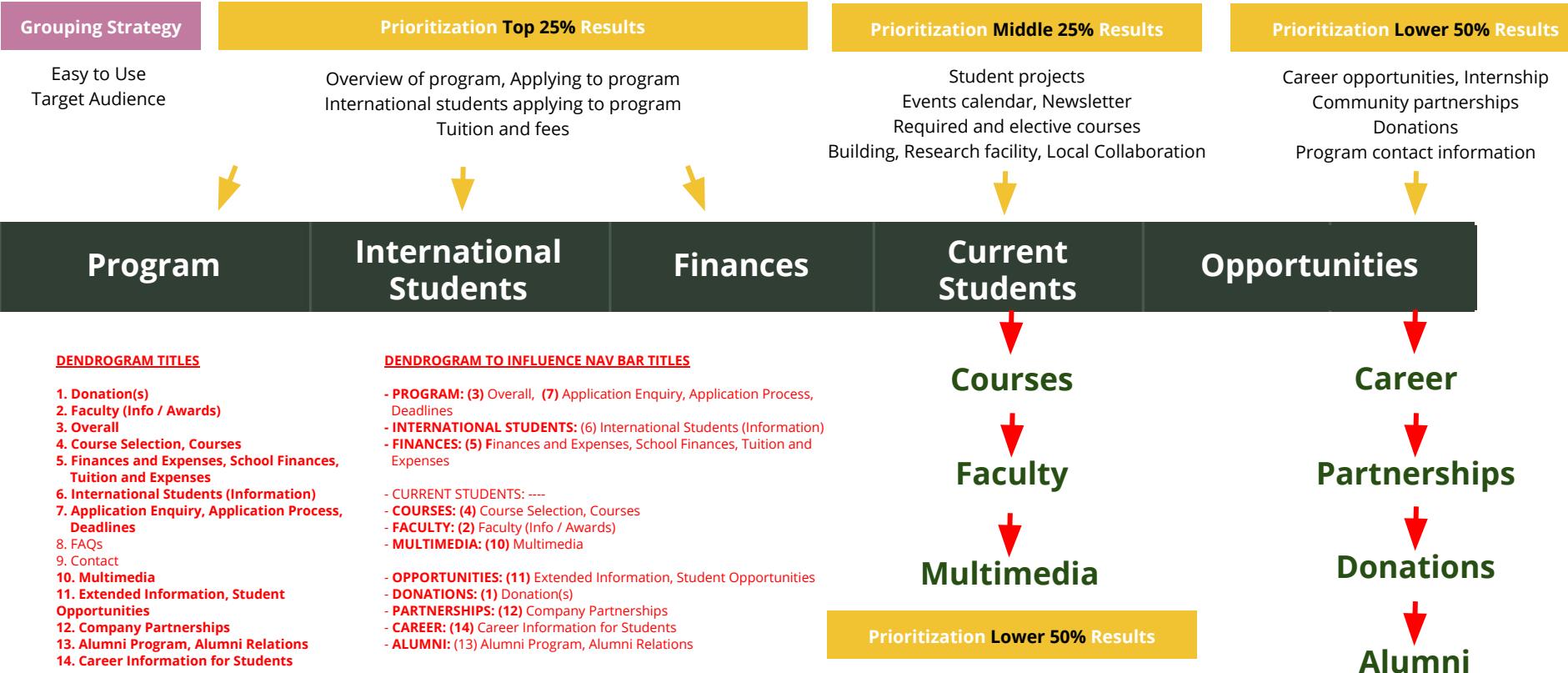
Grouping of items by similarity in percentage.

DENDROGRAM / TREE DIAGRAM

Groupings of items per category names.

TOP NAVIGATION ANALYSES & REDESIGN

BASED ON GROUPING STRATEGY / Prioritization Data / DENDROGRAM TITLES



TOP NAVIGATION - TOP 25%

BASED ON PRIORITIZATION DATA / SIMILARITY MATRIX / DENDROGRAM

DENDROGRAM

- **APPLICATION:** (3) Overall, (7) Application Enquiry, Application Process, Deadlines
- **INTERNATIONAL STUDENTS:** (6) International Students (Information)
- **FINANCES:** (5) Finances and Expenses, School Finances, Tuition and Expenses

Prioritization Top 25% Results

Overview of program, Applying to program
International students applying to program
Tuition and fees

Overview of the program

74	Description of program concentrations
59	Program contact information
42	Contact Information for program admissions
40	Requirements for applying to the program
44	Portfolio guidelines for applying to the program
34	How to apply to the program
34	Online application for the program
40	Program application deadlines
34	Details about application the process
34	How to send application supporting documents

Program

International Students

Finances

PROGRAM

- Overview of the Program
- Program Concentrations

APPLICATION

- How to Apply
- Details about Process
- Requirements to Apply

Deadlines

- Online Application
- Portfolio Guidelines

- Send Supporting Documents
- Contact Info for Admission

- Information to Apply
- Language Proficiency
- Application Requirements

- Tuition and Fees
- Financial Aid

Application requirements for International Students

- 82 Information for International students applying to the program
- 74 80 Language proficiency requirement for International students

Application requirements for International Students
Information for International students applying to the program
Language proficiency requirement for International students

- Overview of the program
- Description of program concentrations

- Contact Information for program admissions
- Portfolio guidelines for applying to the program
- How to apply to the program
- Details about application the process
- Requirements for applying to the program
- How to send application supporting documents
- Program application deadlines
- Online application for the program

- Program tuition and fees
- 59 Information about financial aid
- Program tuition and fees
- Information about financial aid

TOP NAVIGATION - MIDDLE 25% & LOWER 50%

BASED ON PRIORITIZATION DATA / SIMILARITY MATRIX / DENDROGRAM

Prioritization Middle 25% Results

Student projects,
Events calendar, Newsletter,
Required and elective courses,
Building, Research facility, Local Collaboration



Current Students



Courses



Prioritization Lower 50% Results

Faculty

Multimedia

Required courses

89	Elective courses
53	Link to the student information system used to search for classes, view course schedule, and register for classes
44	Information about the building where classes are taught
25	Studio for research and testing grounds for virtual reality experiences
21	Description of meeting space and student-run multimedia agency
21	Description of a research facility that provides educational opportunities for students and offers a full range of research services to clients
17	About a student-faculty cooperative that functions as an incubator for initiatives that collaborate locally, nationally, and in the global space
23	Faculty and Student Awards
25	Featured student projects
31	Faculty profiles

CURRENT STUDENTS

Featured Student Projects

Calendar

Featured student projects

36 Access to program events calendar

COURSES

Required Courses

Elective Courses

Course Search

Course Building

FACULTY

Faculty Profiles

Faculty and Student Awards

Required courses

Elective courses

Information about the building where cla...

Link to the student information system u...

Faculty profiles

Faculty and Student Awards

MULTIMEDIA

Research

Student-Faculty Cooperative

DENDROGRAM

- CURRENT STUDENTS: ---
- COURSES: (4) Course Selection, Courses
- FACULTY: (2) Faculty (Info / Awards)
- MULTIMEDIA: (10) Multimedia

TOP NAVIGATION - LOWER 50%

BASED ON PRIORITIZATION DATA / SIMILARITY MATRIX / DENDROGRAM

Prioritization Lower 50% Results

Career opportunities, Internship
Community partnerships
Donations
Program contact information



Opportunities

Career

Partnerships

Donations

Alumni

Information for companies and organizations interested in developing partnerships with the program

63 Companies and organization who partner with the program's students on projects

55 61 Where students get Internships and Jobs

46 55 85 Career services and internships for students

57 55 76 76 Posting jobs for students of the program

57 51 72 72 76 How to hire our students

53 46 55 53 61 63 Information for employers who want to post opportunities for alumni of the program

36 34 57 56 57 53 59 Opportunities for Alumni

40 40 63 59 65 57 55 57 Center focused on helping students and alumni develop career-related skills

Program donors list

72 Information for those who are interested in donating to the program

CAREER

Student-Career Support Services

Internships and Jobs

Job Postings

Hire Our Students

PARTNERSHIPS

Partner with Students on Projects

Partner with the Program

DONATIONS

Donors List

Interest in Donating

ALUMNI

Employers Seeking Alumni

Opportunities for Alumni

Where students get Internships and Jobs

Career services and internships for stud...

Center focused on helping students and a...

Posting jobs for students of the program

How to hire our students

Companies and organization who partner w...

Information for companies and organizati...

Program donors list

Information for those who are interested...

DENDrogram

- **OPPORTUNITIES:** (11) Extended Information, Student Opportunities

- **DONATIONS:** (1) Donation(s)

- **PARTNERSHIPS:** (12) Company Partnerships

- **CAREER:** (14) Career Information for Students

- **ALUMNI:** (13) Alumni Program, Alumni Relations

WEB PAGE NAVIGATION NAVIGATION

ANALYSES & REDESIGN - LOWER 50%

BASED ON PRIORITIZATION DATA / SIMILARITY MATRIX / DENDROGRAM

GRADUATE ADMISSIONS

5100 Brunson Drive
Coral Gables, FL
33146
🕒 305-284-6902
✉ grinfeder@miami.edu

UNIVERSITY OF MIAMI
SCHOOL of
COMMUNICATION



CONTACT

Sign up for our newsletter to stay informed of our latest accomplishments and events.

Email Address

Subscribe

FAQS

[About the Program](#)
[About Miami](#)

[MFA Program FAQ's](#) [MFA Admissions FAQ's](#) [Miami FAQ's](#)

Quick Links

[Calendar](#) [Slack](#)
[Queso](#) [Github](#)
[Canelink](#) [Twitter](#)
[LinkedIn](#)

Prioritization Lower 50% Results

DENDROGRAM

- [FAQs \(8\)](#)
- [Contact \(9\)](#)

CONTACT

Follow on Social Media

Email Newsletter

FAQS

About the Program

About Miami

How to follow the program on social media

60 Email Newsletter sign-up to stay informed of the program's latest accomplishments and events

Email Newsletter sign-up to stay informe...

How to follow the program on social medi...

List of Frequently Asked Questions (FAQs) about the program

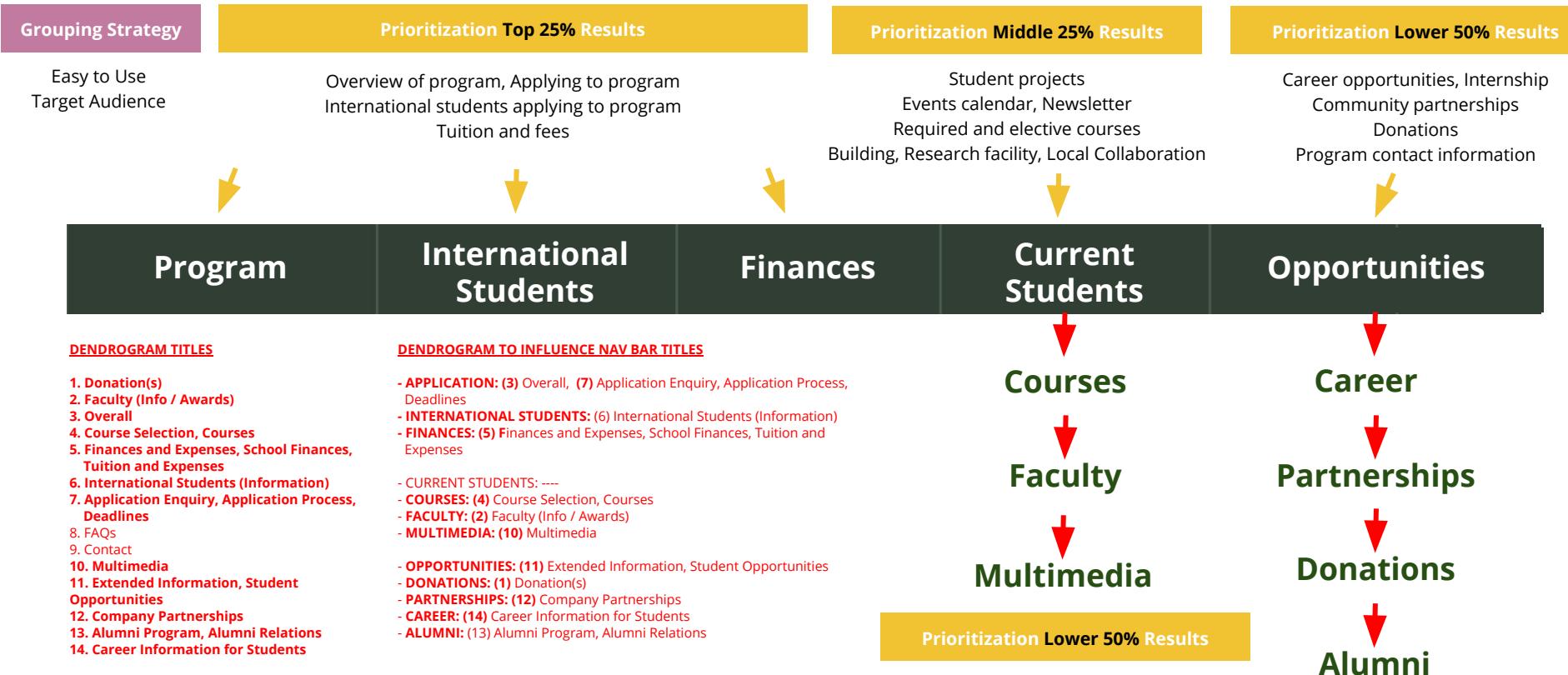
65 List of Frequently Asked Questions (FAQs) about Miami

List of Frequently Asked Questions (FAQs...

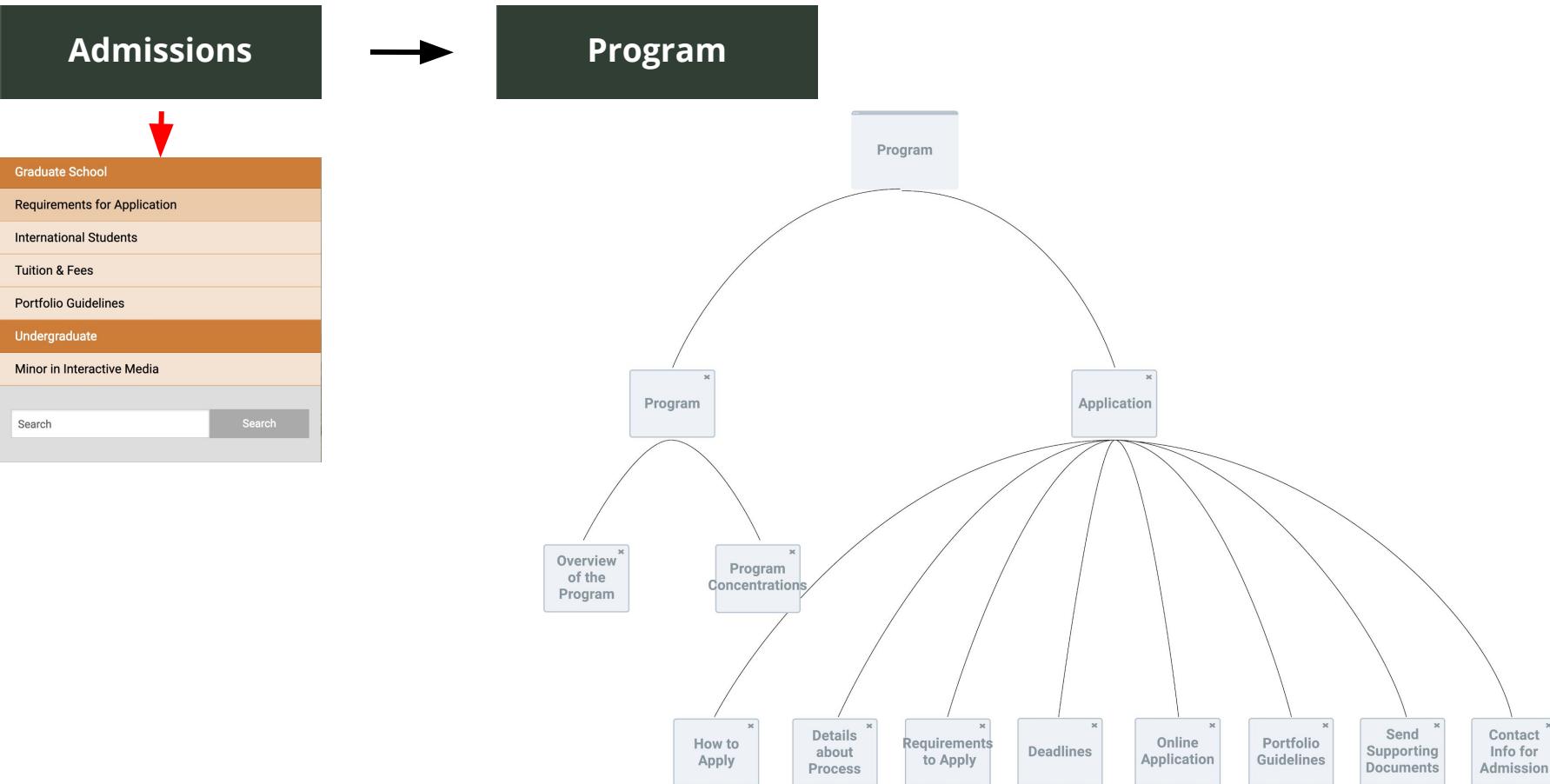
List of Frequently Asked Questions (FAQs...

TOP NAVIGATION ANALYSES & REDESIGN

BASED ON GROUPING STRATEGY / PRIORITIZATION DATA / DENDROGRAM TITLES



RECOMMENDATIONS - TAB 1



RECOMMENDATIONS - TAB 2

Academics

Application deadline is in 109 days ➔

Academics

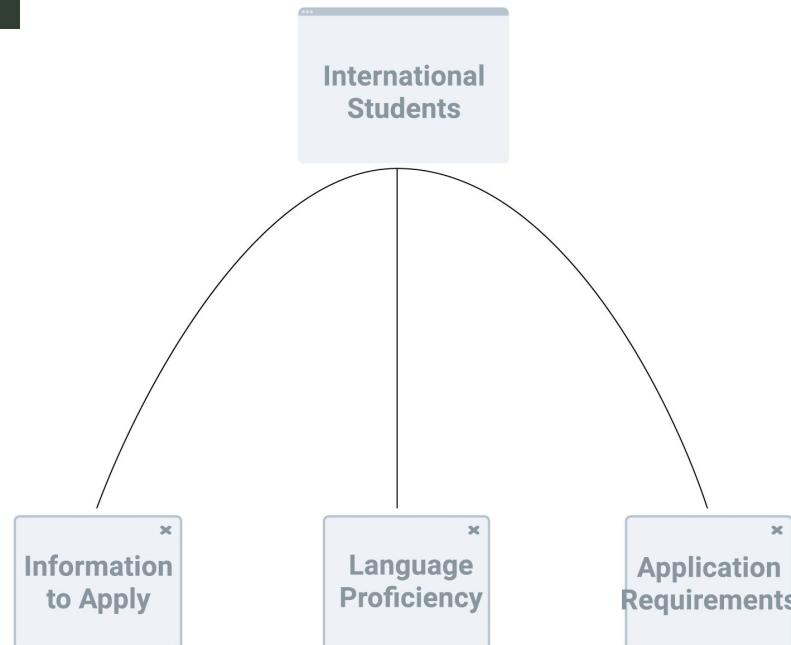
M.F.A. Interactive Media

B.S.C. in Interactive Media

Minors

Search Search

→ **International Students**



RECOMMENDATIONS - TAB 3

Facilities



Finances

Application deadline is in 109 days ➔

User Experience Lab

VR Lab

Interactive Media Center

New Experience Research & Design Lab

Search

Search

Finances

Tuition
and Fees

Financial Aid



RECOMMENDATIONS - TAB 4

About Us

Current Students



Application deadline is in 109 days ➔

About us

Faculty

Faculty & Student Awards

Internships and Jobs

Partnership Opportunities

Donors

Search

Search

Current Students

Current Students

Courses

Faculty

Multimedia

Featured Student Projects

Calendar

Research

Student-Faculty Cooperative

RECOMMENDATIONS - TABS 5 & 6

Contact Us

Application deadline is in 109 days ➔

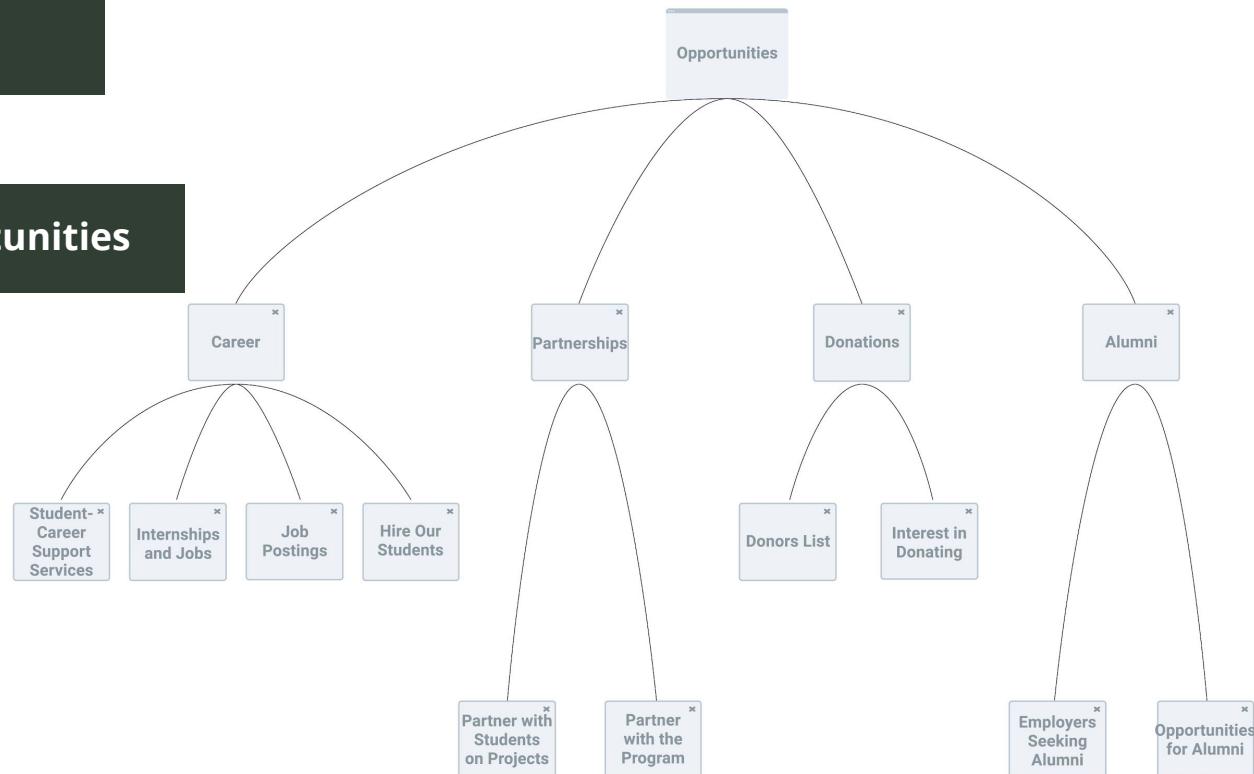
Academics
M.F.A. Interactive Media
B.S.C. in Interactive Media

Minors

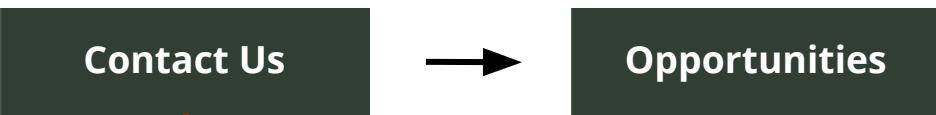
Search Search

FAQ

Opportunities



NAVIGATION TAB 6 - / WIREFRAME



Contact Us

Contact Us

Get in touch

At the University of Miami, we pride ourselves on offering individual attention to students and their parents. We are available year-round to answer your questions and provide further guidance, should you need it.

If, after exploring our website, you find that you have further questions or need assistance on some specific issue, please don't hesitate to contact us. Our office hours are Monday-Friday, 9 a.m.–5 p.m. EST.

Mailing address for follow-up application materials and all other types of correspondence

Graduate Studies Office
University of Miami School of Communication
5100 Brunson Drive
Coral Gables, FL 33146

Telephone number

General Inquiries:
305.284.2265

Graduate Office
305.284.5236

Email

grinfeder@miami.edu

Application deadline is in 109 days ➔

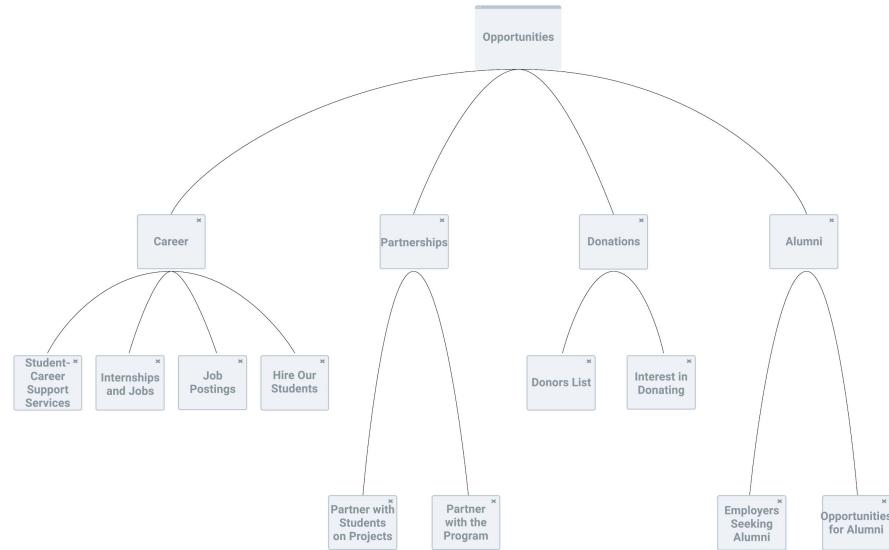
- Admissions
- Academics
- Facilities
- About Us
- FAQ
- Contact Us

Search Search

Apply Today

Feb 1st. 2019 Application Deadline

Apply Today



TOP NAVIGATION - TOP 25%

BASED ON PRIORITIZATION DATA / SIMILARITY MATRIX / DENDROGRAM

DENDROGRAM

- **APPLICATION:** (3) Overall, (7) Application Enquiry, Application Process, Deadlines
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Tuition and fees

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34	Details about application the process
34	How to send application supporting documents

Program

International Students

Finances

PROGRAM

- Overview of the Program
- Program Concentrations

APPLICATION

- How to Apply
- Details about Process
- Requirements to Apply

Deadlines

- Online Application
- Portfolio Guidelines

- Send Supporting Documents
- Contact Info for Admission

- Information to Apply
- Language Proficiency
- Application Requirements

- Tuition and Fees
- Financial Aid

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How to apply to the program
Details about application the process
Requirements for applying to the program
How to send application supporting documents
Program application deadlines
Online application for the program

Program tuition and fees
59 Information about financial aid
Program tuition and fees
Information about financial aid

REDESIGN MOCKUP

TOP NAVIGATION

- Based on our top 25% primary
 - Program
 - International Students
 - Finances
- 12 categories total in top navigation (including drop down) instead of sidebar longer sidebar navigation
- Using the same terminology across the website

LOGO
UM Interactive Media

Program
International Students
Finances
Current Students
Opportunities

Courses
Faculty
Multimedia
Alumni

Career
Partnerships
Donations

PROGRAM

About the Program Application

INTERNATIONAL STUDENTS

Information to Apply Language Proficiency Application Requirements

FINANCES

Tuition and Fees Financial Aid

CURRENT STUDENTS

Courses Faculty Multimedia

OPPORTUNITIES

Career, Partnerships, Donations, Alumni

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Email Address:

[MFA Program FAQ](#) [MFA Admissions FAQ](#) [Miami FAQs](#)

Quick Links
Calendar Quiso Canelink Stock GitHub Twitter LinkedIn

UNIVERSITY OF MIAMI SCHOOL OF COMMUNICATION

University of Miami
INTERACTIVE MEDIA

Admissions Academics Facilities About Us FAQ Contact Us

Explore technology, design, human behavior, and their impact on communication.

APPLY NOW FOR FALL 2019

INTERACTIVE MEDIA AT THE UNIVERSITY OF MIAMI

The University of Miami Interactive Media program aims to prepare a new generation of innovators and leaders in the field of interaction design. Its mission is to explore the use of technology, design, human behavior, and their impact on communication. The multidisciplinary curriculum brings together students from diverse backgrounds to learn about user experience design, game design, human-computer interaction, mobile, data visualization, wearables, VR and other emerging technologies. The program trains students to research, prototype, design, and build projects in business, social, academic, and cultural contexts.

Apply Today

Focus Areas
Students are encouraged to leverage focus areas to produce and evaluate new interactive products.

UX/UI
We define user experience design (UX) as the process of enhancing the customer satisfaction by improving ease of use and user interface design (UI) as the implementation of the look and feel, the presentation of a product.

Game Design
We create games designed to solve problems and used by industries like defense, education, scientific exploration, health care, emergency management, city planning, engineering, and politics.

Data Visualization
We communicate facts and data by means of charts, graphs, maps, and diagrams to provide insights that help people understand information more easily and quickly.

Student Projects
Hands-on learning prepares our students so they approach the job market with a strong portfolio.

Special Olympics App **On a High Note** **Arthuman**
My Robotic Hand **Coastal Resilience** **Airport Delays**
U.S. Infant Mortality **Yumi-Shop** **Calle 8** **What's Batman worth?**

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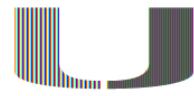
Subscribe

RESOURCES

Calendar Quiso Canelink Slack GitHub Twitter LinkedIn

PROBLEMS FOUND

- 95% of the participants had not heard about the UM Interactive website
- 90% of the participants were college students. Hardly any professors, alumni, partners, or other.
- Majority of our participants were Asian (not proficient in English)
- Study restricted to Miami only



University of Miami
INTERACTIVE

Thank You

Appendix: Questionnaires

Pre Study Demographics

1. What is your gender? (select one)
 Male
 Female
 Other _____ (need text box)
2. What is your age? _____ (text box)
3. Race/ Ethnicity (select one or more)
 Caucasian African American Asian
 American Indian Alaska native Hispanic
 Middle Eastern Pacific Islander Caribbean
 Other: _____
4. Education Level (select highest level achieved):
 High School Graduate Vocational/ Technical Graduate
 Certification
 Some College Associates Degree
 Bachelor's Degree
 Masters Degree Doctoral Degree
 Other: _____

Post Study Demographics

1. Please indicate if you are any of the following: (select one or more)
 Current college student
 Prospective college student
 Parent of college student
 Parent of prospective college student
 Friend or relative of college student
 Friend or relative prospective college student
 None of the above
2. How would you rate your technology experience? (select one)
 Novice Competent Proficient
3. How often do you visit websites for information? (select one)
 Rarely Sometimes Often
4. What devices do you use when visiting websites? (select one or more)
 Tablet Laptop Desktop Mobile Other _____
5. If you use a mobile device when visiting websites, which platform do you use? (select one or more)
 iOS (Apple) Android Other _____
6. Have you ever visited the University of Miami Interactive Media website (interactive.miami.edu)?
 Yes No Not sure/ Don't know
7. How often do you visit the University of Miami Interactive Media website (interactive.miami.edu)?
 Daily Once a week Once a month Once a year Never
 Not sure/ Don't know
8. How satisfied are you with the University of Miami Interactive Media website (interactive.miami.edu)?
 Very satisfied Somewhat satisfied Satisfied
 Somewhat dissatisfied Very dissatisfied
 Not sure/ Don't know

Appendix: Researcher Packet

Consent Form

Data Collection Sheet

Participant Consent Form

Title of Study:
Open Card Sorting - Non-Directive & Hastily
(Approx. 15-20 Minutes)

Introduction

- You are being asked to participate in a research study on examining item lists.
- We ask that you read this form and ask any questions that you may have before agreeing to be in the study.

Purpose of Study

- The purpose of the study is to examine user preferences for grouping, labeling, and placement of items.
- The results of the study will be used to inform the layout, navigation, content, and terminology for a proposed redesign.

Description of the Study Procedures

- If you agree to be in this study, you will be asked to do the following things:
 1. Complete a demographics and post-task questionnaire.
 2. Perform the task assigned as quickly as possible.
 3. Complete a post-exercise survey and verbal discussion with the moderator.

Confidentiality

- This study is anonymous. You have the right to privacy, confidentiality and anonymity. We will not be collecting or retaining any information about your identity.
- We are requesting permission to record the results of your task grouping exercise by taking a photo of the computer screen after the task is completed. We also request permission to record voice if possible for quality assurance of the data collected. As well as may ask for permission to photograph participants during the exercise, to use the content in a manner that respects the human dignity, safety, and welfare of participants.

Right to Refuse or Withdraw

- The decision to participate in this study is entirely up to you. You may refuse to take part in the study *at any time*. You have the right to withdraw completely from the interview at any point during the process; additionally, you have the right to request that the interviewer not use any of your interview material.

Right to Ask Questions and Report Concerns

- You have the right to ask questions about this research study and to have those questions answered by me before, during or after the research. If you have any further questions about the study, at any time feel free to contact Dr. Millet at millet@miami.edu during Spring 2019.

Consent

Your signature below indicates that you have decided to volunteer as a research participant for this study and that you have read and understood the information provided above.

Participant Name: (Print) _____ Date: _____
Participant Signature: _____ Date: _____
Investigator Signature: _____ Date: _____

Page: _____ Date: _____

University of Miami - Data Collection Sheet - Moderator

Notes during the Card Sort Exercise

**Comments and observations about the user and/or task.*

Notes during the Post-Exercise Questionnaire

**Grouping strategy*

**Prioritization or hierarchies of the groups*

***Preferred terminology**

Appendix: Researcher Packet

Optimal Sort Credentials

Study access:

<https://a8rp83dn.optimalworkshop.com/optimalsort/hastily-card-sort>

Backend:

<https://www.optimalworkshop.com/a/a8rp83dn/account>

Account Info:

User: veyagency@gmail.com

Password: CIM622NDH

Post Study Questionnaire

University of Miami - Post-Exercise Questionnaire

Thank you for completing the first part of the study. We will now show you the photo of the items you just sorted and grouped.

1. *"What was your grouping strategy?"*

2. *Prioritize the groups according to the labels below. Organize list per category from greatest importance to least importance.*

Critical:

Important:

Unimportant:

Irrelevant (topics you would not want to include):

Appendix:

Researcher Packet

Moderator Script

University of Miami - Moderator Script

Note: You can only recruit adults (18 years or older) to participate in the study. Also this is not a full website redesign -- this study is focused on the Information Architecture and how the information will be organized.

Tools:

- *Optimal Sort on computer*
- *Consent Form*
- *Post-Exercise Questionnaire*
- *Data Collection Sheet*
- *Pen*
- *Screen Grab application on computer*

Moderator Procedure:

1. Read Consent Form aloud with participant.
2. Inform: "We are going to give you a task to perform on the computer, and ask for you to not click the 'Submit' or 'Finished' button until directed."
3. Setup participant on Optimal Sort.
4. Task: "*We want to see what grouping of these cards make sense to you. Once you have grouped the cards, you will name each of the groups. Sort the items as quickly as possible.*"
5. While the participant is performing the task, take notes in the Data Collection Sheet.
6. ***Before clicking the "Submit" / "Finished" button***, take a screenshot of the grouped items to record the user's information structure.
7. Have participant continue the Optimal Sort study and complete the online post-task questionnaire.
8. Re-open the screenshot captured.
9. Give the participant the Post-Exercise Questionnaire, and engage in verbal discussion while writing notes in the Data Collection Sheet.
10. Thank participant for being in the study.

Appendix: Time per Participant

1- 15

<input type="checkbox"/>	Participant	Time taken
<input checked="" type="checkbox"/>	Participant 1	00:17:43
<input type="checkbox"/>	Participant 2	00:30:42
<input type="checkbox"/>	Participant 3	00:06:56
<input type="checkbox"/>	Participant 4	00:08:36
<input type="checkbox"/>	Participant 5	00:12:05
<input type="checkbox"/>	Participant 6	00:08:19
<input type="checkbox"/>	Participant 7	00:10:20
<input type="checkbox"/>	Participant 8	00:13:55
<input type="checkbox"/>	Participant 9	00:13:28
<input type="checkbox"/>	Participant 12	00:09:51
<input type="checkbox"/>	Participant 13	00:11:18
<input type="checkbox"/>	Participant 14	00:23:54
<input type="checkbox"/>	Participant 15	00:17:14

16-29

<input type="checkbox"/>	Participant	Time taken
<input type="checkbox"/>	Participant 16	00:11:12
<input type="checkbox"/>	Participant 17	00:10:08
<input type="checkbox"/>	Participant 18	00:14:01
<input type="checkbox"/>	Participant 19	00:09:57
<input type="checkbox"/>	Participant 20	00:10:09
<input type="checkbox"/>	Participant 22	00:07:35
<input type="checkbox"/>	Participant 23	00:10:00
<input type="checkbox"/>	Participant 24	00:07:43
<input type="checkbox"/>	Participant 25	00:08:00
<input type="checkbox"/>	Participant 26	00:05:27
<input type="checkbox"/>	Participant 27	00:16:44
<input type="checkbox"/>	Participant 28	00:20:12
<input type="checkbox"/>	Participant 29	00:10:33

Appendix: Time per Participant

30-42

43- 48

<input type="checkbox"/>	Participant 30	00:15:07
<input type="checkbox"/>	Participant 31	00:07:17
<input type="checkbox"/>	Participant 32	00:11:34
<input type="checkbox"/>	Participant 33	00:09:45
<input type="checkbox"/>	Participant 34	00:15:25
<input type="checkbox"/>	Participant 35	00:11:05
<input type="checkbox"/>	Participant 36	00:23:20
<input type="checkbox"/>	Participant 37	00:17:09
<input type="checkbox"/>	Participant 38	00:51:56
<input type="checkbox"/>	Participant 39	00:04:35
<input type="checkbox"/>	Participant 40	00:08:34
<input type="checkbox"/>	Participant 41	00:09:27
<input type="checkbox"/>	Participant 42	00:10:32

<input type="checkbox"/>	Participant 43	00:18:34
<input type="checkbox"/>	Participant 45	00:19:30
<input type="checkbox"/>	Participant 46	00:21:46
<input type="checkbox"/>	Participant 47	00:16:01
<input type="checkbox"/>	Participant 48	00:12:45