



MIS 5303

Fall 2015

Design Inquiry and Research

Week 1

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Fox School of Business

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Office hours: Tu/Th 11:00-1:00 by appt.

How many of you
have an iPhone



Market share decline:

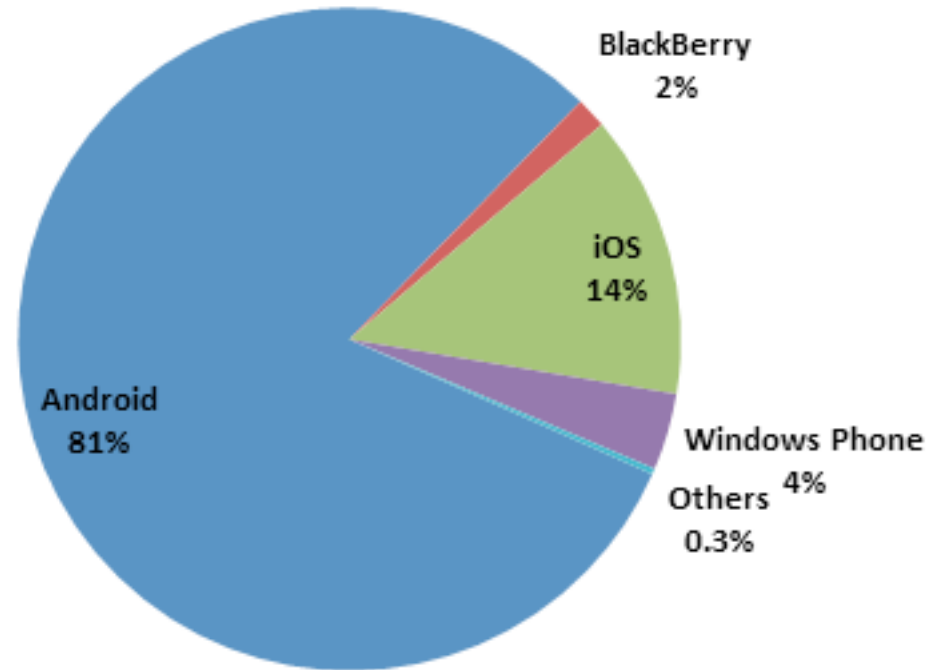
43%

peak in 2010

< 1%

in 2014

Smartphone Shipments by OS
World Market: 3Q 2013



What went

WRONG?

More to think
about...

“A PwC Pulse Survey of 246 CEOs in North and South America, Europe, Asia Pacific, and the Middle East reveals that **97% of CEOs see innovation as a top priority for their business.**”

From PWC 02-Jul-2013

<http://press.pwc.com/global/innovation-a-top-priority-for-business/s/918ccaab-2d82-4889-bc41-9905b3a4b9ec>

“...Accenture surveyed 519 companies across more than 12 industry sectors in France, Britain, and the U.S. ...

Almost all (93 percent) said the long-term success of their organization’s business strategy depends on their ability to innovate.

Despite the importance they assign to this innovate-or-die business rationale, **just 18 percent of CEOs say they’re seeing their investments in innovation pay off.** At the same time, 46 percent of the executives surveyed said their company had become more risk averse when considering new breakthrough ideas, the study found.”

From Bloomberg Businessweek: By Bernhard Warner May 16, 2013

<http://www.businessweek.com/articles/2013-05-16/ceos-say-investing-in-innovation-not-paying-off>

Our goal: SOLVE
THIS PROBLEM



What is
BusinessDESIGN

Design is about actions

de-sign *verb*

etymology: Middle English, to outline, mean, from Anglo-French + Medieval Latin; Anglo-French *designer* to designate, from Medieval Latin *designare*, from Latin, to mark out, from *de* + *signare* to mark

date: 14th century

transitive verb

1: to create, fashion, execute, or construct according to plan : DEVISE, CONTRIVE

2a: to conceive and plan out in the mind <he *designed* the perfect crime> **b:** to have a purpose : INTEND <she *designed* to excel in her studies> **c: to devise for a specific function or end** <a book *designed* primarily as a college textbook>

4a: to make a drawing, pattern, or sketch of **b:** to draw the plans for <design a building>

intransitive verb

1: to conceive or execute a plan

2: to draw, lay out, or prepare a design

4 years ago the
term didn't exist.

Now it is
everywhere

"BUSINESS DESIGN is a human-centred approach to creative problem solving. It applies design methods and mindsets to business challenges. It can be effectively used to help **better understand customers, create new experiences and design innovative business strategies and models.**"

- Rotman School of Management

From <https://www.rotman.utoronto.ca/FacultyAndResearch/EducationCentres/DesignWorks/AboutBD.aspx>

The best of BOTH

BUSINESS + DESIGN

45 / 38 / 36

30% Transparent

What COLOR
is this?

Describe it.

Exact

Replicable

Scalable

Descriptive

Relative

Sensory

Quantitative

Qualitative

YOU NEED

BOTH



CRITERIA

THINK

more effort

Think with your
mind and hands.



HANDSON

Get beyond the
surface.

GO DEEPER.



Immerse ourselves
in the subject

Look at things
from

MULTIPLE SIDES

MULTIPLE SCALES



Learn from
people

WORK

the rest is

DRAW + MAKE

draw

draw *transitive verb*

Middle English *drawen*, *dragen*, from Old English *dragan*; akin to Old Norse *draga* to draw, drag

First Known Use: before 12th century

2: to cause to go in a certain direction

3 a: to bring by inducement or allure:

ATTRACT

b: to bring in or gather from a specified group or area

c: BRING ON, PROVOKE

d: to bring out by way of response: ELICIT

5 a: to extract the essence from

b: EVISCERATE

From: <http://www.merriam-webster.com/dictionary/draw>

make

make *transitive verb*

Middle English, from Old English *macian*; akin to Old High German *mahhōn* to prepare, make, Greek *magēnai* to be kneaded, Old Church Slavic *mazati* to anoint, smear

First Known Use: before 12th century

1b : to begin or seem to begin (an action) <*made* to go>

2a : **to cause to happen to or be experienced by someone**<*made* trouble for us>

b : to cause to exist, occur, or appear : CREATE <*make* a disturbance>

3a : **to bring into being by forming, shaping, or altering material** : FASHION <*make* a dress>

b : COMPOSE, WRITE <*make* verses>

c : to lay out and construct <*make* a road>

4 : **to frame or formulate in the mind** <*make* plans>

5 : **to put together from components** : CONSTITUTE <houses *made* of stone>

6b : to form and hold in the mind <*make* no doubt of it>

7b : to set in order <*make* beds>

9a : **to cause to be or become** <*made* them happy> <*makes* it possible>

Draw ideas.

Make change.

For your Fox MBA:

EXPERIENTIAL LEARNING

TEAMWORK

CASE STUDIES

EMC

For your professional life:

Managing uncertainty

Complex problem solving

Organizational/Institutional change

Process Improvement

Product + Service Development

Strategy

Preparation for a CHANGING WORLD



Are any of you
skeptics

Apple GE IBM

Vanguard Samsung

IBX Sony Intuit

SAP Deloitte P&G

Nokia Google Nike

These are companies
who **could not see** their
world changing

In the last 10 years they **failed**, went through **bankruptcy** or became
insignificant

 ***BlackBerry***®

The logo is a blue, rectangular shape with a white, torn-edge effect on the right side. It features a yellow double-line border. The word "BLOCKBUSTER" is written in a bold, yellow, sans-serif font, slanted upwards from left to right.

BLOCKBUSTER

®



LEHMAN BROTHERS

BORDERS®



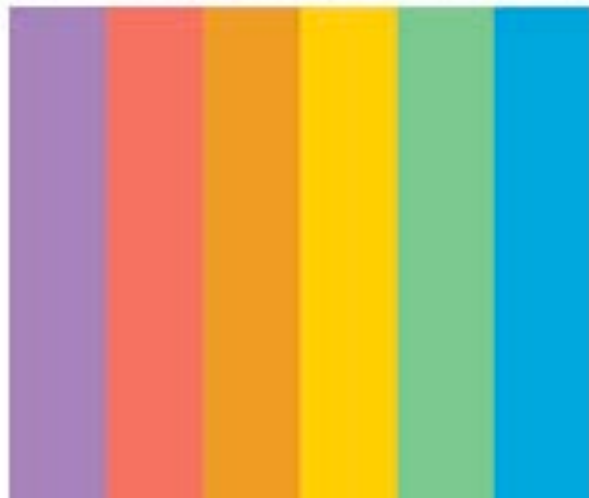


**Washington
Mutual**





SATURN®





Who do **YOU**
want to be?

Have you heard of
**Kleiner Perkins
Caufield & Byers?**

“I graduated from the GMBA program... and had the opportunity to participate in a few of your design workshops. I found the design workshop process to be a very effective means to generate creative solutions for all types of problems...”

MBA graduate
Fox School of Business

In my job as a pharmaceutical marketing consultant, we are working on a project in which we want to brainstorm and develop creative pilot programs, and I remembered your process for design workshop from school and thought this would be a good opportunity to apply it....I would love to share this experience with my colleagues and think it will help get us thinking in the right direction.”

course overview

+

syllabus review

Method: **LEARN BY DOING**

1. Do something

2. **Analysis + Lessons Learned**

3. Reflections on value

Structure:

Day 1. Intro + How to approach problem solving and conduct research.

[Research]

Day 2. Research analysis + Understanding contexts and stakeholders

[More research]

Challenge Kick-off. Learning from experts.

[Follow-up and more research]

Challenge. Synthesis and Visualizing Solutions

INDIVIDUAL

Preparation:

-Essential research for
your team projects

- Reading Summaries
- Fieldwork
- Photos
- Video

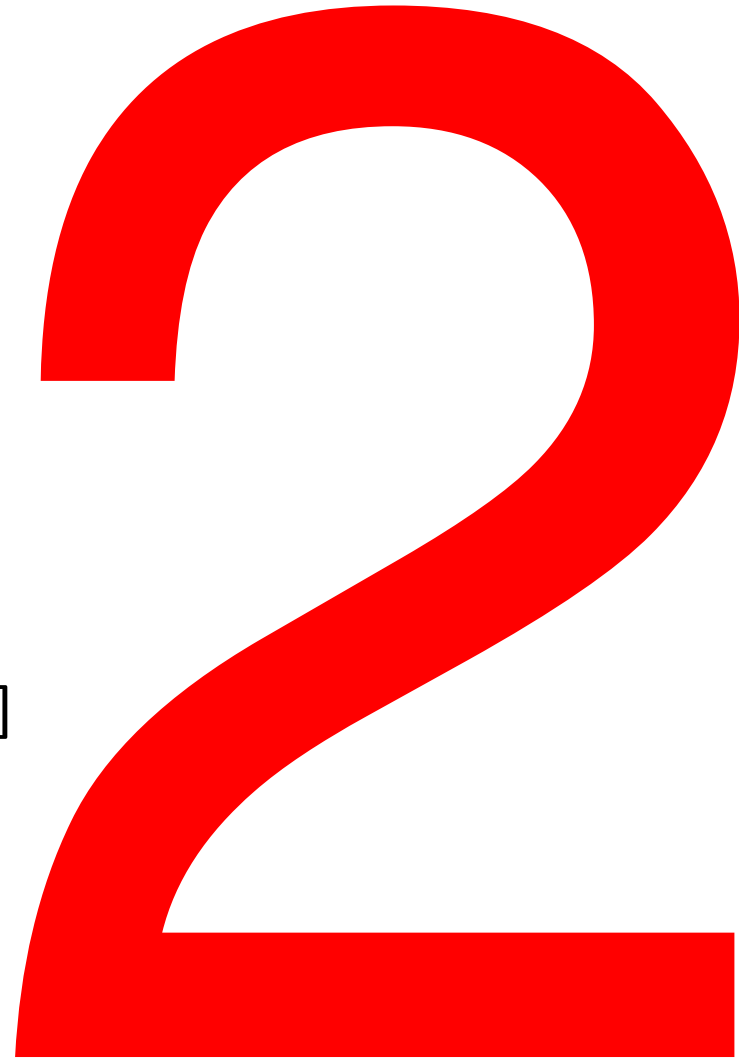


INDIVIDUAL Assignments:

-Essential skills [graded A-F]

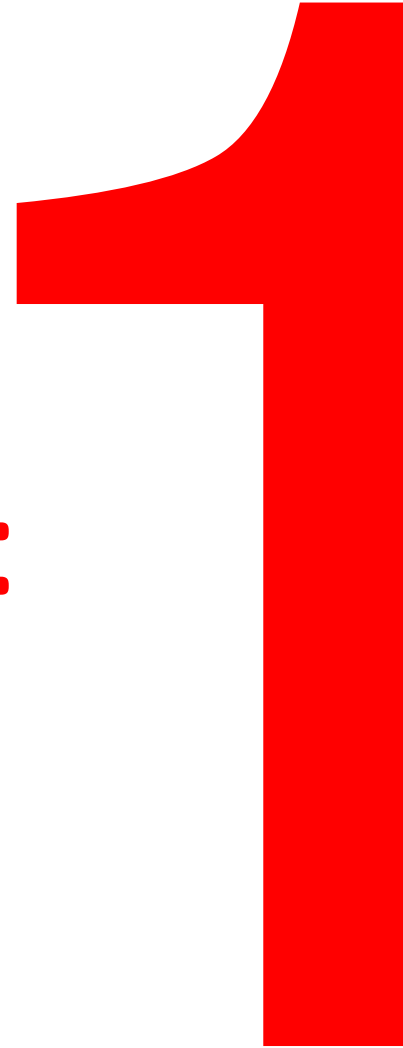
-Interviews

-System mapping



TEAM Assignment:

-Project Report [graded P/PH]



Grading Breakdown:

- **Class preparation and participation** **25%**
 - Weekly Reading Summaries (3)
 - Fieldwork Process documentation
 - 20 Fieldwork photos
 - 3 Fieldwork Videos
- **Individual interviews** **25%**
- **Individual System Mapping** **25%**
- **Team project report** **25%**

ABSENCE

AMBIGUITY

requires

SUPPORT

Talk/Meet with me. I can help you.

Things can change ...
important information on
the course blog

Let's **BEGIN**

team building

+

collaboration

Tell me about **ROLES** and the **10 Faces of Innovation**

1. What are the key points from the reading?
2. How do these ideas apply to you personally or professionally?

“Innovation is all about people. It is about the roles people can play, the hats they can put on, the personas they can adopt.”

<http://www.fastcompany.com/54102/10-faces-innovation>

Learning personas:

Anthropologist / Experimenter / Cross-pollinator

Organizing personas:

Hurdler / Collaborator / Director

Building personas:

Experience Architect / Set Designer / Caregiver / Storyteller

A cluttered desk with various supplies like glue, markers, and paper. A prominent red card with the name 'BOB' in blue letters is in the foreground. The background is filled with sticky notes, a glue stick, and other office supplies.

ACTION: name cards +
introductions

Make a card that stands.
Use any materials available
Include your name AND tell us about you
And....



What persona describes you?

Learning personas:

Anthropologist / Experimenter / Cross-pollinator

Organizing personas:

Hurdler / Collaborator / Director

Building personas:

Experience Architect / Set Designer / Caregiver / Storyteller

Or: explorer / analyst / people person / artist / puzzle solver / other...

James Moustafellos

Assistant Professor, MIS
Fox School of Business

Associate Director
Center for Design + Innovation

Entrepreneur

Architect

I am a **BUILDER**

Introduction:

table

Introduction:

general

Lesson learned:
name card +

Know your team.

Build on strengths.

Details are
important.

Use all available
resources

Make tools.

Let's use our 2nd
TOOL.

This is one of the
most

USEFUL TOOLS.

"I was blown away by the note-taking exercise and how you tapped into instinctual reactions ... and helped our group come together to understand the real needs of the organizations."

Rachael Eisenberg, Participant

Preventive Law / Legal Innovation Workshop

As quoted in the Legal Intelligencer, 24 April 2014

Read more: <http://www.thelegalintelligencer.com/id=1202652371407/Using-Design-Methods%2C-Technology-to-Help-Pro-Bono-Attorneys#ixzz30aReUZPO>

Action:

analysis + synthesis

analysis: the separating of any material or abstract entity into its constituent elements (opposed to synthesis)

synthesis the combining of the constituent elements of separate material or abstract entities into a single or unified entity (opposed to analysis)

- From <http://dictionary.reference.com/>

analysis: PULLS IT APART

synthesis: PUTS IT TOGETHER

process overview



TOOLS



**1. Tell
your story**

I am inspired by City Hall
because it came along around
the 1800s and which means
it's been around for awhile
& many people visit City Hall
when coming from out of town.

inspired by the
German Church because
the people that go
German, they have
the museum built





2. listen for meaning + take notes



cable

information

website

monopoly

exper

looks

Ab

Co

information

2.5. isolate ideas



3. then put them
on the wall



4. look for patterns

~~TIME~~



EXPOSURE

RELATE

CAREER

OPPORTUNITIES

5. identify **key words**.

OPERATE

ACCESS

TO

Let's begin.



keychain
stories



analysis

Tell stories about all of the things that are attached to your key chain.

[2 min per person. USE ALL THE TIME YOU ARE GIVEN]

~~TIME~~



EXPOSURE } 7200-1200000

RELATE CAREER OPPORTUNITIES

Identify **key words**.

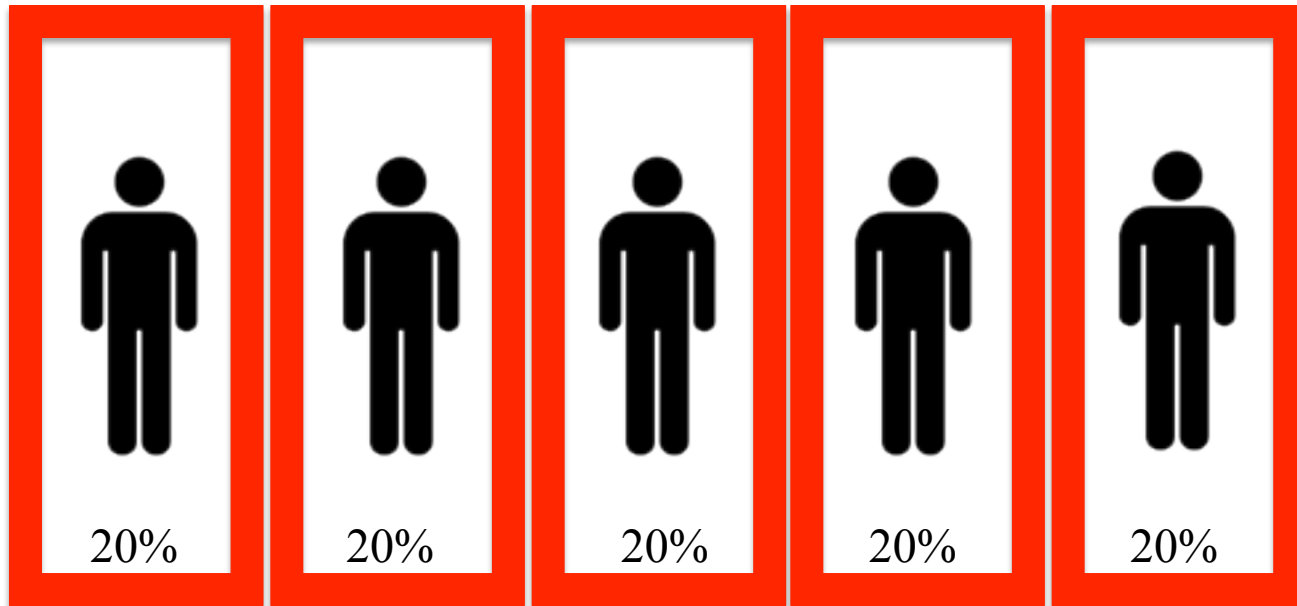
OPERATE ACCESS TO PROSES

Building on your key words,
construct the sentence:

“A key chain is ...”

Lesson learned:
collaboration





100%



100%



100%



100%



100%



100%

500%

Do the math.

It's better if you
work together.



is top 10
in U.S.

For 2014, MIT ranked top 10
U.S. programs for IT
Technology.com

For 2013, ranked top 10 for
research productivity
by Chronicle of Higher Education

For 2013
MIT







This is what
collaboration
looks like

Lesson learned:

immerse yourself in the situation



work in the world
not in your head



Go out.
Experience the situation.
Be the person.

Talk to people. Listen.



Hear what the have to say.

Ethnographic research

“Data collection methods are meant to capture the "social meanings and ordinary activities" of people (informants) in "naturally occurring settings" ...

The goal is to collect data in such a way that the researcher does not impose any of their own bias on the data.

Multiple methods of data collection may be employed to facilitate a relationship that allows for a more personal and in-depth portrait of the informants and their community.

These can include participant observation, field notes, interviews, and surveys...

Secondary research and document analysis are also employed to provide insight into the research topic. ”

PEOPLE *matter.*

...you will need to
understand the viewpoints
of a full range of people...
that you can avoid the trap
of designing for yourself

How Japan Lost Its Electronics Crown

Sony, Sharp and Panasonic Fixated on Hardware Breakthroughs; 'Sometimes, It's Easier to Run From Behind'

By DAISUKE WAKABAYASHI

TOKYO—During a business trip to Japan in 2004, technology analyst Michael Gartenberg caught a glimpse



SHORT CIRCUIT

FIRST IN A SERIES

of Sony Corp.'s Librie, the first e-book reader with an electronic ink display.

Mr. Gartenberg was impressed. He saw it as a harbinger of a new wave of products that would hit the U.S.

But there were problems. The software was in Japanese. It required a computer to download a book and selection was limited.

Today, Amazon.com Inc.'s Kindle dominates the e-reader business and the Librie is little remembered. Sony is playing catch-up with a successor device, which ranks a distant third in the global market.

It is a story that has played out repeatedly over the past 20 years for Japan's once-world-dominant electronics firms. Japanese companies have beaten rivals to the market with hardware breakthroughs—from flat-panel televisions to advanced mobile phones.

But in each case, foreign rivals have cashed in by delivering faster improvements, integrating the products with easy-to-use software and online services, and delivering a smarter marketing message.

That has left one of Japan's prized electronics manufacturers, Sharp Corp., teetering, as it grapples with an acute cash crunch and plunging stock price. Sony is in the midst of another restructuring after four years in red ink. And Panasonic Corp. is pulling back from consumer electronics.

"Japanese firms were too confident about our technology and manufacturing prowess. We lost sight of the products from the consumer's point of view," said Panasonic President Kazuhiro Tsuga at a news conference in June upon taking over as the company's new leader after it posted the



“We lost sight of the products from the consumer’s point of view”

**Kazuhiro Tsuga, President
Panasonic Corporation**

biggest annual loss story.

Sony, Sharp and Panasonic combined to lose about \$20 billion in the past fiscal year. That is a contrast with the glory days of the late 1970s and early 1980s, when Japan started to

rule the market for memory chips, color TVs, and videocassette recorders, while their research labs gave birth to gadgets that would define an era: the

and death of the consumer electronics Co. Japan's current weakness is rooted in its traditional strength: a fixation

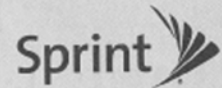
pride, pushed Japan's electronics firms to strive for products that were often
Please turn to page B4

China's Sinopec Pursues Big Energy Deal in Texas

A Chinese group that includes major oil company Sinopec is in advanced talks to put up to \$1 billion in a Texas clean-energy


and contracts, including a contract with San Antonio to buy its electricity for 25 years.

At the same time, Chinese oil and Seattle-based Summit Power Group LLC, the project's developer, could be announced as early as September, people fa-



Lesson learned:

From ordinary to extraordinary



How do we find
the extraordinary

A large, bold, red number '5' is positioned on the left side of the image, partially overlapping the text.

QUESTIONS

Questions lead to

ANSWERS

DESIGN INQUIRY / 5 questions to answer:

1. **what** inspired you (good or bad)
2. **who** are the affected stakeholders
3. **what** are their **unmet needs** + why are they important
4. **what** is your **solution**
5. **what** **resources** do you need to create and sustain your solution

OBSERVATIONS > PEOPLE > NEEDS > IDEAS > REALITY

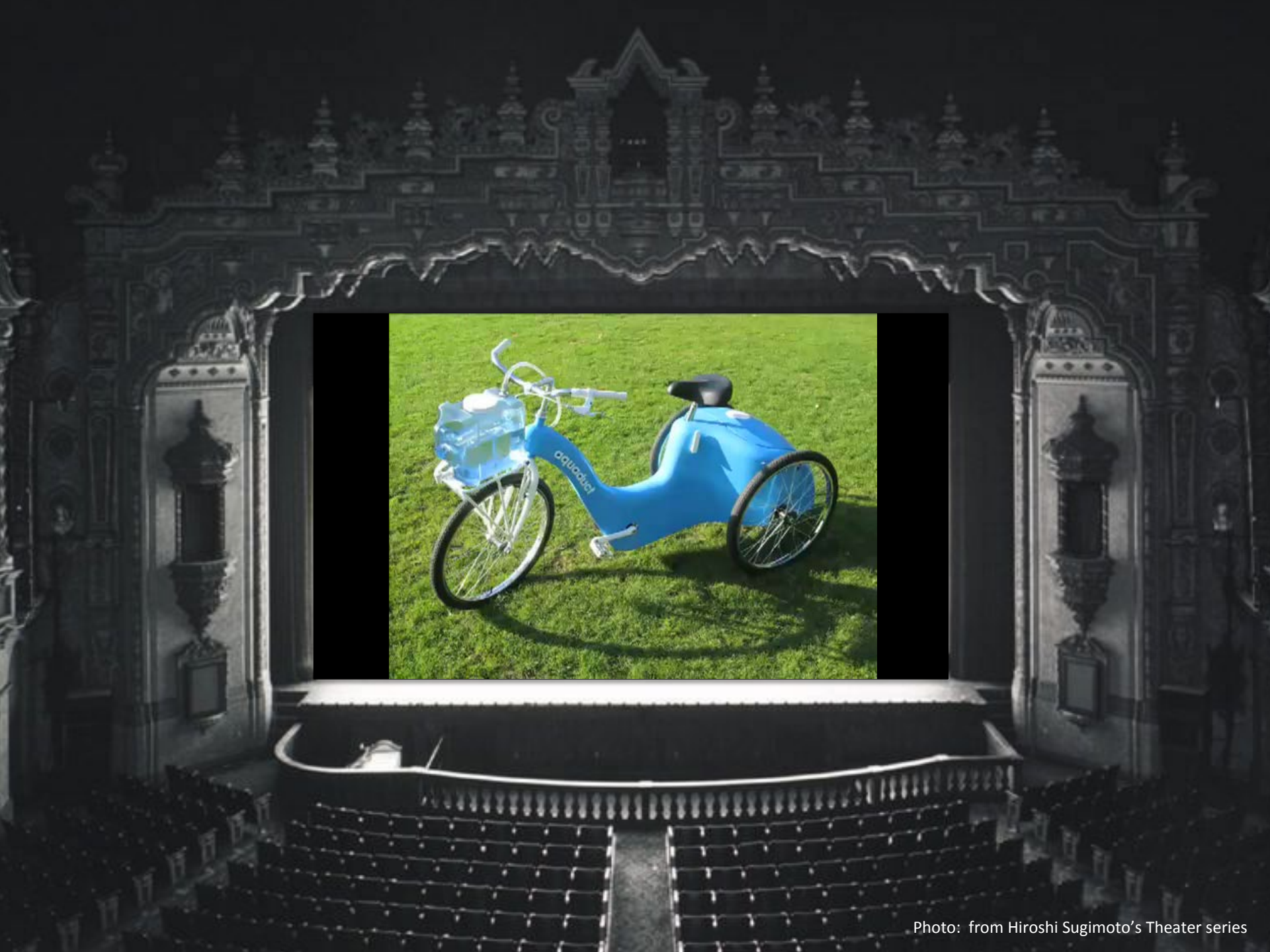


Photo: from Hiroshi Sugimoto's Theater series

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Your PROJECT

**MASS TRANSIT, CAR
CULTURE & THE QUALITY OF
URBAN LIFE:**

**ENVISIONING A SMARTER
BUS SYSTEM**

Philadelphia developed around its dense, colonial street grid, which laid the perfect foundation for walkable, transit-oriented communities. This is one reason why Philadelphia is one of the [top 5](#) cities in the country with commuters walking, biking, or using transit. **And yet even with accessible transit, the 20th century ideal of car ownership persists.** In addition, new forms of technology-enabled services are expanding opportunities for individuals to drive. From Zipcar to Uber, a convenient ride is only a few keystrokes away.

The [American Public Transportation Association](#) estimates that the average Philadelphia household can save close to \$12,000 per year by eliminating one car and riding transit. These savings would help bolster struggling families, businesses, and communities across the city. The environmental dividend would also be significant – riding [SEPTA](#) reduces greenhouse gas emissions and improves air quality.

Focusing specifically on the bus system and its shelters, how can we change our transit system to reduce our dependence on cars and achieve the economic, social, and environmental dividends from a less auto-centric future?

Proposals can either look at transit systems internationally for inspiration to implement locally or look locally for inspiration with the goal of implementing globally.

Outcomes can include proposals that are:

- Technology enabled
- Spatial and Environmental
- Behavioral and cultural

ESSENTIAL QUESTIONS

Why do people drive?

Why don't people drive?

Why do people ride the bus?

Why don't people ride the bus?

Fieldwork +

Ethnographic research

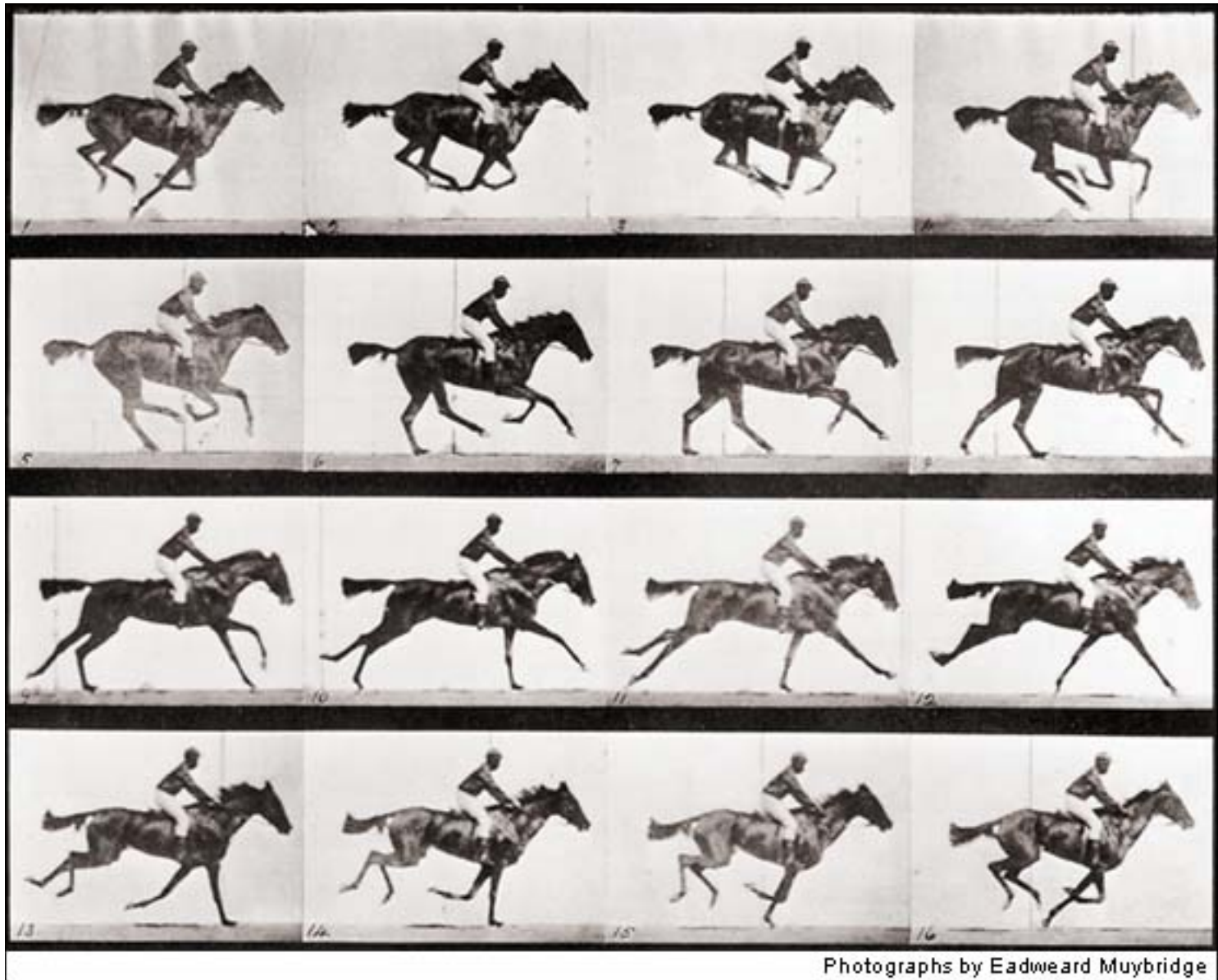
For **NEXT CLASS**

Your research assignment

ASSIGNMENT PART 1: RESEARCH

You will conduct ethnographic research related to your project.

1. Go out and visit / observe / experience the bus system and bus shelters.
RIDE THE BUS.
2. You must take at least 20 different pictures of a situation relevant to your project domain of interest. Photos should present a range of perspectives from general overview images to very specific details and situational context.
3. Take at least 3 video clips of 3 minutes each.



Photographs by Eadweard Muybridge

portrait

A PORTRAIT is defined as:

- 1: a picture*
- 2: a sculptured figure*
- 3: a graphic portrayal in words*

Synonyms for PORTRAIT are:

***definition**, delineation, depiction,
picture, **description**, portraiture,
portrayal, rendering, **sketch**, vignette*

Related Words are:

*account, **anecdote**, chronicle,
narrative, report, **story**, tale, yarn;
demonstration, exemplification,
illustration; **clarification**, elucidation,
explanation, explication, exposition*





This is a photo of two students @ a track meet last year, they have since graduated, but were known as players in the second hand market.



This is Sewanhaka High School, home of the secondary market I looked in to.



Phones like this often caused adults and college aged students to purchase phones in the second hand market.



This is Manor Deli, home of the second hand cell phone market from Elmont, NY.

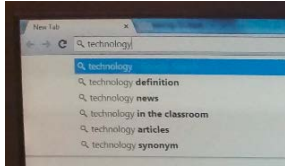


These are two of the students who took photos of themselves at school on stolen phones, then sold them and got caught.

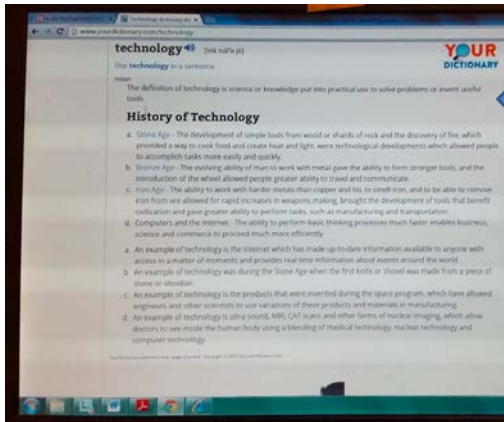
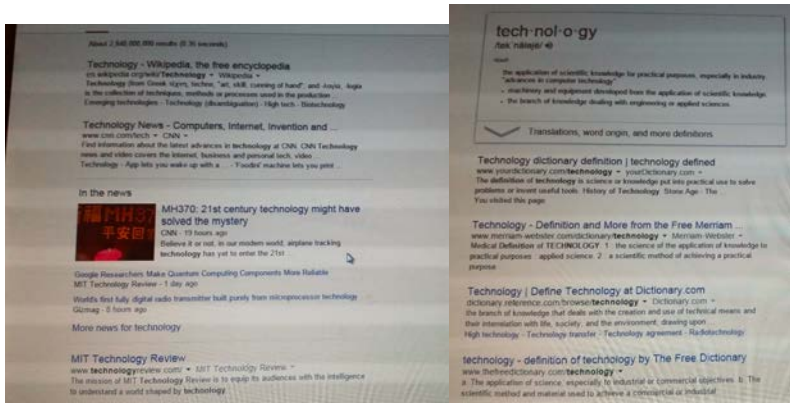


A prime source for goods at the high school. In my conversations I found out that last year a series of break ins with a crow bar happened at a different high school in the same district.

Catherine Maloney
 MIS 5403
 Underground Technology Pictorial Overview
 Due 03/07/15



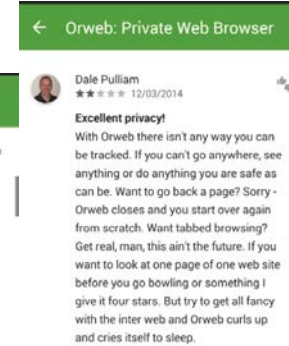
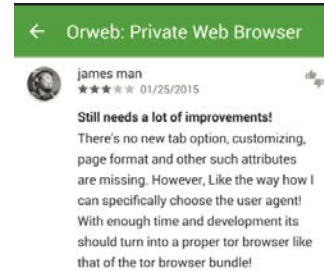
Internet searches for "technology" and "technology definition" reveal a market with a wide degree of variability



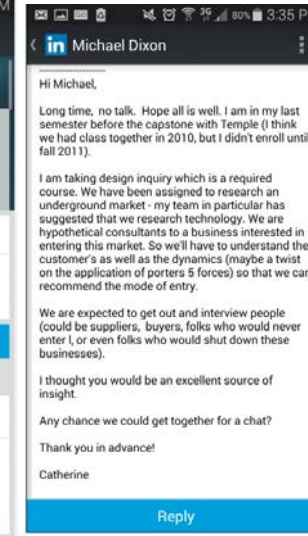
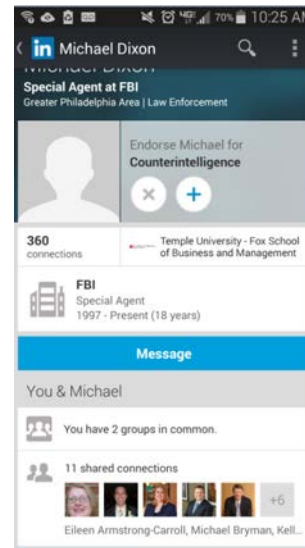
Zoom here for definition

In an attempt to focus the research, I used yourdictionary.com's definition.

Catherine Maloney
 MIS 5403
 Underground Technology Pictorial Overview
 Due 03/07/15

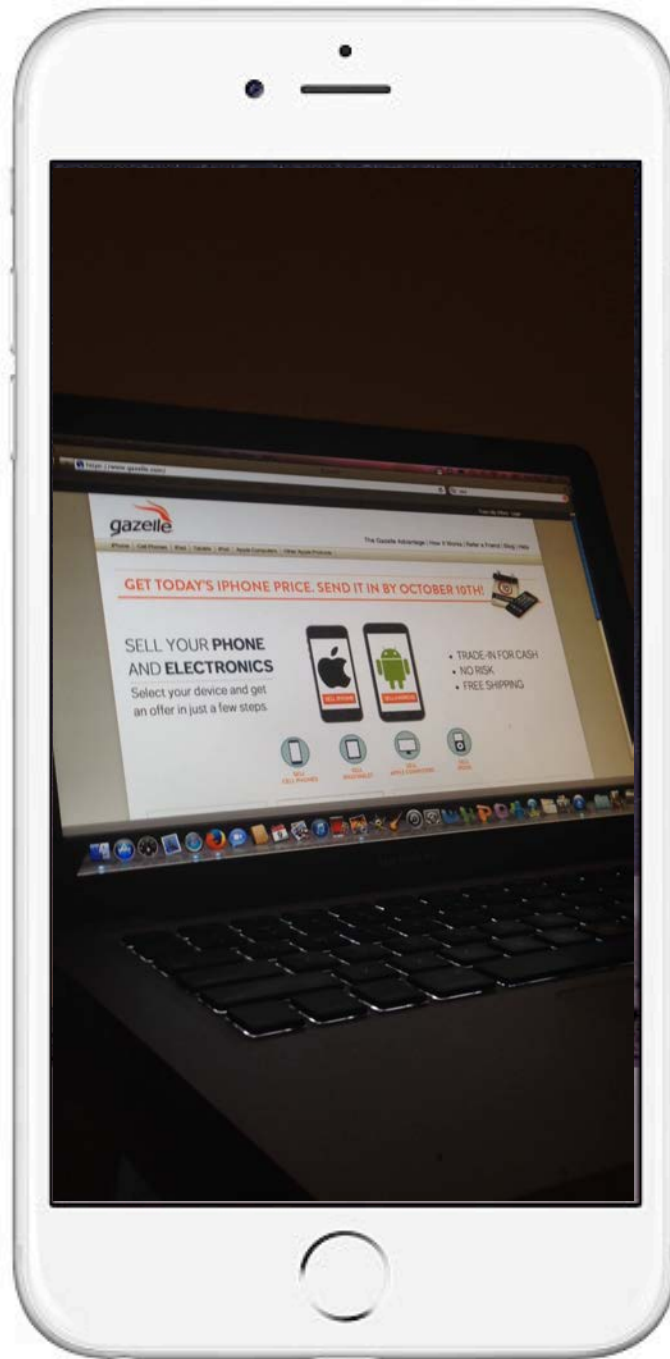


Example: Customer review ratings vs. qualitative commentary do not always follow the same trend. Dale Pulliam's headline comment is "Excellent Privacy" yet he gave a 2 star review. Meanwhile, James Man's headline of "Still needs a lot of improvements!" came with a 3 star review.



Example: LinkedIn and other social networks enabled me to make contact with folks willing to be interviewed and inform the primary research (dig deeper than secondary resources may allow).





ASSIGNMENT PART 2: INTERVIEWS

You must interview at least 3 people who represent stakeholders for your project.

You want to learn as much as you can about them and their personal relationship to the project domain of interest.

Write a 1-2 page (full page minimum) personal portrait telling their “story”. Provide details and insights into their personalities, choices, preferences, and personal intellectual and emotion drivers. **This is a story – not a Q+A summary.**

The interview assignments are opportunities to understand the relationship between PEOPLE and SITUATIONS. Your goal is to understand what people want and need. Successful interview assignments usually involve multiple interviews and several pages of transcribed conversation that are summarized and distilled into a meaningful narrative.

If your interview is very brief or cut short – I strongly suggest doing another until you have sufficient material.

Let's **dissect** an
example

“Joseph

Joseph (name has been changed) is 22 years old, and has been homeless since leaving his foster home at 19. He occasionally stays at St. Columba’s, a shelter in West Philadelphia, and spends a lot of his time at the Youth Health Empowerment Project in Center City, a drop in center for young adults. He sings in Suburban Station to make some money to supplement his disability and food stamps. Joseph has schizophrenia, major depression, and epilepsy. He finds it very challenging to interact with his peers due to his diagnoses, homelessness, and lack of education....”

“Joseph has difficulty connecting with his friends and social workers because he changes his phone number frequently. He has several phones, and uses them until he runs out of text messages, and then begins using another one. One of them is a free government issued phone, and several others are inexpensive pay-as-you-go plans. He also loses phones frequently. His belongings are often stolen in the shelter, and he loses his things often when sleeping on the street. His seizures and resulting confusion and memory loss also contribute to his frequently lost phones....”

“ Phones can be expensive, and it can be difficult to replace them so frequently. Joseph continues to replace them though, because it is important for him to maintain his social network. He can find inexpensive used phones from “guys I know”, especially in and around Suburban Station. Joseph says that sometimes “I have stuff people want. So we do a trade.”, and states that he stole a phone “only once. But it was a good one and the guy locked me out.” He states “last week my social worker tried to call me, but the voice mail was in Spanish. So she knew it wasn’t legit. I heard it for that....”

“ Cell phones are a status symbol, even in the homeless community. More expensive phones can represent the level of skill required to obtain it, but Joseph says that the most important thing is having a way to keep in touch with his supports. “I don’t have a home, you know? I don’t have much. But I have people. If I can’t talk to them, then what do I have?”

ONE PAGE. A LOT
OF INFORMATION.

Any questions – **contact me**

jamescm@temple.edu

Quickly clean up:

place all tools in your bins and return them to the stack.

return all other materials to supply tables