Design Inquiry and Research

Week 1
James Moustafellos

Assistant Professor, MIS
Fox School of Business

Associate Director
Center for Design + Innovation

Speakman 209f / 215-204-4386
jamescm@temple.edu

Office hours by appt.
How many of you have an iPhone?
Market share decline:

43% peak in 2010

< 1% in 2014

http://bgr.com/2013/10/30/blackberry-market-share-q3-2013/
http://en.wikipedia.org/wiki/BlackBerry_Ltd
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
Our goal: SOLVE THIS PROBLEM
What is Business DESIGN?
4 years ago the term didn’t exist. Now it is everywhere.
"Whenever a company designs a new product, service, or experience, it is essentially designing its business. When done well, Business Design creates offerings that inspire organizations and excite customers. ”

- IDEO

From http://www.ideo.com/expertise/business-design/
"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
What COLOR is this?
Describe it.
Quantitative

Qualitative
YOU NEED BOTH
2 CRITERIA
1THINK
different
Think with your mind and hands.
Get beyond the surface.

GO DEEPER.
Immerse ourselves in the world
Look at things from multiple sides and multiple scales.
Learn from people
DRAW + MAKE
draw transitive verb

Middle English drawn, 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 *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>*

From: http://www.merriam-webster.com/dictionary/make
Draw ideas.
Make change.
THE LIBRARY WAS DESIGNED FOR BOOKS, NOT PEOPLE

- Steven Bell
8/17/2011

BIGGER IDEAS
For your Fox MBA:

EXPERIENTIAL LEARNING
TEAMWORK
CASE STUDIES
EMC
BETTER BUSINESS

Process
Strategy
Products + Services
Entrepreneurs
Preparation for a Changing World
How many of you think this is Bull****!
“I graduated from the FMBA 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...

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.”
Apple  GE  IBM
Vanguard  Samsung
IBX  Sony  Intuit
SAP  Deloitte  P&G
Nokia  Google  Nike
course overview
+
syllabus review
Method: LEARN BY DOING

1. Do something
2. Analysis + Lessons Learned
3. Reflections on value
Structure: TOPICS

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

Day 2. Research analysis + Understanding contexts and stakeholders
[More research]

Day 3. 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
Things can change …
important information on
the course blog
Let’s BEGIN
team building + collaboration
Tell me about the
10 Faces of Innovation
“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
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.
Think with your mind and hands.
Make tools.
Details are important.
Use all available resources
Why BusinessDESIGN?
business is over as usual
business
unusual
In the last 10 years these companies failed, went through bankruptcy or became insignificant.
LEHMAN BROTHERS
A complex world requires complex thinking
THINK design
"Thinking like a designer can transform the way you develop products, services, processes – and even strategy”

- Tim Brown, IDEO

From Design Thinking
Agenda:

+ Define design
+ Establish an approach
+ Define a process
What do we mean by DESIGN?
a CULT of THINGS
Since the 16th century design has been relegated to the world of things.
Design as **ART**
Can DESIGN be
greater than that?
What does DESIGN really mean?
Let’s learn from PEOPLE
Design is not just what it looks like and feels like. Design is how it works.

Steve Jobs [Apple]
People think that design is styling. Design is not style. It’s not about giving shape to the shell and not giving a damn about the guts. Good design is a renaissance attitude that combines technology, cognitive science, human need, and beauty to produce something that the world didn’t know it was missing.

Paola Antonelli [Curator of Design, MOMA]
Good design is obvious. Great design is transparent.

Joe Sparano [Oxide Design]

Design should never say, “Look at me.” It should always say, “Look at this.”

David Craib [graphic design]
Design is directed toward human beings. To design is to solve human problems by identifying them and executing the best solution.

Ivan Chermayeff [graphic design]
Design must seduce, shape, and perhaps more importantly, evoke an emotional response.

April Greiman [graphic design]
Design means **being good**, not just looking good.

Clement Mok [designer]
DESIGN is:
Functional
Interdisciplinary / Integrated
Useful [fills a need]
Transparent
Human-centered
Emotional / Experiential
Ethical
bigger than
The habit of calling a finished product a Design is convenient but wrong. **Design is what you do, not what you've done.**

Bruce Archer, The Guardian
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
design is what you do
Let’s **DO** something.
Now we need a working **APPROACH** and **PROCESS**
Action:
act on a piece of paper +
each person needs seven sheets of paper.
do something with a piece of paper to make it stand.
do this four more times. each one must be different
choose the best one.
why is it best
make it better.
is it better? why?
act on one more
Lesson learned: design process
What is DESIGN PROCESS?
DESIGN PROCESS

1: Define the problem
2: create and consider many options
3: refine selected directions
3.5: repeat (optional)
4: pick the winner, execute
Lesson learned:

learning by doing
designers iterate
Google’s 8 Pillars of Innovation:

**Strive for continual innovation, not instant perfection**

"Our iterative process often teaches us invaluable lessons. Watching users ‘in the wild’ as they use our products is the best way to find out what works, then we can act on that feedback…. Iterating has served us well."

- Susan Wojcicki, Google's Senior Vice President of Advertising

From: http://www.google.com/think/articles/8-pillars-of-innovation.htmls
Lesson learned:
fail to succeed
Google’s 8 Pillars of Innovation:

*Never fail to fail*

"It’s okay to fail as long as you learn from your mistakes and correct them fast. Trust me, we’ve failed plenty of times. Knowing that it’s okay to fail can free you up to take risks. And the tech industry is so dynamic that the moment you stop taking risks is the moment you get left behind.”

- Susan Wojcicki, Google's Senior Vice President of Advertising

From: http://www.google.com/think/articles/8-pillars-of-innovation.htmls
"We love to invent. We love to pioneer. We even like going down alleys that turn out to be blind alleys," ... "Every once in a while those blind alleys turn into broad avenues. And that turns out to be lots of fun."

- Jeff Bezos, Amazon

From: Amazon announces new wave of Kindle
Reflection:

How does a design process differ from a **typical management approach**?

+ What is a **design attitude**?
Lesson learned: engagement +
work hands on
work in the world
not in your head
Go out.
Experience the situation.
Be the person.
Talk to people.
Listen.
Hear what they 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.”

— from wikipedia
PEOPLE matter.
“If there is any one secret of success, it lies in the ability to get the other person's point of view and see things from that person's angle as well as from your own.”

— Henry Ford
...you will need to understand the viewpoints of a full range of people... that you can avoid the trap of designing for yourself.
“We lost sight of the products from the consumer’s point of view”

Kazuhiro Tsuga, President
Panasonic Corporation
Agenda:

+ Thinking through visual means
+ Analytic-synthetic loops
+ Collaboration
+ Discovering unexpected outcomes
+ Design Inquiry
+ Introduction to Ethnographic Research and fieldwork
+ Introduction to Interviewing and writing narratives
Think visually
How would you **DIAGRAM** the **DESIGN PROCESS**?
As a team, discuss how you would begin to DIAGRAM/MAP the exercise and the Design Process.

How will you begin?
What will you include?
How will you show it?
Action:

analysis + synthesis
New BUSINESS THINKING
with DESIGN PROCESS
2 different ways of seeing the world
**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
Sharing your research

Analyzing your research

Understanding what the information tells you

Synthesizing information to gain insights
1. Tell your story
2. listen for meaning + take notes
2.5. isolate ideas
3. then put them on the wall
4. look for patterns
5. identify key words.
Let’s begin.
Sharing Stories & RESEARCH
analysis
Tell stories about your key chain: where it is from, its history, what is on it ...
[2 min per person. USE ALL THE TIME YOU ARE GIVEN]
Post all of the notes on the wall. Move them around to form meaningful categories.

:15 cluster
Identify key words.
Building on your key words, define the essence of a keychain:

“A keychain is …”
Lesson learned: From ordinary to extraordinary
Lesson learned: collaboration
It’s better if you work together.
This is what collaboration looks like
Lesson learned:
visualizing information
How will we BEGIN?
The right tools make the job easier.
5 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
Your PROJECT
UNDERGROUND Markets

RESEARCH A SPECIFIC Underground Market

Individually assemble a research portfolio of as much information as you can find (primary and secondary sources) on a product-centered market.

CONDUCT FIELD WORK and INTERVIEWS
PRODUCT CHOICES

1. Sports apparel or jerseys (and memorabilia)
2. Designer Shoes
3. Fashion Accessories
4. Footwear
5. Designer Clothing
6. Watches
7. Perfumes and Cosmetics
8. Vinyl Records
9. DVDs
10. Music
11. Other? What **UNEXPECTED** product can you discover?
Reflection:
How do our definition of design, working “hands on” and multiple “points of view” apply to your projects?
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 markets you are researching

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.
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

From: http://www.merriam-webster.com/dictionary/portrait
This is a photo of two students at a track meet last year, they have since graduated, but were known as players in the second hand market.

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

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

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

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

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

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

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).

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.
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
Assignment 2-Journal of Observations
MIS 5403

For my research portfolio, I started with primary research, first inadvertently getting some feedback from friends and family when the topic came up at a dinner conversation. A valuable lesson learned from this experience was that appearances can be deceiving and that a much larger segment of the population engages in the underground economy as well as the mainstream economy. In the field, I first searched potential underground salespeople by searching on Craiglist and contacting them via text to get more information. Then I visited a flea market in Bucks County, which represents a formal location where many informal economies exist. I pursued the tents finding those selling cell phone related accessories, then further questioned the vendors if they also bought and sold cell phones. Two out of the three vendors said that they did and explained their strategies. After Rice’s flea market, I called the one lead from Craiglist who had responded to my text. Initially he seemed quite hesitant to meet with me, stating he had limited time and evading my request to learn more, but after I persevered and visited his store in Market East Gallery in person, he was open to sharing industry info and even agreed to forwarding me a pricing list from his connection.

All five individuals that I spoke with in person seemed to have a firm concept in their heads of what the pricing should be for a cell phone in the second hand market, but all three stated that these prices fluctuate often with the advent of new phone models. None could officially describe the exact algorithms for calculating pricing, rather referred to comparing prices to other online sources or determining fair value through word of mouth and networking through others involved in same or upstream levels on the supply chain. Another common theme was that each of the vendors had a “front store” that did not directly advertise that they bought/sold phones, indicating this activity as a side project outside of the core business. Joe and Noah stated they made more on the accessories/front end business where as Jay made significant margins on the large scale buy and sell business.

Following direct primary research with individuals, I visited Game Stop and spoke to their associate about how their system works. They have a software system that calculates how much Game Stop would purchase the phone for in cash and for store credit. When I got back from the field work, I checked the pricing list that Jay sent me and then contacted the CEO of CellBay for more information. Then I checked online suppliers, Gazelle, Glyde, and eBay. I also sent requests to Support departments of Gazelle and Glyde, asking them for more information on their algorithms. After the primary research and contacting some of the online vendors, I followed up with some secondary online sources.

Below contains documentation of evidence from primary and secondary sources.

Megan Hayes - I first stumbled upon a source when I went to my brother’s new place in South Philly and brought up the assignment at dinner. His roommate’s girlfriend was part Peruvian and explained how when she visits her family down there, they will bring 12 cell phones and sell them for such a profit down in Peru. Because Apple releases phones first in the U.S. it can take years for the new models to trickle to South America. Also, due to this lack, it is common to also have fake iPhone in Peru. Megan also said most people in Peru don’t have cell phone plans and have pay-per-use minutes/texts. The major players like Verizon and AT&T do not exist in South America.

Megan had another unique perspective. She started an organization for kids with learning disabilities to explore their learning style and make the best use of their individual strengths through the use of peer-to-peer mentoring. She predicts that it would be common for people with learning “disabilities” who were rejected from the mainstream society and were unable to find jobs in traditional outlets to use their inherent risk-taking and innovative skills to be successful in underground markets, such as the used cell