# INFORMATION EVALUATION

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A Research in Complex Adaptive System

DMGT 710-01 Prof. Mauricio Manhaes

GROUP: Alisha Saxena, Kathleen Black Laura Rubio, Wenting Zhu

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## INTRODUCTION

As design students, we were interested in understanding how information is presented and interpreted in our everyday lives. Specifically, how one establishes ways to research information in an accurate and systematic way.

By using both primary and secondary research, we designed multiple rounds of prototypes to reach a solution.



## **MEET THE TEAM**



Alisha Saxena



Laura Rubio



**Kathleen Black** 



Wenting Zhu

## TABLE OF CONTENT



### Section 1: Defining Concepts

1.1 Secondary Research1.2 Topics and Brainstorming (per team)1.3 First test of Articles1.4 Defining Topic

### **Section 3: Testing and Analyzing Information**

(Getting into the scientific method)

3.1 Interview Round #3

- 3.2 Interview Round #4 & Gathering Instrumental data with SPSS
- 3.3 Flow chart development

### Section 2: Primary Research

2.1 Final Articles for Research
2.2 Survey Testing
2.3 Interview Round #1
2.4 Interview Round #2

2.4.1 Remainders for Interview
2.4.2 General Outcomes

### Section 4: Designing and Developing a Tool

4.1 Inspiration4.2 Prototyping and testing4.3 Final Design

### Section 5: Conclusions & Reflections



## Section 1

## **Defining Concepts**

- 1.1 Secondary Research
- 1.2 Topics and Brainstorming (per team)
- 1.3 First test of Articles
- 1.4 Defining Topic

# **N**

## Secondary Research

Starting to choose a topic for research

We started this project as two separated groups (Group A: Alisha and Kathleen, Group B: Laura and Wenting) and each one came up with personal topics of interest to start a secondary research.

Group A

Popular Searches Information Cultural facts Information Accuracy Emotional News Fake News Google Searches

### Group B

Evaluation Transparency Information fake news Misinformation truth/reality perception/psychology diffusion/channel

## Secondary Research

Starting to choose a topic for research

### Group A

### About Assessing Information:

"In such a world, the last thing a teacher needs to give her pupils is more information. They already have far too much of it. Instead, people need the ability to make **sense of information**, to tell the difference between what is important and what is unimportant, and, above all, to **combine many bits of information** into a broad picture of the world."

(Yuval Noah Harari, 2018)

### Group B

About Misinformation:

"The **misinformation** effect occurs when the recollection of an event changes because new, misleading information about the event is received"

(Stille L, Norin E, Sikstro m S, 2017)

w

## **Topics and Brainstorming**

Sharing topics and takeaways

By sharing part of the secondary information and topics of interest between us, we made the following:

### Group A

"We were interested in the **by whom** the information is being created and published? Also, Why people want search certain types of topics versus other ones and why people are so **interested in GOSSIP** and how does this lead to **evaluation of information**? Therefore, understanding The **Complex Systems** by whom the Information is published and how is it convincing to be true."

### Group B

"We were interested in **fake news**, **misinformation**, so by using "**brainstorming**" method these concepts translated to understand how are the things that people take in mind to **evaluate information**. Also que wanted to see **how is people's impact around both topics**, their understanding while reading and appropriating information that can be or not true."

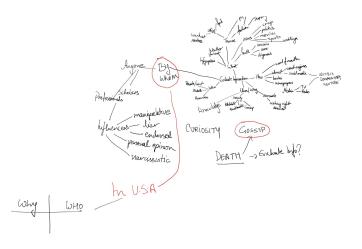




## **Topics and Brainstorming**

Sharing topics and takeaways

### Group A





By sharing part of the secondary information and topics of interest between us, we (each group) ran a test in which we wanted see how people perceive different information given (e.g. articles, fake news, scientific research, social media etc).

Group B

## First Test Articles Group A

We created a fake news article and shared it through Social Media. People comment on it with many different reactions. See right.

Link to Fake Article



Like · Reply · 6w





### **First Test Articles** Group A: What do we wanted to test?

# Myth #4: Not feeling sore means you didn't get a good workout.

**Truth:** While soreness and workout intensity are sometimes connected, how tired your muscles feel isn't always a good indicator of a solid sweat session. "Being sore doesn't necessarily mean it was a great workout—it just means that a significant amount of stress was applied to the tissue," says exercise physiologist and trainer Pete McCall, M.S., C.S.C.S., host of the All About Fitness podcast. "You can have a great workout and not be sore the next day," he says. Proper recovery will help prevent achy muscles. "Refuel within the first 30 to 45 minutes post-exercise, stay hydrated, and get enough sleep—all of these things can help boost recovery and minimize soreness."

• We selected the following articles because it was a myth. We found that it would be an interesting article to test individuals critical thinking because it taps into individuals emotions.

### Exercise article here

### Researchers Show Parachutes Don't Work, But There's A Catch

December 22, 2018 · 8:01 AM ET Heard on Weekend Edition Saturday





A study found that parachutes were no more effective than empty backpacks at protecting jumpers from aircraft. There was just one catch.

• We selected the following articles because it was presented in class. We found that it would be an interesting article to test individuals critical thinking.

Parachute article here



## First Test Articles

Group A: Raw Data from Questionnaire

Persona Name	Age	Sex	Profession	Highest Level of Education	Year of Completion	N	ews Source:		Article	Emotional Attachment	Believe it?	Catch?	Eager to know more?
						National Broadcast	Newspaper	Social Media					
			Retired,			1	2	3	Parachute	3	Yes	Yes	Yes
Bob	56<	Male	Former Banker	College Degree	1968	1	2	3	Exercise	2	No	No	No
			Student.	Bachelors		2	3	1	Parachute	2	No	Yes	No
Rachel	18-25	Female	Waitress	Degree	2017	2	3	1	Exercise	4	50/50	Yes	Yes
				Didnt want to say		1	2	3	Exercise	4	Yes	No	Yes
Roxy	36-45	Female			-	1	2	3	Parachute	1	No	Yes	No
			Enforcement,	BA in Criminal		2	3	1	Parachute	5	No	Yes	Yes
Stanley	26-35	Male	Secruity	Justice	2004	2	3	1	Exercise	3	No	No	50/50
			Motion Media			1	3	2	Parachute	2	50/50	Yes	No
Suzan	26-35	Female	Design	MA	2012	1	3	2	Exercise	3	Yes	No	No
			Coach/			2	3	1	Exercise	2	Yes	No	Yes
Kesha	18-25	Female	Musician	Beauty School	2014	2	3	1	Parachute		No	Yes	No

## First Test Articles

Group B: Two topics, 6 articles

### **Science Articles**

### True article here

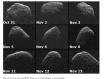
#### NASA Rules Out Earth Impact in 2036 for Asteroid Apophis

(XIS0) Scientizes at the agency/s Jet Propulsion Laboratory in Pasadena, CaLE, effectively have reled out the possibility the asteroid Apophia will impact Earth during a close flips in 2016. The scientizes used updated information chronized by NASS-supported telescoper in 2011 and 2012, as well as new dus from the time leading up to Apophia diazate Earth flips yearerday (Jac. 5).

Disovered in 2004, the asteroid, which is the size of three-and-a-ball football fields, galaxeed the immediate attention of space estematic and the mercka when initial calculations of its orbit indicated a 2.2 process possibility of an Earth impact during a cost of type in 2022. Data dooxered during a search of 64 astronomical image provided the additional information required to not out the 2029 images exemption but a remote assolutive of one in 2020 remained - usual vectores.

ever approximation that the importantly of our distribution framework intervals. We have a second of the distribution for the distribution of Mixing and received by the distribution of Mixing and received by the Galdana Solar System Kadira we have effectively related on the possible of the Leader Solar Solar Solar System Kadira we have effectively related on the possible of the Topological Distribution of the Neurann, range and VASAN Monachash (Distribution of Solar So

April 15, 2029, Byby of asseroid Apophis will be one for the record books. On that date, Apophis will become the closest Byby of an asteroid of its size when it comes no closer than 19, 400 miles (51,100 kikometen) above Earth's surface.



Same Steve Parkers, eds., Same Stevens, Oct., and Steve Stevens, Stevens

### False article here

Do Lemmings Really Commit Mass Suicide?



The Kilney of dissiplance iterating are used researces who ded representation. In a tribucourse, sampling benefacioned by the built of theorem jetures in a subscription of the second secon

Turning overning with security of procession many strengtheness in west-or a survey of a spinlerming security with the security of the spinler security of the security security of the learning base large population boxes very three or fore years. When the concentration of learning basecars to dight in our array, a large group will be real in security of a real-wave in which the wakko new opt to be readulable for perdament helping others in migrar a distribution of monto wints, will they reads a varier bracket, such as a first or the disk, they may give in or built distribution.

This is possible an irresistible metapher for human behavior. Stensone who blacky follows a coved maybe com toward catastruphe—is called a longing. Over the pase corney, this belief has been invoked to express modern antivieries about how individually could be submerged and destroyed by many phenomena, such as political memerims or consumer catanox.

But the biggest reason the reych endured: Thanks to 1950 Disney nature film White Wilderness, filmmakers eager for dramatic footage staged a learning death plange, publing dozens of learnings off a cilif while cameras were reling. The images consistent several presentation of moviegness that these lifts reduced on, in fut, process a laborare institut to denove themselves.

### <u>"True" article here</u>

The Claim: Tongue Is Mapped Into Four Areas of Taste

(The New York Time)

High whool is taken only in the roughe map — that colorful Hastration that nearly divides the human torque into sections according to take receptors. There is the sign of the target for sweet, the idea for sour and salay, and the back of the target for hitter. But recent studies dowe that while scientism will have much to have about receptors, the map, at back, is veroug.

What is known is that there are at least five basic states: sweet, sour, sally, bitter and the most recently discovered, unsuri. This last fluxos which means "narray" in Japanese, can be detected in indis, say stanes and orber Asian foods, particularly these that contain monordians glatamate And scientific suspect that there are receptors for other fluxors as well.

In a study published in the journal Nature in 2006, a tenso of scientists reported that receptors for the havie taxes are frond in distinct cells and that there cells are not tocklined but append throughout the tangue. That said, other studies suggest that some parts may be more sensitive certain fluors and that there may be differences in the way men and somen detect some, sally and hinter thouses.

#### THE BOTTOM LINE

Receptors for different tastes are not confined to certain parts of the torgo



### "True" article here

#### **Real names of 23 fictional characters**

 $\beta Hout Ploy)$  – You know the characters, but you might not know their full mames. Store these awa for future mixin nights.

 Did you know the **Cornic Book Gay** on "The Simpsons" has a name? 16 Jeff Albert, But that wasn't the decision of crease Mast Geoening.
 **Barbie's** full name is Barbara Millicent Roberts. (Kerly last name is Karons.)

S. Gap'n Grunch) full mame is Captain Horazio Michigan Counch. His ship is the S.S. Gappy.
 In the Parameteronic strip, Poppormint Party's real name is Particia Reinham
 Struffleungens has a first name – Adversis, Wate more Steaffleungens trivial. In a Sesare Str

b. Smullbergrapps has a first many – Abysian. Watt more Southlepagns torval: In a Sesante Street scene that never aired, Smull's parents announced they were separating. But in testing, children were too decamated by the news, so the idea was scrapped.

 The Winard of Or rolls off the torque a lot eavier than the man behind the curtain's full name, Owar Zererich Plashig base: Norman Henkel Mandel Anhonise Diggs.
 Mr. Clean has a seldom used first name = "Verifably" The name came from a "Give Mt. Clean

First Name" promotion in 1962.
K. In a defend acree in the 2006 Carinos George monie, The Main With the Yolkov Hat's full name was revealed as Ted Shackleford. (Since the scene was defeted, perhaps the last name does count.)

conni;
9. The real name of Monopoly massest Rick Uncle Pennybags is Millium Pennybags.
10. The policeman in Memopoly has a name, tex, Voi can thank Officer Edgar Milliory for the

On Night Court, Normadamus Sharman was better known as Bull.

On Entourage, Turtle's real name is Substore Assarie.
 Seame Street's reident game show host Guy Smilley was using a pseudonym all these years. He was born Bernic Liederkrant.

The Michelin Man's same is Bitendam.
 On Giligar's bland, Jonas Granity was simply called The Skipper

16. The Professor was Ray Hindley.
17. The subscript Skaggy of Scooly-Doo fame has a rather proper wal name – Narville Roberts.
18. The PHilder Doughboy's same is Poppie' Fresh. He has a wife, Poppie Fresh, and two kide, Poppie and Ban Ban.
18. The particular in the classic game Operation is Cavity Sam.

The true identity of The Lone Ranger was John Reid.
 MacGyver's free name? Angue.
 A 63: O.S., these has two amen' fectional, but just in case it comes up. Bono was horn Paul David.
 However, and The Eulipe's name is David Howell Evans.

see, and the height status of corrections.

### True article here

**Culture Articles** 

#### The history of Jews, Chinese food, and Christmas, explained by a rabbi

In the US, Jews have been eating American Chinese food on Christmas for over 100

The Garde JG Hig Fee ere e century. Attention Jpen have neuror. Attention Glorese feed and Christman Unit paratise law order to a rear-left entring, mortford in Statuetty Night Lee, analysed in andrenis papers, and realtment by Septerne Courd Jacke Haus Kagan. Pethyai the Konsone experite the Jacke Statuetty Christman (Jacke Statuetty). Description of the Christman Theory of Kahin Merical Carter, rubbi el Mempediant Synappere in New York, and author of A Jacker Christman, the prentier 2nd offst in sampling statuetty of Andrean Statuetty.

Okay, so tell me when eating Chinese food on Christmas first comes into the picture. Is that a Jewish-American tradition?

Yes. It begins a due mode of the 1996 centure, un the Lower Lan Web, better Jowish and Chinese resinguant host in deep rominity. The very interaction of Astrochamber Jow categoins of Chinese restorant datas to 1899, where the Astrochamber Holeney journal critical Jow 66 endpoint community. By 1993, a polarizon call out the Lan Web Chamber New propert at local IS Chinese to gashest and they any caterios in hards "opplicated journal critical and their series datasets". The Markan call Restor Astrophysical Conduction of the Markan Markanan.

In the last 33 years, Chinese rotaurants on Christmaschave really because this sort of temporary community where Jews in the United States can gather to be with fittends and family. It's a secular way to celebrate Christman, but it's also a time to shart our Christmas and announce your Jewsh identity in a dir enformate.

Was there any reason, beyond proximity, that Jews wound up eating Chinese food, as opposed to some other immigrant casime?

In terms of lasher last, a Chinese restaurant is a lot safer than an Italian restaurant. In Italian food, three is a mixing of most and dairy A Chinese restaurant doesn't mix meat and dairy because Chinese coshing is virtually dairy-free.



False article here

#### Entry denied: the identity crisis facing China's covert dual passport holders

Beijing has warned of its zero tolerance for dual nationality. Now some foreign citizens who held on to their Chinese identity documents fear the consequences of returning

(South China Mensing Past) Just before the Lamar New Year Indialog. China's embasisy in London poster a "special reminder" on its website warning that China dit not recognize dual rationality.

"The embasy will intuitiate the related documents of anybody who violates Chinese law and deny Chinese visus and entry to that person," the notice said.



When "Ryan", a thirty-something dentist and US eithers still holding a Chinese parsport, send th message, he had a vision of his life falling apare. Ryan was horn in China and still makes regular trips back to see family, but he said he feared he world be supported of his Chinese citizenship if the returned.

would be supped of his Chinese citizenship if he returned. "Mr Ghinese parspers will expire within the next roo yoars, and right now I really don't know how to deal with my parents' property." he sold. "I had hoped that one day I could send my child to a Ghinese public school."

Rean is part of weveral generations of Chances who left their country of high fur education, careers, family or freedom, and because paraport hadden of other countries without resourcing their Chances entimately. They had to as their Chancel industry cards and inserved their Chances vision reasons - to make it easier to how and well pupperty on the maintant, to be able to send their ediherts to Chinese enables and a blue access to the Chances health poper.

But now Chinese authorities are cracking down on dual citizens, a more analysts say is driven in part by a campaign to track down the ill-gotten gains of corrupt officials.

For about a decade, any Chinese national who became a citizen of another country has had to surrender their Chinese paosport, handling over the document often they applied for a visa to enze

 We selected two main topics each one with three articles (one being true, other false and the third one with the majority of the information true) to develop our first test:
 Science and 2. Culture • The testing was held at Forsyth Park interviewing a total of 12 people (6 per topic): we pre selected the topic and explained them that they need to read each article, at the end, a survey was given to them.





## First Test Articles Group B

We are a group of SCAD students working on a project about Information Evaluation. Please spare us THREE minutes to fill it out. All answers are anonymous and for research only.

1. How would you rate these articles on scale 1 to 5? (being 5 the most reliable)				3. Which of the following channels do you actively get and share information?		
A B		3 ) () () ) () ()	4 5 0 0 0	<ul> <li>□ Facebook</li> <li>□ WhatsApp/iMessage</li> <li>□ Instagram</li> <li>□ Newspaper/News Site</li> <li>□ Twitter</li> <li>□ Magzine/eMagzine</li> <li>□ Snapchat</li> <li>□ Journal</li> </ul>		
C 2. How	would yo	) () ( u think ab	oout these news?	☐ Youtube ☐ Email ☐ TV ☐ Other:		
	True	False I	I'm not sure	☐ Radio		
А	$\bigcirc$	$\bigcirc$	$\bigcirc$	4. One of these articles is a fake news,		
В	$\bigcirc$	$\bigcirc$	$\bigcirc$	which one do you think it is?		
с	0	0	0	A B C		
Gender: Age:						
Level of Education:				Occupation:		

• This is the survey that the participants took: here we wanted to know if they can know which article they believed was true or fake, demographics and where do they get information from.

About the articles:

- 1. What are you thoughts after knowing one of these articles is fake?
- 2. Do you care about the info that u read just now?
- 3. How did you evaluate which one is fake or not?
- 4. If you have the possibility to check what you read, would u do it? Which one? How?
- 5. Do you want to share any of these articles? Which one? With whom?

#### About Information:

- 1. How frequent you proactively search info? where?
- 2. What do you usually look for?
- 3. What else do you want to share about fake news/ Disinfo?

• Also, from the 12 participants, 8 were interviewed at the end of the survey to get their thoughts and opinions about fake news, misinformation and research.



## **COLLABORATED TEAM WORK**

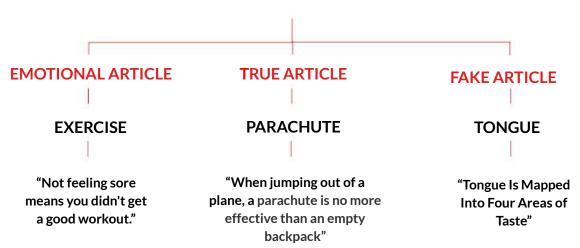
The two groups start working as one for more consistent and accurate results.



## **Redefined Focus Area**

How people evaluate information

**Targeting Different Articles** 





## Section 2

## **Primary Research**

- 2.1 Final Articles for Research
- 2.2 Survey Testing
- 2.3 Interview Round #1
- 2.4 Interview Round #2
  - 2.4.1 Remainders for Interview 2.4.2 General Outcomes



## 2.1 Articles for Interview

## **EMOTIONAL ARTICLE**



### Article #01 Exercise

### "Not feeling sore means you didn't get a good workout."

Truth: While soreness and workout intensity are sometimes connected, how tired your muscles feel isn't always a good indicator of a solid sweat session. "Being sore doesn't necessarily mean it was a great workout—it just means that a significant amount of stress was applied to the tissue," says exercise physiologist and trainer Pete McCall, M.S., C.S.C.S., host of the All.

About Fitness podcast. "You can have a great workout and not be sore the next day," he says. Proper recovery will help prevent achy muscles. "Refuel within the first 30 to 45 minutes post-exercise, stay hydrated, and get enough sleep—all of these things can help boost recovery and minimize soreness."

https://www.self.com/story/12-workout-myths-that-just-need-to-die

# **N**

## Article #02 Parachute

## **TRUE ARTICLE**

### "When jumping out of a plane, a parachute is no more effective than an empty backpack"

Research published in a major medical journal concludes that a parachute is no more effective than an empty backpack at protecting you from harm if you have to jump from an aircraft.

The gold standard for medical research is a study that randomly assigns volunteers to try an intervention and it proved true.

In all, 23 people agreed to be randomly given either a backpack or a parachute and then to jump from a biplane on Martha's Vineyard in Massachusetts or from a helicopter in Michigan.

Oh, there's one important detail here. The drop in the study was about 2 feet total, because the biplane and helicopter were parked.

## Article #03 (Deleted) Tongue

### **FAKE ARTICLE**



### "Tongue Is Mapped Into Four Areas of Taste"

What is known is that there are at least five basic tastes: sweet, sour, salty, bitter and the most recently discovered, umami. This last flavor, which means "savory" in Japanese, can be detected in miso, soy sauce and other Asian foods, particularly those that contain monosodium glutamate. And scientists suspect that there are receptors for other flavors as well.

In a study published in the journal Nature in 2006, a team of scientists reported that receptors for the basic tastes are found in distinct cells and that these cells are not localized but spread throughout the tongue. That said, other studies suggest that some parts may be more sensitive to certain flavors and that there may be differences in the way men and women detect sour, salty and bitter flavors.

### NOTE:

After testing all 3 articles, we came to the conclusion that we did not need a fake article to interpret if people had critical thinking. Further, we were not trying to trick people to believe a fake article, but we were trying to assess how people were reacting and responding to any article regarding if it was fake or real.



## 2.2 Survey Testing

## **Testing** First Interview



### 1. Age: \_\_\_\_\_

#### 2. Gender:

- a. Female
- b. Male
- c. Prefer not to say
- d. Other:\_\_\_\_\_

3. Occupation: \_\_\_\_\_

#### 4. Which of the following categories best describes your

#### employment status?

- a. Entrepreneur (self-employed)
- b. Employed, working 40 or more hours per week
- c. Employed, working 1-39 hours per week
- d. Not employed, looking for work
- e. Not employed, NOT looking for work
- f. Retired
- g. Disabled, not able to work

#### 5. What is the highest level education that you have

#### completed?

- a. Did not attend school
- b. Less than high school
- c. Graduate from high school or equivalent (e.g. GED)
- d. College
- e. Graduate from College
- f. Some college graduate
- g. Complete graduate school

### 6. What year did you complete your last degree?

#### 7. Do you believe this sentence?

- a. I do
- b. I do not
- c. I cannot now, as there is less information

## The placement of question is confusing to interviewees.



## **Testing** Second Interview

- 1. Do you feel connected to the text you just read?
- 2. Would you like to read the whole article or will you pass through?
- 3. Would you like to forward this article? (Why? With whom?)
- 4. How frequently do you search info? Where?
- 5. What do you usually look for?

The order of the question does not make sense.

6. What else do you want to share about fake news/ Disinformation?



## 2.3 Interview Round #1



## Round #1 First Interview

### 1. Do you believe this sentence?

- a. I do
- b. I do slightly
- c. I do not slightly
- d. I do not

### 2. How do you decide its true or false?

### **Demographic:**

1. Age: \_\_\_\_\_

#### 2. Gender:

- a. Female
- b. Male
- c. Prefer not to say
- d. Other:\_\_\_\_\_

### 3. Occupation: \_\_\_\_\_

### 4. Which of the following categories best describes

### your employment status?

- a. Entrepreneur (self-employed)
- b. Employed, working 40 or more hours per week
- c. Employed, working 1-39 hours per week
- d. Not employed, looking for work
- e. Not employed, NOT looking for work
- f. Retired
- g. Disabled, not able to work

### 5. What is the highest level of school you have

### completed or the highest degree you have received?

- a. No schooling completed
- b. Nursery school to 8th grade
- c. Some high school, no diploma
- d. High school graduate, diploma or the equivalent (e.g GED)
- e. Some college credit, no degree
- f. Trade/technical/vocational training
- g. Associate degree
- h. Bachelor's degree
- i. Master's degree
- j. Professional degree
- k. Doctorate degree

### 6. What year did you complete your last degree? And

#### in what major?\_\_\_\_\_



## Round #1 Second Interview

- 1. Do you feel connected to the text you just read?
- 2. Would you like to read the whole article or will you pass through?
- 3. Would you like to forward this article? (Why? With whom?)
- 4. What do you usually look for?
- 5. How frequently do you search info? Where?
- 6. What else do you want to share about fake news/ Disinformation?

## **Previous Interpretation**



- 1. People above the age of 60 rely on information they find on google because google is considered as a source in itself for reliable information.
- 2. Google is a free search engine which is why it is preferred as a direct source to information, rather than understanding the sources of the information within it as a separate entity.
- 3. People who are employed in a field that requires critical thinking but have not been in touch with academics had given more critical answer than other.
- 4. Information that directly (knowledge or emotionally) concerned an individual was believed more easily without asking for the truthfulness of the source.

**OVERSIGHT** We ignored the differences between gender and age, which lead to misinterpretation of data. Eg. different amounts of female and male



## 2.4

## Interview Round #2

(Before, during and after interviews)



## Round #2 First Interview

### 1. Do you believe this sentence?

- a. I do
- b. I do slightly
- c. I do not slightly
- d. I do not

### 2. How do you decide its true or false?

### Demographics:

1. Age: \_\_\_\_\_

### 2. Gender:

- a. Female
- b. Male
- c. Prefer not to say
- d. Other:\_\_\_\_\_

3. Occupation: \_\_\_\_\_

4. Which of the following categories best describes

### your employment status?

- a. Entrepreneur (self-employed)
- b. Employed, working 40 or more hours per week
- c. Employed, working 1-39 hours per week
- d. Not employed, looking for work
- e. Not employed, NOT looking for work
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- e. Some college credit, no degree
- f. Trade/technical/vocational training
- g. Associate degree
- h. Bachelor's degree
- i. Master's degree
- j. Professional degree
- k. Doctorate degree

### 6. What year did you complete your last degree? And

### in what major?\_\_\_\_\_



## Round #2 Second Interview

- 1. Do you feel emotionally connected to this text? Yes/No
- 2. How confident are you to access the accuracy of the news present above?

Very confident Neutral Not confident at all

- 1 2 3 4 5
- 3. Would you like to read the whole article or will you pass through? Read/Pass
- 4. Would you like to forward this article? (Why? With whom?)
- 5. What information do you usually search for? (eg. educational, personal, informational)
- 6. How do you decide which link is most relevant to the information you searched on Google search engine?
- 7. What else do you want to share about fake news/ Disinformation?



## 2.4.1

## **Reminders For Interviewers**

(Takeaways and counting)

Raw Data: https://docs.google.com/spreadsheets/d/1oHrVb rriNRDhkLwpWiDtxU7Zl4gyLMluj3fl4wLzNg/edit?usp=sharing



# Reminder for the Interviewer- Before doing the interview

- Each member of the team will be interviewing 4 people (16 in total): 2 men and 2 female.
- For each article there must be 4 men and 4 female participants.
- Each member will ask questions in the same order and record data exactly as given by the interviewee.

## Reminder for the Interviewer- During the actual interview session Asking questions

- First the participants will be reading only the article's title. First Interview (survey) is given. After that, participants will reading the rest of the text; Second Interview is given.
- Each member will give the same questions, without leading the participant to answer in certain way or another.
- Interviews will be recorded (later transcripted).



## **Reminder - After** Reminder Criteria to categorize Critical Thinking

From the First interview answers, each participant will be assigned into one of the following categories:

- A. (C & NA) The individual has critical answer with having no degree currently/recently.
- B. (NC & A) The individual has no critical answer but is in touch with academics currently/ recently.
- C. (C & A) The individual has critical answer and is in touch with academics currently/recently.
- D. (NC & NA) The individual has no critical answer and no degree currently/recently.

### Critical answer = provide explanation using facts or experience



## 2.4.2 Data Analysis

Raw Data: https://docs.google.com/spreadsheets/d/10HrVb rriNRDhkLwpWiDtxU7Zl4gyLMluj3fl4wLzNg/edit?usp=sharing

## "Do they Believe" Verse "Gender"

### Female:

### Male:

- 3 I do not
- 0 I do not slightly
- 3 I do slightly
- 2 I do

- 6 I do not 0 - I do not slightly
- **1** I do slightly
- **1** I Do

## "Do they Believe" Verse "Age"

21-30	31-40	41-50	60 and up	51-60
<mark>3</mark> - I do not	2 - I do not	1- I do not	<mark>1</mark> - I do not	2- I do not
0 - I do not slightly	0- I do not slightly	0 - I do not slightly	0 - I do not slightly	0 - I do not slightly
2- I do slightly	<b>1</b> - I do slightly	0- I do slightly	0 - I do slightly	<b>1</b> - I do slightly
<mark>2</mark> - I do	<mark>0</mark> - I do	<mark>0</mark> - I do	<mark>0</mark> - I do	<b>1</b> - I do

Do you believe it?	Age	Gende
l do not	23	Male
l do not	28	Female
l do not	31	Male
l do not	32	Female
l do not	42	Male
l do not	55	Male
l do not	63	Male
l do not	26	Female
l do not	56	Male
l do slightly	28	Female
l do slightly	29	Male
l do slightly	39	Female
l do slightly	52	Female
l do	24	Female
l do	25	Female
l do	55	Male

# How do you decide it's true or false?



### Parachute

"If it is a parachute, it's gonna work. How I'm gonna decide that is true or false? Well is under... (laughs) well is no way to determine if its true or false unless to get the actual parachute"

"I believe this is false because i have been skydiving before and that seems unrealistic. Also, the sentence does not seem to be accurate based on science courses i have taken in the past"

"Out of experience, I was in the air force."

### Exercise

"It's how I feel whenever I do exercise. If I don't feel pain, it feels I did not do enough"

"I work out as a hobby and train people on weekends."

"I don't like working out"

"Don't associate feeling sore and good workout together."

# **By Category**



### 16 Responses

### 8 Female:

- 4 for Parachute
- 4 for Exercise

### 8 Male:

- 4 for Parachute
- 4 for Exercise

# Count of Category

- A. (C & NA) The individual has critical answer with having no degree currently/recently.
- B. (NC & A) The individual has no critical answer but is in touch with academics currently/ recently.
- C. (C & A) The individual has critical answer and is in touch with academics currently/recently.
- D. (NC & NA) The individual has no critical answer and no degree currently/recently.

# **Occupation vs Critical Answer**



### Category : A (C & NA)

- Executive Director
- Salesman / Manager
- Recruiter
- Uber Driver
- Accountant
- Director of Maintenance

### Category : C (C & A)

- Student
- Part-time job/student
- Student
- Professor
- Professor
- Retail/Sales

### Category : B (NC & A)

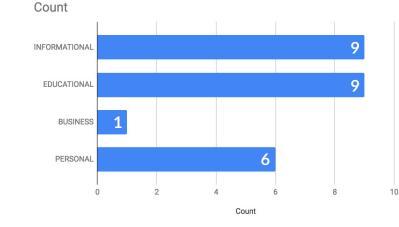
- Student
- Barista / Bus School Monitor

### Category : D (NC & NA)

• Restaurant Manager

# What do you usually look for?

(eg. educational, personal, informational)



### Takeaway:

# People tend to search information related to their **profession** and **occupation**.

Note: Participants were allowed to choose more than one, most participants choose a combination

# How do you decide which link is most relevant to the information you searched on google search engine?

"find the link includes more keywords of the information, and also check about the **source**"

"Depends on its connected to reliable source, like **university** or research center"

# 2Google Scholar2Trust2University2Academic2Myself1Wikipedia1Statistics

Google

5

### Takeaway:

People trust on the information from academic source.





# Category Comparison: A (C & NA)

### **A1**

- 63
- Male
- Executive Director
- Bachelor's, 1976 (Electrical Engineer technology)
- Employed, working 40 hours or more per week

### **A4**

- 55
- Male
- Bed and Breakfast owner
- Master's Degree, 1997 (Curriculum Design)
- Employed, working 40 hours or more per week

### **A7**

- 56
- Male
- Recruiter
- Associate Degree, 1983 (Electronics)
- Employed, working 40 hours or more per week

### A2

- 28
- Female
- Recruiter
- Bachelor's Degree, 2012 (Accounting)
- Employed, working 40 hours or more per week

### **A5**

•

•

- 31
- Male
- Accountant
- Master's Degree, 2012 (Accounting)
- Employed, working 40 hours or more per week

### **A3**

- 42
- Male
- Uber Driver
- High School, 1996
- Entrepreneur (self-employed)

### **A6**

- 29
- Male
- Director of Maintenance
- Bachelor's Degree, 2012 (Industry Design)
- Entrepreneur (self-employed)

### Takeaway:

Critical thinking is not related with age, but **experience** and **occupation**.

# Category Comparison: B (NC & A)



### **B1**

- 26
- Female
- Barista
- Grad from High School 2011
- Employed, working 40 hours or more per week

### **B2**

- 32
- Female
- Student
- Bachelor 2013 (Sequential Art)
- Not employed, looking for work

### Takeaway:

The kind of **profession in practice** also affects the critical thinking.

# Category Comparison: C (C & A)



### **C1**

- 24
- Female
- Part Time Job
- Bachelor 2017 (Interior Design)
- Employed, less than 40 hours per week

### **C2**

- 25
- Female
- Student
- Bachelor 2018 (Architecture)
- Not employed, NOT looking for work

### **C**3

- 55
- Male
- Professor
- Master 2000 (Visual Communication)
- Employed, working 40 hours or more per week

### **C4**

- 23
- Male
- Student
- Bachelor 2017 (Marketing)
- Employed, less than 40 hours per week

### **C5**

- 28
- Female
- Student
- Bachelor 2012 (Sociology)
- Employed, working 40 hours or more per week

### **C6**

- 39
- Female
- Professor
- Master 2014 (International Business)
- Employed, working 40 hours or more per week

### Takeaway: The occupation/ profession involves critical thinking.

8 Tamada



# Category Comparison: D (NC & NA)

### **D1**

- 52
- Female
- Restaurant Manager
- Associate Degree 1988 (Business)
- Employed, working 40 hours or more per week

### We need more participants in this category to make any conclusions



# **NEW** Interpretation

People who have critical thinking and are not in touch with academics recently, tend to have critical thinking if they are **currently practicing a profession** that requires at minimum a Bachelor's Degree and working 40 + hours.



# **Refined Area of Interest**

We are interested in people who do **not have critical thinking** while being in touch **with or without** academics.



# Section 3

# **Testing and Analyzing Information**

- 3.1 Interview Round #3
- 3.2 Interview Round #4 & Gathering Instrumental data with SPSS
- 3.3 Flow chart development



# 3.1 Interview Round #3

Raw Data: https://docs.google.com/spreadsheets/d/10HrVb rriNRDhkLwpWiDtxU7ZI4gyLMluj3fl4wLzNg/edit?usp=sharing



# Why We Need To Have Interview Round #3?

We realized that we needed more significant instrumental data. We ran other interview to get answers that we could properly use to draw instrumental data from.



# Redefining the criteria for critical and non critical thinkers

### Criteria Scale of Critical Thinking:

- 1. Not critical at all
- Critical (answers in a way that relates to factual or experience) -or- (answers with "I don't know, need more information").
- Very Critical (answers related to factual or experience and "need to know more information").

An answer is critical on the below factors:

 $^{\ast\ast}$  do not interview those who respond with absolutism  $^{\ast\ast}$ 

### Experience

Experience

First Person

I have, I used, I do

Facts

believe

make sense

artifacts



### Article Parachute

# "When jumping out of a plane, a parachute is no more effective than an empty backpack"

Research published in a major medical journal concludes that a parachute is no more effective than an empty backpack at protecting you from harm if you have to jump from an aircraft.

The gold standard for medical research is a study that randomly assigns volunteers to try an intervention and it proved true.

In all, 23 people agreed to be randomly given either a backpack or a parachute and then to jump from a biplane on Martha's Vineyard in Massachusetts or from a helicopter in Michigan.

Oh, there's one important detail here. The drop in the study was about 2 feet total, because the biplane and helicopter were parked.

## Round #3 First Interview



### 1. Do you believe this sentence?

- a. I do
- b. I do slightly
- c. I do not slightly
- d. I do not

### 2. How do you decide its true or false?

### 3. If you were to list three steps to research about the above topic, what would it be?

### 4. What is the highest level of school you have completed or the highest degree you have received?

- a. No schooling completed
- b. Nursery school to 8th grade
- c. Some high school, no diploma
- d. High school graduate, diploma or the equivalent (e.g GED)
- e. Some college credit, no degree
- f. Trade/technical/vocational training
- g. Associate degree
- h. Bachelor's degree
- i. Master's degree
- j. Professional degree
- k. Doctorate degree

### 5. What year did you complete your last degree? And in what

major?\_\_\_\_\_

### Round #3 Second Interview

### **Demographics:**

1. Age: \_\_\_\_\_

### 2. Gender:

- a. Female
- b. Male
- c. Prefer not to say
- d. Other:\_\_\_\_\_
- 3. Occupation: \_\_\_\_\_

### 4. Which of the following categories best describes

### your employment status?

- a. Entrepreneur (self-employed)
- b. Employed, working 40 or more hours per week
- c. Employed, working 1-39 hours per week
- d. Not employed, looking for work
- e. Not employed, NOT looking for work
- f. Retired
- g. Disabled, not able to work

- 1. Do you feel emotionally connected to this text? Yes/No
- How confident are you to access the accuracy of the news present above?
   Very confident Neutral Not confident at all
   1
   2
   3
   4
   5
- 3. Would you like to read the whole article or will you pass through? Read/Pass
- 4. Would you like to forward this article? (Why? With whom?)
- 5. What information do you usually search for? (eg. educational, personal, informational)
- 6. How do you decide which link is most relevant to the information you searched on Google search engine?
- 7. What else do you want to share about fake news/ Disinformation?

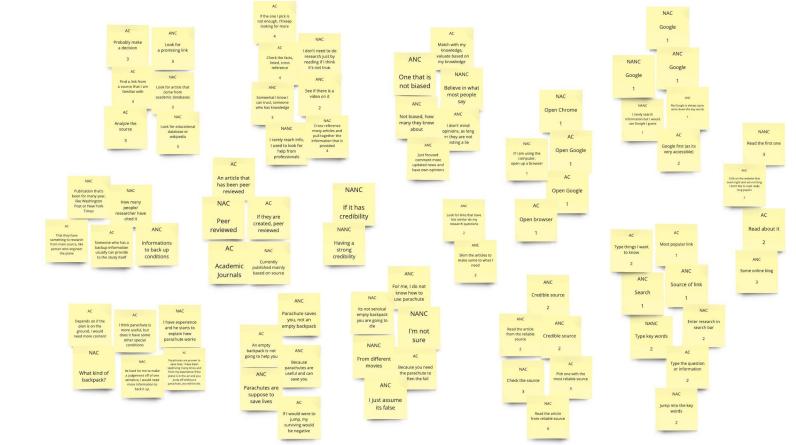




# Defining the Stage A and B. Motivating non-critical thinkers to be Critical



# **Clustering Similar Answers**



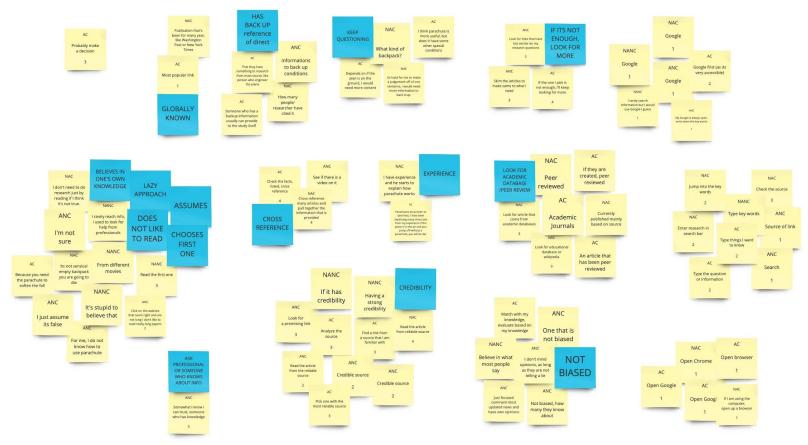


# **Clustering on Basis of Showing Critical Thinking**



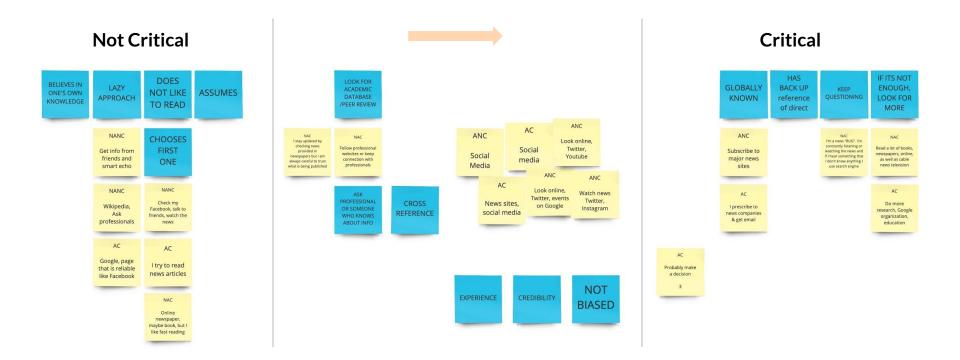


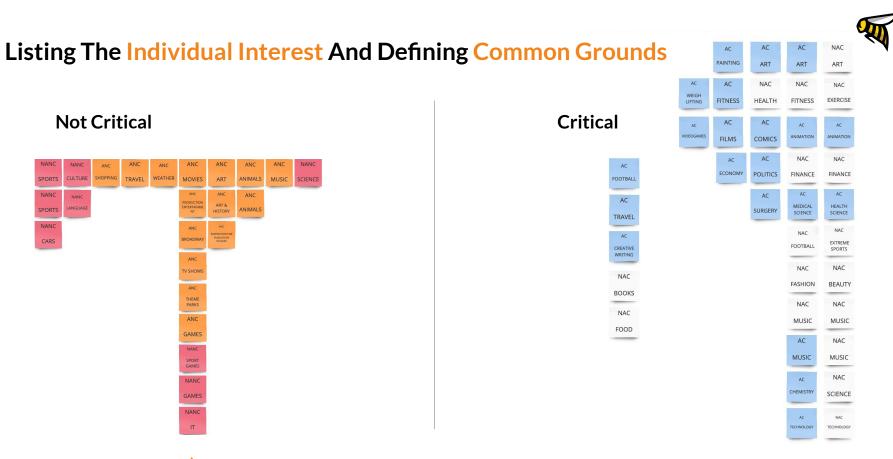
# Naming the Category on What It Broadly Specifies



# Placing According To Individual Critical Ability



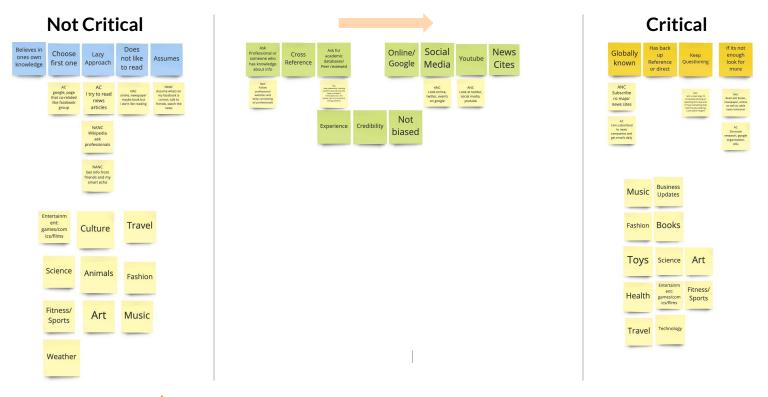




**OVERSIGHT We unconsciously used our own bias to categorize the information.** *Eg. film parks + entertainment* 

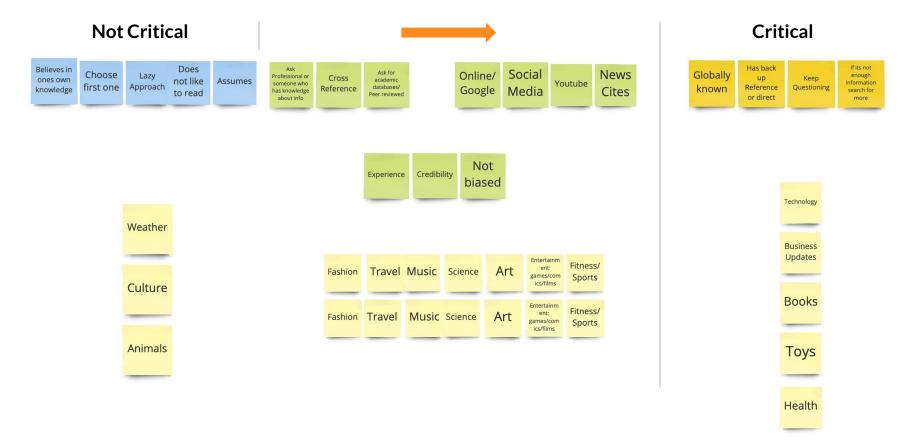


# **Excluding the Overlapping Interest In The Categories**



**OVERSIGHT We** ignore to measure the frequency of the interests (*instrumental data*).

# Defining the Common Interest, that could be considered while building the bridge





# **Refined area of Interest**

From our results, we established that most of the undergraduate students we interviewed did not display critical thinking skills. Therefore, we refined our area of interest specifically to students at SCAD in order to instill critical thinking within them.



# 3.2

# Interview Round #4 & Gathering Instrumental data with SPSS

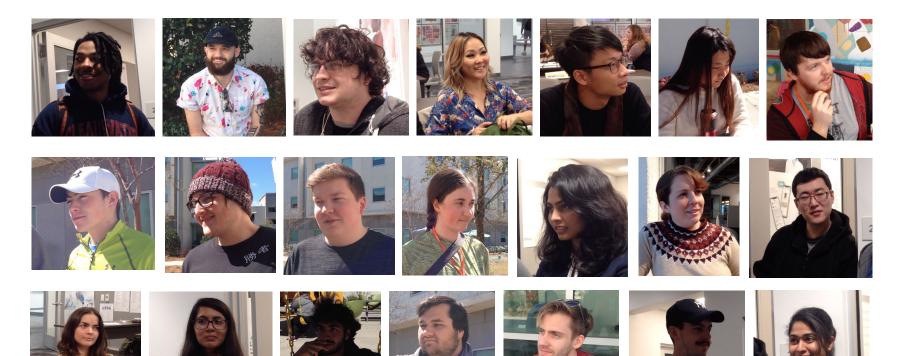
(People's reactions)

Raw Data: https://docs.google.com/spreadsheets/d/1BYwGdMOwMgsz8C0c472uciCaHgO9Ju4phYKkTZ-5RHA/edit?usp=sharing



# **Students Interviewed**

Graduate and Undergraduate





# Criteria #01

Based on questions:

1. When jumping out of a plane a parachute is no more effective than an empty backpack?

- 2.Do you believe it?
- 3. Why or why not?
- 4. Are you undergraduate or graduate student at SCAD?
- 5. What is your major?

# Criteria #02

Based on reactions:

- Visual contact
- Do they believe?
- Clear Y/N Answer
- Time to answer
- Ask to Repeat
- I repeat unconsciously

Interview #	Visual contact	Do they believe?	Clear Y/N Answer	Time to answer	Ask to Repeat	I repeat unconsciously	Dont say much	Nervous	Nervous Smile	Eye brown frowning	Ask Question	Kept Silence until we asked something	Provided their own thoughts	Education level	Major
Kathleen 5051	Staring at paper	No	No		Yes (paper)		No	No	No	Yes	Yes	No	Yes	UG	Animation
Kathleen 5052	Staring at paper	No	Yes		11 Yes (paper)		Yes	Yes	Yes	No	No	Yes	No	UG	Film
Kathleen 5053	Staring at interview	No	Yes		3 No		Yes	No	No	No	No	No	Yes	UG	Game de
Kathleen 5054	Staring at interview	No	No		15 No	Yes	Yes	No	Yes	No	No	No	Yes	6	Animation
Kathleen 5055	Staring at interview	No	No		21 No	Yes	Yes	Yes	Yes	Yes	No	No	Yes	UG	Animation
Kathleen 5056A	Staring at the interview	No	No		12 Yes		Yes	No	Yes	No	No	No	Yes	UG	Film
Kathleen 50568	Staring at the floor	No	No		25 Yes		Yes	No	Yes	No	No	Yes	Yes	UG	Animatio
Kathleen 5057A	Staring at the interview	No	No		10 No		Yes	No	No	No	No	No	Yes	UG	Film
Kathleen 50578	Staring at the interview	No	Yes		11 No		Yes	Yes	Yes	Yes	No	No	Yes	UG	Preformit
Kathleen 5058A	Staring at floor	No	Yes		12 Yes		No	No	Yes	Yes	Yes	No	Yes	UG	Sound
Kathleen 50588	Staring at interview	No	Yes		14 Yes		No	Yes	Yes	Yes	Yes	No	Yes	UG	Sound
Kathleen 5050A	Staring at Interview	No	Yes		31 Yes		No	Yes	Yes	No	Yes	No	Yes	G	DMGT
Kathleen 50505	Staring at Interview	No	Yes		32 Yes		No	No	Yes	Yes	Yes	No	Yes	G	DMGT
Kathleen 5050C	Staring at Interview	No	Yes		33 Yes		Yes	No	Yes	No	No	Yes	No	G	DMGT
Kathleen 5060D	Staring at Interview	No	Yes		33 Yes		No	No	No	Yes	No	No	Yes	6	DGMT
Kathleen 5061	Staring at Interview	No	Yes		5 No		Yes	Yes	Yes	Yes	No	No	Yes	UG	Game De
Kathleen 5062A	Staring at Floor	No	Yes		13 No		Yes	No	Yes	Yes	No	Yes	Yes	UG	Industria Design
Kathleen 50628	Staring at Interview	Not enough info	No		14 No		No	No	Yes	No	Yes	No	Yes	ug	Industria Design
Kathleen 5053A	Staring at Interview	No	Yes		24 No	Yes	No	Yes	Yes		Yes	No	Yes	G	DGMT
Kathleen 50638	Staring at Interview	No	Yes		31 No	Yes	Yes	No	Yes	Yes	No	Yes	No	G	Service I
Kathiwa 5053C	Staring at Interview	No	Yes		32 No	Yes	No	No	Ves	Yes	No	Yes	No	9	Design a

- Don't say much
- Nervous Laugh
- Nervous Smile
- Eye brown frowning
- Ask Question
- Kept Silence until we asked something

- Provided their own thoughts
- Education level
- Major



# Takeaways

**Based on reactions** 

Q6= 1/Q5

- Q6 interviewer repeats unconsciously
- Q5 Ask to repeat

### Q11= 1/Q7

- Q11 ask questions
- Q7 Talk less

### Q13= 1/Q12

- Q13 provided own thoughts
- Q12 kept silent

After looking at the data from the SPSS, we found that V23 had little correlation to the others.

			V09	V10	V11	V12	V13	V14	V15	Correlation V16	V17	V18	V19	V20	V21	V22	V23	V24	V25	V26	V27	V28	V29
Spearman's rho	V09	Correlation Coefficient	1.000	314	.736**	.136	.245	.177	.056	.136	.642*	.436	.736**	054	.670*	.136	.248	.335	163	054	.363	.322	.136
		Sig. (2-tailed)		.320	.006	.673	.442	.583	.863	.673	.024	.157	.006	.866	.017	.673	.437	.287	.612	.866	.246	.307	.673
		N	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
	V10	Correlation Coefficient	314	1.000	.302	.523	.644*	.455	.328	.302	.410	.523	.302	.865**	.328	.523	.041	.184	.523	.422	.553*	.386	.523
		Sig. (2-tailed)	.320		.316	.067	.018	.118	.274	.316	.165	.067	.316	.000	.274	.067	.895	.547	.067	.151	.050	.193	.067
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V11	Correlation Coefficient	.736**	.302	1.000	.608*	.519	.566*	.438	.413	.910**	.804**	1.000**	.519	.837**	.608*	.519	.710**	.413	.519	.638*	.505	.608*
		Sig. (2-tailed)	.006	.316		.027	.069	.044	.134	.161	.000	.001		.069	.000	.027	.069	.007	.161	.069	.019	.078	.027
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V12	Correlation Coefficient	.136	.523	.608*	1.000	.715**	.774**	.638*	.608*	.511	.413	.608*	.715**	.638*	.804**	.339	.511	.804**	.715**	.638*	.726**	.804**
		Sig. (2-tailed)	.673	.067	.027		.006	.002	.019	.027	.074	.161	.027	.006	.019	.001	.257	.074	.001	.006	.019	.005	.001
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V13	Correlation Coefficient	.245	.644*	.519	.715**	1.000	.623*	.710**	.519	.438	.519	.519	.804**	.511	.519	.414	.239	.519	.413	.910**	.766**	.519
		Sig. (2-tailed)	.442	.018	.069	.006		.023	.007	.069	.134	.069	.069	.001	.074	.069	.159	.432	.069	.161	.000	.002	.069
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V14	Correlation Coefficient	.177	,455	.566*	.774**	.623*	1,000	.692**	.566*	.519	.566*	.566*	.623*	.692**	.774**	.401	.519	.566*	,415	.692**	.894**	.774**
		Sig. (2-tailed)	.583	.118	.044	.002	.023		.009	.044	.069	.044	.044	.023	.009	.002	.174	.069	.044	.158	.009	.000	.002
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V15	Correlation Coefficient	.056	.328	.438	.638*	.710**	.692**	1.000	.837**	.372	.438	.438	.511	.391	.638*	.498	.576*	.638*	.511	.797**	.821**	.638*
		Sig. (2-tailed)	.863	.274	.134	.019	.007	.009		.000	.210	,134	.134	.074	.187	.019	.083	.040	.019	.074	.001	.001	.019
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V16	Correlation Coefficient	.136	.302	.413	.608*	.519	.566*	.837**	1.000	.511	.413	.413	.324	.438	.804**	.339	.710**	.608*	.519	.638*	.726**	.804**
		Sig. (2-tailed)	.673	.316	.161	.027	.069	.044	.000		.074	.161	.161	.281	.134	.001	.257	.007	.027	.069	.019	.005	.001
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V17	Correlation Coefficient	.642*	.410	.910**	.511	.438	.519	.372	.511	1.000	.910**	.910**	.438	.779**	.710**	.452	.797**	.311	,438	.576*	.474	.710**
		Sig. (2-tailed)	.024	.165	.000	.074	.134	.069	.210	.074		.000	.000	.134	.002	.007	.121	.001	.300	.134	.040	.102	.007
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V18	Correlation Coefficient	.436	.523	.804**	.413	.519	.566*	.438	.413	.910**	1,000	.804**	.519	.638*	.608*	.519	.710**	.217	.324	.638*	.505	.608*
		Sig. (2-tailed)	.157	.067	.001	.161	.069	.044	.134	.161	.000		.001	.069	.019	.027	.069	.007	.477	.281	.019	.078	.027
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
v	V19	Correlation Coefficient	.736**	.302	1.000**	.608*	.519	.566*	.438	.413	.910**	.804**	1.000	.519	.837**	.608*	.519	.710**	.413	.519	.638*	.505	.608*
		Sig. (2-tailed)	.006	.316		.027	.069	.044	.134	.161	.000	.001		.069	.000	.027	.069	.007	.161	.069	.019	.078	.027
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V20	Correlation Coefficient	054	.865**	.519	.715**	.804**	.623*	.511	.324	.438	.519	.519	1.000	.511	.519	.235	.239	.715**	.608*	.710**	.546	.519
		Sig. (2-tailed)	.866	.000	.069	.006	.001	.023	.074	.281	.134	.069	.069		.074	.069	440	.432	.006	.027	.007	.054	.069
		N N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V21	Correlation Coefficient	.670*	.328	.837**	.638*	.511	.692**	.391	.438	.779**	.638*	.837**	.511	1.000	.638*	.316	.576*	.438	.511	.594*	.596*	.638*
		Sig. (2-tailed)	.017	.274	.000	.019	.074	.009	.187	.134	.002	.019	.000	.074	1.000	.019	.293	.040	.134	.074	.032	.031	.019
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V22	Correlation Coefficient	.136	.523	.608*	.804**	.519	.774**	.638*	.804**	.710**	.608*	.608*	.519	.638*	1,000	.339	.710**	.608*	.519	.638*	.726**	1.000**
	122	Sig. (2-tailed)	.673	.067	.027	.001	.069	.002	.019	.001	.007	.027	.027	.069	.019	1.000	.257	.007	.027	.069	.019	.005	1.000
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V23	Correlation Coefficient	.248	.041	.519	.339	.414	.401	.498	.339	.452	.519	.519	.235	.316	.339	1.000	.452	.160	.235	.498	.519	.339
		Sig. (2-tailed)	.437	.895	.069	.257	.159	.174	.083	.257	.121	.069	.069	.440	.293	.257		.121	.602	.440	.083	.069	.257
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
	V24	Correlation Coefficient	.335	.184	.710**	.511	.239	.519	.576*	.710**	.797**	.710**	.710**	239	.576*	.710**	.452	1 000	.511	.638*	.372	.474	.710**
		Sig. (2-tailed)	.335	.547	.007	.074	.432	.069	.040	.007	.001	.007	.007	.432	.040	.007	.121		.074	.038	.372	.102	.007
		N N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
`	V25	Correlation Coefficient	- 163	.523	.413	.804**	.519	.566*	.638*	.608*	.311	.217	.413	.715**	.438	.608*	.160	.511	1.000	.911**	.438	.505	.608*
		Sig. (2-tailed)	.612	.067	.161	.001	.069	.044	.019	.027	.300	.477	.161	.006	.134	.005	.602	.074		.000	.134	.078	.008
		N N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
v	V26	Correlation Coefficient	054	.422	.519	.715**	.413	.415	.511	.519	.438	.324	.519	.608*	.511	.519	.235	.638*	.911**	1.000	.311	.325	.519
		Sig. (2-tailed)	.866	.151	.069	.006	.161	.158	.074	.069	.134	.281	.069	.027	.074	.069	.440	.019	.000		.300	.279	.069
		N	12	13	13	13	13	13	13	13	134	13	13	13	13	13	13	13	13	13	13	13	13
	V27	Correlation Coefficient	.363	.553*	.638*	.638*	.910**	.692**	.797**	.638*	.576*	.638*	.638*	.710**	.594*	.638*	.498	.372	.438	.311	1.000	.821**	.638*
	1000	Sig. (2-tailed)	.246	.050	.019	.019	.000	.009	.001	.019	.040	.019	.019	.007	.032	.019	.083	.210	.134	.300		.001	.019
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	134	13	13	13	13
	V28	Correlation Coefficient	.322	.386	.505	.726**	.766**	.894**	.821**	.726**	.474	.505	.505	.546	.596*	.726**	.519	.474	.505	.325	.821**	1.000	.726**
	***	Sig. (2-tailed)	.322	.386	.505	.005	.002	.000	.001	.005	.102	.505	.505	.054	.031	.005	.069	.102	.505	.325	.821	1.000	.005
		Sig. (2-tailed)			.078	.005	.002		13	.005	.102	.078	.078			.005	.069		.078	.279	.001	12	.005
	V29	N Correlation Coefficient	.136	13	.608*	.804**	.519	13	.638*	.804**	.710**	.608*	.608*	13 .519	13 .638*	13	.339	13 .710**	.608*	.519	.638*	.726**	13
	¥28	Sig. (2-tailed)	.136	.523	.608*	.804**	.519	.774**	.638*	.001	.007	.608*	.608*	.519	.638*	1.000**	.339	.007	.608*	.519	.638*	.005	1.000
		Sig. (2-tailed)				.001		.002		.001	.007							.007					40
		N	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13

\*\*. Correlation is significant at the 0.01 level (2-tailed) \*. Correlation is significant at the 0.05 level (2-tailed).



- V23 showed strong critical thinking. He was the only person we interviewed who mentioned that he needed more information to make a conclusion and provide an opinion on the statement we had asked.
- Some other characterics that V23 showed were he paused before initially answering and took time to understand the statement, he asked us questions about the statement we offered, and showed no nervous laughter.





# 3.3 Flow chart development





# Section 4

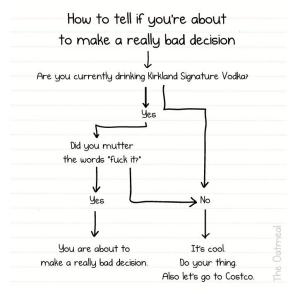
# **Designing and Developmenting a Tool**

- 4.1 Inspiration
- 4.2 Prototyping and testing
- 4.3 Final Design

# Inspiration

4.1





### 🞽 Campaign Monitor

### PREFLIGHT CHECKLIST FOR EMAIL CAMPAIGNS.

USE THIS CHECKLIST TO ENSURE THAT YOUR EMAIL IS AWESOME BEFORE YOU HIT SEND.

THE DETAILS

social networks?

LISTS

of your list?

OTHER

Subject line: Check for typos and personalization. Preheader text: Have you updated it? Check for typos.

Footer: Have you updated if necessary?

address of your business.

Sender address: Always include the physical

Permission reminder: Have you updated as needed?

Unsubscribe link: You must always include this.

Suppressions: Do you need to suppress any lists?

Exclusions: Do you need to exclude any portion

Notify team: Notify appropriate teams like support or O-

sales. Send them a link to the campaign, let them know

who the audience is, and tell them when it will send.

Social icons: Are they linked to the correct

### TIMING

Send date and time: Choose the date and time for your send, and schedule it on your calendar. Ensure it doesn't conflict with any other sends, and if it does, do any necessary list suppressions.

### THE CONTENT

- Body copy: Check for typos and readability.

Images: Are they properly linked? Have you added ALT text?

Background images: Have you added a fallback color?

Headlines: Are they properly linked?

CTA buttons: Are they properly linked? Personalization: Do you have a fallback in place?

Dynamic content: Who should see it?

TESTING

Data: Does your subscriber list have all of have all of have been up to the fields you need?

Full inbox test: Have you tested all email clients?

A/B testing: Are you A/B testing this campaign?

SEND

Schedule your campaign to send immediately or in the future.

AFTER THE SEND Analytics: See how your campaign performed.

CAMPAIGNMONITOR.COM

1

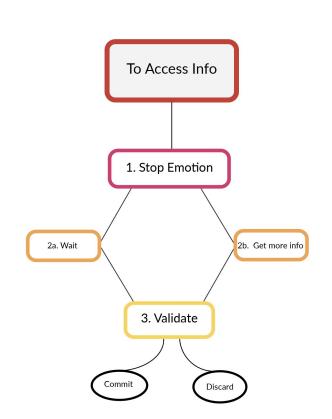




# 4.2

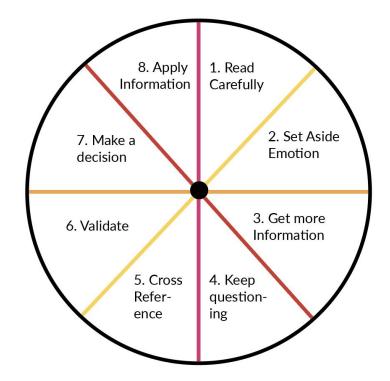
# Prototyping & Testing

The first prototype consisted of a flow chart that listed steps to follow. When we tested it, students **struggled at stage 2** (were they had a hard time understand what was stated by to wait or get more info). They also **didn't understand the meaning of what commit or discard was** in regards to reading an article.





The 2nd prototype consisted of a circular chart that students could interact with. When we tested it, students **struggled with the number of steps**. They believed some of them were **repetitive and unnecessary**.







The 3rd prototype consisted of a **simple list** that provided 4 steps to follow. Because we are **targeting SCAD students**, we used the acronym to help students remember the order to follow . When we tested it, students found the steps **easy to follow although they felt it was not aesthetically pleasing**.

# STOP

Read/Listen/Think carefully and set aside emotion



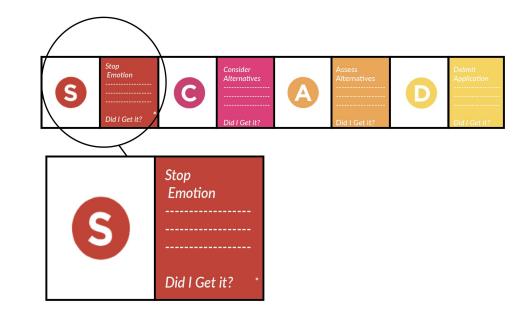
Other alternatives and get more information

ASSESS

Cross reference sources and access alternatives

DELIMIT Define limits and Validate





The 4th prototype consisted of the same steps as prototype 3, yet we designed a tool that was **vertical and could be folded up**. When we tested it, students **struggled with the amount of folds** it has and stated it had made it **complicated**. Also, had a **hard time understanding where to begin and end**.



### 4.3 Final Design



We went forward with the SCAD color theme from our ID's and portions of the website. We tested the colors through some prototypes and got good feedback. Students liked working with a tool with this color theme.



Color







# BeePro

We went forward with both a **sticker and foldable tool** which list the steps we compiled from our research.

The foldable tool comes in two sizes, one 8"x8" and one 3"x3". Both the sticker and foldable tool **display our facebook page** that students can go to for more information.

Foldable Tool 3"x3" & 8"x8"

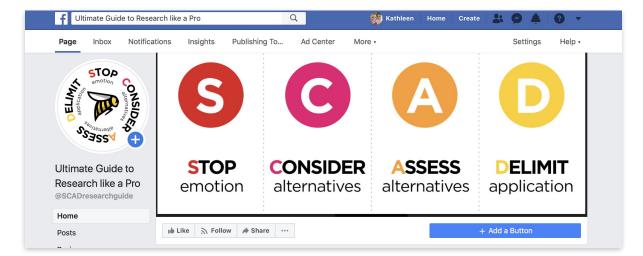


**Front Side** 

**Back Side** 







We created a **facebook page** that provides **more information and explanation** about our project and the tool we created. The facebook page allows us to have a digital space to explain and display our project.



# **Bee**Pro Application





## Section 5

## **Conclusions & Reflections**



### Learning from Oversight



We did not understand that the differences between gender and age could lead to misinterpretation of data. Eg. different amounts of female and male



We unconsciously used our own bias to categorize the information. Eg. film parks + entertainment



We ignore to measure the frequency of the interests (instrumental data).

## **N**

### Conclusion

**Complex Adaptive Systems** are everywhere around us, but they are organized and adaptable. Through our tool **Bee**Pro, we are able to understand the flow of information interpreted at different places around the individuals **space**. We are able to understand that the students interacting with our tool are the **agents** researching for different information. The spaces around them enable them to **copy** their peers and spread the tool for researching like a critical thinkers.

The **problem space** that we have defined is a part of a complex adaptive system, that we are trying to **manipulate through our** tool in order to enhance the individual's capability to critically understand and unconsciously become competent towards reasoning information before believing or forwarding it.