Lecture 05: Task Analysis

Tuesday / Thursday
12:00 to 1:20

James Fogarty
Kailey Chan
Dhruv Jain
Nigini Oliveira
Chris Seeds
Jihoon Suh
The Homer
Project Status

Looking Forward

2c: Design Research Check-In due Tonight
2d: Design Research Review due Monday 10/16
2e: Task Review due Thursday 10/19
2f: Design Check-In (3x4) Due Monday 10/23
2g: Design Review (1x2) Due Thursday 10/26
“Getting the Right Design” Report and Presentation

Other Assignments

Readings to be Posted Soon
Design at Large: real-world, large scale, and sometimes disruptive

Scott Klemmer (UCSD)
Host: Froehlich
Paul G. Allen School Distinguished Lecture
Thursday, October 12, 2017, 3:30 pm
EEB-105
Maps and directions

Abstract

In recent years, my group—and probably many of you—have experienced a dramatically-increased ability to do Design at Large: creating research that is widely-used by real people and learning a ton from the experience. When moving from designing artifacts in the lab to designing experiences at large we inevitably shift to studying complex sociotechnical systems. A lot of the behavior is emergent, and sometimes completely unexpected. The successes in this new world are tremendously exciting, but like all creative endeavors, there are lots of flops. One source of failure is that designers often receive guidance that's based on faith rather than insight. This leads to designs that 'solve' nonexistent problems, miss important needs, hold onto misguided assumptions for too long, or waste time relearning known insights. To help sketch where a shift to Design at Large may take us, I'll share insights from our research systems and their real-world usage, experiences with online learning, former students' adventures, and what we're up to in the Design Lab.

Bio

Scott is a Professor of Cognitive Science and Computer Science & Engineering at UC San Diego, where he co-founded the Design Lab. He previously served as Associate Professor of Computer Science at Stanford, where he co-directed the HCI Group, held the Bredt Faculty Scholar chair, and was a founding participant in the d.school. He has a PhD in CS from Berkeley and a dual BA in Art-Semiotics and Computer Science from Brown (with work at RISD). His former graduate students include leading professors, researchers, & founders. He leads the Interaction Design Specialization on Coursera; it introduced peer assessment to online education. He has been awarded the Katayanagi Emerging Leadership Prize, Sloan Fellowship, NSF CAREER award, Microsoft Research New Faculty Fellowship, and Nine best-paper or honorable mention awards. He is program co-chair of Learning@Scale '18, on the editorial board of HCI and TOCHI, was program co-chair for UIST, the CHI systems area, and HCIC. He advises university design programs globally. Organizations worldwide use his group's open-source design tools and curricula.
Design Research Reminders

You are not doing science

You seek design insight, not knowledge, truth, or generality

Do the best design work you can

May find that self-tracking is not the opportunity

We designed the project sequence, but be flexible

Capture and keep your raw work products

Dedicate a note keeper, consider recording

Our collection is minimal, but you will want them
Structure of Section and Critique

Focus on peer feedback and learning
- Bring your artifacts, be ready to present them
- Bring paper, keep the laptops put away

Critique progression
- Reminder of your project
- What you have done
- What you have learned
- Your plan going forward
- Feedback from peers / staff
- Questions you have for peers / staff
Structure of Section and Critique

With 3 Project Groups:
  2 groups in peer critique
  1 group with course staff
  Rotate at about 12 minutes

With 4 Project Groups:
  2 groups in peer critique
  2 groups each with member of course staff
  Rotate at about 17 minutes

Time at end to huddle, follow up with anybody
Developing Insight Is Hard

Design research yields a lot of data

- Does not reduce to a statistical test

Need to get from data to design insight

- But this is fundamentally difficult

Although project sequence separates research from design ideas, you will be exploring ideas as you do the research.
Objectives

Be able to:

Describe how taking different perspectives on design research data can help to surface design insights.

Given design research data, be able to analyze that data in terms of people and their tasks.

Describe personas, their purpose, how and why we emphasize design research data in their creation.

Define and describe relationships between tasks, personas, and scenarios.
Affinity Diagrams

Generated during group session

Each observation, idea, note to a post-it

Notes are hierarchically organized into themes, based on project focus
Affinity Diagrams
Affinity Diagrams
Developing Models

Distilling models that summarize data
  Highlights gaps in understanding
  Identify breakdowns and workarounds

Many types of models
  e.g., Flow, Sequence, Artifact, Cultural, Physical
  None is perfect, they highlight different things

No model is perfect or guarantees insight
Flow Model: Secretarial Hub

President
- Run the business
- Keep abreast of what’s going on
- Sign checks
- Go on trips

Worker
- Do the work of the business
- Meet with management

Vendor
- Invoice for services

Sales manager
- Run the sales department
- Travel to sales offices

Marketing manager
- Run the marketing department
- Produce proposal

Secretary
- Keep office organized
- Ensure bills paid on time
- Do final proof, print, and distribution of documents
- Manage and coordinate schedules
- Handle logistics of trips

Department's reports
Checks to sign

Signed checks
Request to help with family vacation plans
Request to schedule meeting with president
Invoices
Checks
Request to book trip
Proposal to proof and mail
Discussion of travel plans
Announcement
Announce events of general interest
Hold documents that manage shared projects

Requires lots of iterations

Bulletin board

U1

Flow Model: Secretarial Hub
Sequence Model: Doing Email

**Intent:** Handle emergencies

- Trigger: Return to the office
- Scan message list for important messages—Use sender, subject
- Choose urgent message
- Read message about unhappy user
- Decide more info needed
- Make phone call
- *Had to put off issue of unhappy user*
- Leave phone message
- File in phone folder
- See list of messages

**Intent:** Get back to people easily

- Choose message 9: subject indicates university news relevant to department
- Read message
- Delete message
- See message 10 automatically
- Read message 10
Sequence Model: Equipment Audit

- Assigned to do equipment audit
  - Retrieve required form from database
    - Print form
    - Collect data at site
    - Record data on paper form
    - Type data into form on computer
  - Print completed form
  - Leave hardcopy of form with customer
  - Send electronic form to supervisor
  - Store electronic form on form database
Cultural Model: Developer

Marketing
- Our new features are top priority
- If I say do X, you figure out what that means

Competitors
- We have 50 new features; catch up

Base technology group
- Our technology is standard; use it even if it doesn’t work
- You aren’t our primary user; we’ll fix bugs for you in our own time

Customer support
- Our bug reports are top priority

U9 (Developer)
Cultural Model: Department Store

Department store company culture

Do everything you can for the customer
We sell socks
The PC user is your customer
We sell socks

PC support management
Don't enforce any standards
Standards make my life easier

Users
We are a no-risk interface
Support whatever I choose to buy
We are your one-stop shop
We go out of our way for you

End customers
We run on integrity and trust
We help you sell socks

Business focus

External technology vendors
Use these de facto standards
Use whatever new net HW we create

Customer focus

U1 (PC support analyst)
Artifact Model: Calendar

- Past (seldom accessed)
- Future (quick access)

- Business cards (storage for later)
- Scheduled events
- Unscheduled but associated with the day
- Reminders (storage with quick access)
- Rubber band
- Meetings
- Appointments
- Reminders
- Strike out a day
- Notes
- Never used
Physical Model: Work Site

Approximately a 5 minute walk. If doing an audit at a site under construction, then safe path frequently changes and may need to wait for construction equipment to pass.

Work Site

- Maybe outside
- Large area (up to square mile)
- Tight spaces
- Climbing
- Awkward positions

Company Trailer

Computer
Designing with Tasks

We will primarily emphasize designing with tasks
Tasks Matter

System will fail if:
- It is inappropriate for the person
- It does not meet a person’s needs

Your contextual inquiries will emphasize getting to know people and their needs

Can you then just make ‘good’ interfaces?
Why Task Analysis?

‘Good’ has to be interpreted in the context of use
Might be acceptable in office, but not for play
Infinite variety of tasks and customers

Guidelines are too vague to be generative
  e.g., “give adequate feedback”
Can be used to critique, but not to generate

Design is often about tradeoffs

Example of gestures to navigate display
Why Task Analysis?

Task analysis is a lens on the information you obtain through design research methods. Use what you learned in your research to answer the questions in the task analysis.

Project sequence orders the two, but in practice you should iteratively decide how to best draw upon all relevant methods throughout a process.
11 Task Analysis Questions

Who is going to use the system?
What tasks do they now perform?
What tasks are desired?
How are the tasks learned?
Where are the tasks performed?
What is the relationship between people & data?
What other tools do people have?
How do people communicate with each other?
How often are the tasks performed?
What are the time constraints on the tasks?
What happens when things go wrong?
Question 1

Who is going to use the system?

Identity
In-house or specific customer is more defined
Broad products need several typical consumers

Background
Existing systems, training

Skills
Work habits and preferences

Physical characteristics and abilities
Seattle Parking Meter

Who is going to use the system?

Identity?
People who park in Seattle
Business people, students, elderly, tourists

Background?
Have used parking meters before
May have an ATM or credit card
Have used other fare machines before
Seattle Parking Meter

Who is going to use the system?

Skills?
May know how to put cards into ATM

Work habits and preferences?
Park several times a week, a month, a year

Physical characteristics and abilities?
Varying heights, do not make it too high or too low

Anything else?

Qdoba soda machine
There are limits, a tradeoff in this design.
Question 2 and Question 3

What tasks do they now perform?
What tasks are desired?

Important for both automation and new functionality
Relative importance of tasks?
Observe people, see it from their perspective

Automated Billing Example
small dentists office had billing automated
assistants were unhappy with new system
old forms contained hand-written margin notes
e.g., patient’s insurance takes longer than most
POPOVERS

2 cupfuls flour 2 eggs
1/2 teaspoonful salt 2 cupfuls milk
2 teaspoonfuls melted fat

Beat eggs slightly. Sift flour and salt, and add alternately with milk to eggs. Add melted fat. Beat with egg beater until smooth and full of bubbles. Fill hot greased cast aluminum or iron griddles or glass or earthenware custard cups, 2/3 full of popover batter. Place immediately in a hot oven of 450° F. and bake for 30 min. Then lower temperature to 350° F. and bake for 15 min. longer. Makes 9 popovers.

CORNBREAD

2 cupfuls cornmeal 2 cupfuls sour milk
1 teaspoonful soda 2 eggs, beaten
1 1/2 teaspoonfuls salt 2 tablespoonfuls melted fat
3 tablespoonfuls sugar

Sift dry ingredients together. Mix milk with beaten eggs and add to dry ingredients. Stir well together and add melted fat. Pour into a hot greased baking pan or muffin tins and bake in hot oven of 400° F. for 20-25 min. Makes 24 pieces.
Question 4

How are the tasks learned?

What does a person need to know?

Do they need training?

academic

general knowledge / skills

special instruction / training
Question 5

Where are the tasks performed?
Office, laboratory, point of sale?
Effects of environment on customers?
Are people under stress?
Confidentiality required?
Do they have wet, dirty, or slippery hands?
Soft drinks?
Lighting?
Noise?
Question 6

What is the relationship between people & data?

**Personal data**
Always accessed at same machine?
Do people move between machines?

**Common data**
Used concurrently?
Passed sequentially between customers?
Remote access required?
Access to data restricted?
Does this relationship change over time?

Patient-provider curation example, Fitbit example
Question 7

What other tools does a person have?
More than just compatibility

How customer works with collection of tools
Automating lab data collection example:
how is data collected now?
by what instruments and manual procedures?
how is the information analyzed?
are the results transcribed for records or publication?
what media/forms are used and how are they handled?
Question 8

How do people communicate with each other?
Who communicates with whom?
About what?
Follow lines of the organization? Against it?

Old Email Adoption Example, Contrasted to Current Expectations
Question 9

How often are the tasks performed?
Frequent use likely remember more details
Infrequent use may need more help
Even for simple operations
Make these tasks possible to accomplish

Which function is performed
Most frequently?
By which people?

Optimizing for these will improve perception of performance
Careful about initial use scenario
Question 10

What are the time constraints on the tasks?

What functions will people be in a hurry for?

Which can wait?

Is there a timing relationship between tasks?
Question 11

What happens when things go wrong?
How do people deal with task-related errors?
practical difficulties?
catastrophes?
Is there a backup strategy?
What are the consequences?
Plantr Task Analysis

Example abbreviated task analysis

Be sure to see other examples on website

As with models, no question promises insight
Plantr Task Analysis

1. Who is going to use the system?

Anyone who owns indoor plants is a potential user of Plantr. All of the plant owners that we interviewed forgot to water their plants at some point regardless of age, experience, and background. Even Lucy, who spent most of her time at home because she worked from home, struggled with timely watering.
When people purchase a plant, they often look up information about the proper lighting and temperature conditions for their plants. Additionally, people must find out how much and how frequently to water and fertilize their plants.
Plantr Task Analysis

3. What are currently unavailable, desired tasks?

People want a way to remember to water and care for their plants. Forgetting to water plants was the most cited reason for plant death, and the only task that participants in our inquiries mentioned completing on a regular basis.
Plantr Task Analysis

4. How are tasks learned?

Most people learned how to take care of their plants through trial and error. Some consulted the Internet, nursery staff, or friends for more information on plant care.
Plantr Task Analysis

5. Where are the tasks performed?

Tasks like watering and fertilizing are performed at the plant's location. People keep plants in their workplace, like Jack, or at home, like Lucy and Caroline. Getting information about plant care was performed in a variety of places. People who consult the Internet could be anywhere with a platform that supports web browsing. Those who go to the nursery to talk to plant experts are required to go to a specific location to talk to someone in person.
Plantr Task Analysis

6. What is the relationship between a person and data?

We identified three different types of data: a plant’s current state, information about plants, and data that reflects the person’s plant care history.

A plant's current state is data on the moisture level of its soil and the general appearance of the plant (e.g., color, stiffness/limpness of leaves). People use this information to determine the plant's needs. Caroline and Lucy watered their plants when the soil felt dry or the leaves began to droop.
Plantr Task Analysis

6. What is the relationship between a person and data?

People consulted various plant care information databases when they wanted to know how to care for their plants.

People used their personal history of plant care to determine how to take care of plants. Caroline said that she used to underwater plants, but she learned from her mistake and now tries to water them more often. People also base their buying decisions based upon their plant care history. Caroline noted that she tries to buy plants that require minimal water.
Plantr Task Analysis

7. What other tools do people have?

Caroline, Lucy, Jack, and Kacy all have phones and computers. People also have a water source, pots, and soil for their plants. Most people probably have access to a nursery or library.
Plantr Task Analysis

8. How do people communicate with each other?

Plant owners communicate on online forums and message boards. People who happen to be in the nursery at the same time might talk to each other about plant care. Likewise, people who have friends with indoor plants may share plant care tips.
Plantr Task Analysis

9. How often are the tasks performed?

Watering is performed with a frequency between twice a week (Jack) and twice a month (Caroline). Fertilizing is performed less frequently, between once every two weeks to once every three months. Plants do not become sick often enough to make a good estimate about how often people try to get help.
Plantr Task Analysis

10. What are time constraints on the tasks?

Plants must be watered with some regularity, so if people do not water their plants for long enough, the plants will start to die. Likewise, if plants are in need of attention for other reasons - pH imbalance, environment too dry - and they do not receive attention within some amount of time, they will die. Watering, caring, and learning how to care for a plant takes time. People who are very busy might not have the time or attention required for plant care.
11. What happens when things go wrong?

When plants became "sick", people take action, seek help, or ignore the problem until the plant dies. When people forget to water plants, they usually notice that the plant needs water and give it water. Sometimes people may not realize that a plant needs water until it is too late.
Combine with Other Methods

Personas
Concept Mapping
Competitive Analysis

“If you want to create a product that satisfies a broad audience …, logic will tell you to make it as broad in its functionality as possible to accommodate the most people. Logic is Wrong.”
Personas

Archetypal character meant to represent a group of people in a role who share common goals, attitudes, and behaviors when interacting with a particular product or service.

NAME: Vivica Parker
AGE: 32
OCCUPATION: Journalist
PROFILE:
Born in Washington, DC
Lives and works in New York City (far from family)
Lives by herself in a small apartment
Has a driver's license
Calls parents and older brother on weekends
Works for an online art magazine and is currently in charge of writing a blog about graffiti. In order to do that she needs to do the following tasks:

- Walk/drive around the city
- Take pictures
- Talk with artists and keep record of that info (place, time, people)
- Work day/night
- Share the collected information with editor and magazine’s readers

To do her job, usually carries notebooks, camera and cell phone to keep in touch with her editor.

INTERESTS:
Amateur theater actress since she was 23
Travel and merge in different cultures
Architecture

ACTIVITIES:
Did research on ancient Egyptian architecture
Member of the Art Society of NY

TECH EXPERIENCE:
Basic knowledge about operating systems
Uses the Internet frequently either for personal or business purposes

TECH ATTITUDE:
Always open to new technology, but she feels annoyed with complex applications and discards them very often.
Tends to feel numb using the latest high-tech gadgets and needs time to get used to them.

GOALS & SITUATED BLOGGING NEED:
Needs to keep track of her location and time when she finds and photographs graffiti and street art for her blog and (b) conducts audio interviews of artists and enthusiasts
Needs to have a quick way of keeping track of content gathered from separate locations in order to post articles before editorial deadlines.

“This is what I need in order to do my job.”
Personas

Purpose

Empathy: characters to engage and relate to

Focus: can focus on specific people and needs, versus always attempting to design for everybody

Communication: conveys range of data, can help make assumptions more explicit

Multiple Types

Primary, Secondary, Supplemental, Customer, Served, Negative
Personas

Goals

Life Goals: personal aspirations
  e.g., to retire before the age of 50

Experience Goals: how to feel with a product
  e.g., to be competent while using the product

End Goals: tangible outcomes with a design
  e.g., to be updated about finances over last month
Personas

Roles

Personas do not necessarily equal roles
  e.g., parent, doctor, programmer, actor

People can have multiple roles

People in a role can have different needs and goals
  e.g., new programmer vs. experienced programmer
  e.g., parent of 1 vs. parent of 8
  e.g., oncologist vs. podiatrist
Personas

Critical to avoid using stereotypes as personas

“The whole point in creating personas is to get past our personal opinions and presuppositions.”

Goodwin, 2002

Not a substitute for design research, but a tool for summarizing and conveying that research

- Collect design research data
- Segment people
- Create personas for segments
**Personas**

**Parxat Practical**

**Primary Motivation to acquire phone:**
I got my mobile phone to make calls when I am away from work or home

**Associated motivations:**
I got a good price on my phone and mobile phones are cheaper than landlines.

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**Personal Profile**

"Mobile phones are part of your communications just like eyes and ears"

For Parxat, mobile phones have provided a key way to stay in contact with work, family and friends.

He owns and manages a small computer game club with eight computers. His club does not yet have internet or a landline; however, he would like to add the internet and more computers when he can afford them.

Currently, Parxat maintains all of the computers but knows he may need help with some computer problems in the future. Other club owners that he has known have had to shut down after two to three years because the equipment has broken down and the owners cannot get the old equipment fixed or afford new. Right now he is not sure who he would ask for help if one of his computers needed maintenance that he could not perform himself.

Parxat has always relied heavily on a system of personal recommendations when looking for professional services. He feels that one should "trust the advice of friends because they are to be trusted."

**Parxat's Goals for MoSoSo Directory**

- Would seek recommendations for professional help such as plumbers and computer maintenance
- Would like to create a public recommendation for his computer club
- Groups he would join or create
  - Family
  - Clients from his computer club
  - Friends through work

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**Key Significant Differences**

- Uses the phone for work calls
- Bought his mobile phone (not a gift)
- Tech savvy compared to other groups

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**Personal Information**

**Age:** 43 years

**Profession:** Owns and manages computer game club with eight computers

**Lives:** In the capital city of Bishkek

**Home Life:** Lives with his wife and two sons

**Russian:** Can speak and read fluently

**Primary Home Language:** Kyrgyz

**Primary Work Language:** Russian

**Schooling:** He has a degree in economics focused on finance and credit from Kyrgyzstan Slavonic University

**Income:** 5200 soms a month (approx $140.00)

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**Technical Information**

**Internet Use:** Yes, at least occasionally

- **Length of use:** 36 months
- **Use how often:** 1-2 days a week
- **Where use:** Most often at a friend's internet cafe

**Computer User:** Yes

**How often:** Several times a day at work

**Cable or Satellite TV:** Yes

**Home Landline:** Yes

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**Mobile Phone Use**

**Length of use:** 28 months

**How acquired:** Bought his phone new

**Use how often:** Usually a few times a day

**For:** 67% personal calls, 40% work calls

**SMS:** Yes: 70% voice, 30% text

**Feelings and concerns:**
- Concerned that mobile phone activity is monitored
- Would miss his phone very much if he did not have it (rated 4 on a scale of 1-6)
- Feels mobile phone access is too expensive
Personas

Parxat Persona Data Detail

**Photo:** Older male participant from interview KS_R11. The participant is actually a field worker from Rana Dalal. His personal data was actually used for a family member.

**Motivation:** We placed the 40 survey participants with mobile phones in one of three profile groups based on their responses. We found that 85% of these respondents claimed motivations that fell into one of the three final motivation groups without overlap.

There were 174 individuals in the practical motivation group. Almost all members of this group (98%) gave a need to make calls when away from home or work as the motivation for acquiring a mobile phone. 2% were also motivated by mobile phones being cheaper than landlines and 2% by getting a good price for the phone.

**Name:** Parxat is the name of a top party member in the Khyber parliament.

**Parxat Practical**

**Primary Motivation:** This was actually a field worker from Rana Dalal.

**Personal Information:**
- **Age:** 55 years old.
- **Occupation:** Field worker.
- **Language:** Hindi.
- **Education:** 12th standard.
- **Income:** 250,000 rupees per year.

**Technical Information:**
- **Mobile Phone:** Samsung Galaxy S7.
- **Mobile Ownership:** 5 years.

**Personal Goals:**
- **Work:** To travel and visit different places.
- **Leisure:** To listen to music.

**Key Differences:**
- 41% of the practical motivation group used their phones for work, this was significantly more than the other two groups.
- 41% of the practical motivation group bought their phones new, more than any other group. (Note: survey respondents received their phones as gift).
- The practical motivation group had more experience with computers and internet than any of the other two groups.

**SMG:** 27% of the practical group used SMS. This split was based on the numbers given by the other participants from Interview KS_U1.

**Feeling and concerns:**
- 41% felt mobile activity was monitored. This was statistically significantly higher than any other group (no other group was higher than 10%).
- 52% claimed they would miss any phones "a lot" - this was the most of any group.

**Last updated:**
- 10/02/2018

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**Photo:** Other male participant from interview KS_R11. The participant is actually a field worker from Rana Dalal. His personal data was actually used for a family member.

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**Last updated:**
- 10/02/2018
Personas

Shirin Social
Primary Motivation to acquire phone:
I like people to reach me at all times
Associated motivations:
My friends all have mobile phones

Personal Profile
“We just talk to our friends...things like did you hear that this or that happened - in our communication rumors are the official news, and gossip works”

For Shirin, keeping in contact with friends is the most important thing about mobile phones.

She is a full time student (junior) at American University of Central Asia (AUCA), studying business administration. She also works part time as a bartender in a cafe.

Shirin is part of an unregistered student association at school that organizes cultural and historical meetings at a local cafe. She also enjoys arranging parties for her friends.

She is interested in social networking applications on the internet, but has found it boring, stating “the first time is interesting then you get bored because you already know everybody.”

Shirin’s Goals for MoSoSo Directory
- Would use the service most to create groups of friends
- Would like to broadcast messages to particular groups, or to tell people where there will be social gatherings
- Would like to retrieve messages from other members of a group
- Groups she would join or create
  - Family
  - Friends from work and school
  - Associations through her unregistered student organization

Key Significant Differences
Uses the phone to primarily to call friends
Least likely to feel mobile access is too expensive
Somewhat tech savvy

Personal Information
Age: 20 years
Profession: Student and works part time as a bartender in a local cafe
Lives: In the capital city of Bishkek
Home Life: Lives with her dad and an older brother. She also has around 30 cousins in towns.
Nationality: Kyrgyz
Primary Home Language: Kyrgyz
Primary Work Language: Kyrgyz
Schooling: She is a full time student (junior) at the American University of Central Asia studying business administration
Income: 2000 soms a month (approx $70.00)

Technical Information
Internet Use: Yes, at least occasionally
Length of use: 33 months
Use how often: About once a week
Where use: Most often at an internet cafe
Computer Use: Yes
How often: A few times a week at school
Have a Computer: Yes

Mobile Phone Use
Length of use: 25 months
How acquired: Was given the phone by a cousin
Use how often: Several times a day
 Features: 80% personal calls, 20% work calls
SMS: Yes: 65% voice, 35% text
Feelings and concerns:
The least likely of any group to feel that mobile phones are too expensive
Feels that mobile phones are important to her future career

Primary persona: represents 32% of survey respondents who own mobile phones
Personas

Shirin Persona Data Detail

**Personas**

- **Shirin's Profile**: Younger female participant from the interview with three urban young friends (KZ, KY, and KR). The participant actually lives in Bishkek, is eighteen years old and is a student at the American University of Central Asia.

- **Motivation**: We placed the 400 survey participants with mobile phones in one of three groups based on their responses. We found that 52% of these respondents claimed motivations that fell into one of the three final motivation groups without overlap.

- **Trends**: There were 113 individuals in the social motivation group. A majority (81%) wanted people to reach them at all times, 19% of this group got their mobile phone because their friends all had them, and 4% wanted to receive voicemails.

- **Name**: Shirin is a somewhat common female name in Kyrgyzstan. It is of Persian origin.

**Shirin Social**

**Key Differences**: 93% of the social motivation group used their phones for work - this is slightly more than the other two groups.

**Key Difference**: Daily 50% of the social motivation group felt that mobile phone access was too expensive while the other two groups over 64% felt it was too expensive. This was a statistically significant difference.

**Key Differences**: The social group had the second most experience with computers and internet - 43% used computers, 30% owned a computer, 29% used the internet.

- **Age**: Actual mean age of the group was 30. This was the youngest mean age, but was intended lower here to emphasize the difference with the other groups.

- **Profession**: This profession is part of three interviews that included - a total of seven younger people under the age of 27. Four were students. The first three were the profiles of an urban male student in KZ, KY, and KR.

- **Linus**: 64% of urban users live in an urban environment - this is also the urban environment location for Shirin.

- **House Life**: Most family size was 3.0 people for the social group. The multiple causes reference was based on information from a female interview participant.

- **Russian**: 7% of the social group speak and read Russian.

- **Primary Household Language**: 62% claimed their primary language of home was Kyrgyz.

- **Primary Work Language**: 56% of those employed spoke Kyrgyz at work.

- **Selling**: This degree and university are based on the male friend from the KZ_UW interview. The same participated that we based the part-time job upon. Members of the social group on average have 13.8 years of school and the most of any group.

- **Income**: This is lower than the average income of 4775 euros ($570) based on August 2018 exchange rate and data from http://ewww.ferghana.ru/austr. Since our persons was a student working part-time we assumed a lower than average income.

- **Internet Use**: 36% of the group used the internet - the second highest of any group.

- **Length of use**: One hour often. When used - All most numbers bond directly on survey data.

- **Computer Use**: 45% of of the group used computers - the second highest of any group.

- **How Often**: Most of the survey data.

- **Cable or Satellite TV**: 31% of the group had cable or satellite TV - the most of any group.

- **Home Landline**: 54% have home landlines - the most of any group.

- **Mobile Phone**:
  - **Length of Use**: mean number from the survey data.
  - **How often**: 42% of the social motivation group received their phones as gifts from family members - this was the most common way to acquire a phone for this group.

- **Feels**: mean number from survey data.

- **Fun**: While all groups used their phones mostly for entertainment, 50% of social motivation group used their phones for personal calls - the most of any group.

- **SMS**: 27% of the cellular group used SMS. This split was based on the numbers given by the group name participants in KZ, KY, and KR.

**Shirin’s Guide to Mobile Directory**

- **Social**: 93% of the social group use their phones for personal calls - the most of any group - 38% for work.

**Quotes**: This is a direct quote from one of the participants in when asked about where they looked for news and information.

**Key Significant Differences**

- **Shirin’s Social**: 93% of the social motivation group use their phones for work - this is slightly more than the other two groups.

- **Key Difference**: Daily 50% of the social motivation group felt that mobile phone access was too expensive while the other two groups over 64% felt it was too expensive. This was a statistically significant difference.

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- **Age**: Actual mean age of the group was 30. This was the youngest mean age, but was intended lower here to emphasize the difference with the other groups.

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**Shirin’s Guide to Mobile Directory**

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Personas

Roza Replacement
Primary Motivation to acquire phone: I have no home phone
Associated motivations: It takes too long to get a home phone

Personal Profile
"There are only so many services provided, but not enough for middle class people... it would be nice if there was the one server that gave the information about everything that was needed for marshukas (houses) and other things."

For Roza, who does not have a landline at home, a mobile phone is a very important device that allows her to stay in contact with her friends and family; however, she would like to see more affordable mobile phone services for "middle class" people like her.

There is only one landline in a community building in her village that closes at 5 PM every day.

While Roza herself is not tech savvy; she does not use the internet or computers. However, she recognizes the importance of technology for her daughters, and would like to have a computer at home while they are in school.

Roza and her husband rely on their friends and family to find specialists to complete services they need. Recently, she needed to find a mechanic and used her social network, stating "...it's better to find someone through your friends."

Roza's Goals for MoSoSo Directory
- Would be more likely to seek a recommendation for services than to make one
- Would want to access the service without using text
- Would like to find recommendations for professional services from other members of a group
- Groups she would join: Family, Neighbors, May talk in public area for professional services

Key Significant Differences
- Least likely to use the phone for work
- Lives in a rural area
- Not tech savvy

Personal Information
Age: 30 years
Profession: Housewife - her husband is a driver for an agricultural corporation (for 23 years)
Lives: In Ceragulak, a rural village
Home Life: Lives with her husband, son and two daughters
Russian: Can speak and read Russian
Primary Home Language: Kyrgyz
Primary Husband's Work Language: Kyrgyz
Schooling: Completed secondary school
Income: (Husband's income) 4200 soms a month (approx $110.00)

Technical Information
Internet Use?: No
Computer Use?: No, but she would like to get a computer for her two daughters who are still in school
Cable or Satellite TV: No
Home Landline: No

Mobile Phone Use
Length of use: 12 months
How acquired: Was given the phone by her brother
Use how often: Three to five days a week
Freq: Primarily for personal calls
SMS: No, but has considered it
Feelings and concerns:
- She feels it is difficult to use a mobile phone when you do not know English
- She is concerned that mobile phones represent a threat to local culture and ways
- She feels strongly that mobile phones allow her access to important and relevant information

Secondary personas: represents 12% of survey respondents who own mobile phones
Personas

Roza Persona Data Detail

- **Photo:** Middle age female participant from interview KI_RF1. The participant was one of three participants in the interview which included her husband and a younger brother. She lives in Khor Bula, an rural area outside of Bishkek.

- **Motivation:** We placed the 480 survey participants with mobile phones in one of three groups based on their responses. We found that 382 of these respondents claimed motivations that fell into one of the three final motivation groups without oversampling.

- **Name:** Roza, from the same derivative as Reza, is somewhat common in Kyrgyzstan. The spelling reflects the French, Swiss, or Yiddish influence.

- **Key Difference:** Only 15% of the replacement motivation group used their phones for work - this is the lowest of any group.

- **Key Difference:** 62% of the replacement motivation group lives in a rural area. This is statistically significantly more than any other group.

- **Key Difference:** The replacement group is the least tech savvy of all groups. 35% used computers, 7% owned a computer, 30% used the internet.

- **Age:** Actual mean age of the group was 35.6. This was the middle mean age when compared to the other two groups.

- **Profession:** This group is the least likely to be employed. Only 12% of respondents in this group were employed full-time (100% employment was not answered). The husband job was based on the father participant's job from the KI_RF1 (local family interview).

- **Lives:** 63% of replacement users live in a rural environment. This is statistically significantly more than any other group.

- **Home Life:** Mean family size was 4.4 people for the replacement group. This is statistically significantly larger than any other group.

- **Russian:** 30% of the replacement group speaks and must not be used for any group.

- **Primary Home Language:** 63% of this group claimed their primary language at home was Kyrgyz.

- **Primary Work Language:** 63% of those employed spoke Kyrgyz at work.

- **Schooling:** 85% of the replacement group claimed secondary school as their highest level of education. Members of the replacement group on average have 11.1 years of schooling which is statistically significantly lower than the other two groups. (5.4 years):

- **Income:** This is less than the average income of $4700 (3170.64) based on August 2016 exchange rates and data from http://www.krggov.ru/news. Since replacement users tend to live in a rural area we made them less affluent than the average.

- **Internet Use:** 35% of this group used the internet - the lowest of any group.

- **Computer Use:** 35% of this group used computers - the lowest of any group. The additional information about the desire for a computer is from the mother in the rural family interview (KI_RF1).

- **Cable or Satellite TV:** 9% of this group had cable or satellite TV. This is statistically significantly lower than any other group.

- **House Landlines:** 7% have home landlines, which makes sense since a lack of a landline is the primary motivation for the group. Not surprisingly, this is statistically significantly lower than any other group.

- **Mobile Phone:**
  - **Length of Use:** Mean number of survey data.
  - **How acquired:** 38% of the replacement motivation group used their phones as gifts from family members. This was the most of any group.
  - **Use for home:** 38% of the replacement motivation group used their phones for personal calls.
  - **SMS:** Only 12% of the replacement group used SMS.
  - **Feelings and concerns:** 30% expressed concern that one needs to have English for a mobile phone. This was statistically significantly higher than any other group.
  - 30% were concerned that mobile phones were a threat to local culture and ways. This was higher than the other two groups.
  - 60% expressed that mobile phones allowed a cross to relevant information. This was the highest of any group.
Combine with Other Methods

Personas
Concept Mapping
Competitive Analysis

Method 16
Combine with Other Methods

Personas
Concept Mapping
Competitive Analysis

Method 16
Combine with Other Methods

Personas
Concept Mapping
Competitive Analysis

Method 15
Project Status

Looking Forward

2c: Design Research Check-In due Tonight
2d: Design Research Review due Monday 10/16
2e: Task Review due Thursday 10/19
2f: Design Check-In (3x4) Due Monday 10/23
2g: Design Review (1x2) Due Thursday 10/26
Selecting Tasks

Real tasks people have faced or requested as supported by your design research
collect any necessary materials

Should provide reasonable coverage
compare check list of functions to tasks

Mixture of simple and complex tasks
easy tasks (common or introductory)
moderate tasks
difficult tasks (infrequent or for power use)
What Should Tasks Look Like?

Say what person wants to do, but not how
allows comparing different design alternatives

Be specific, stories based in concrete facts
say who person is (e.g., using personas or profiles)
design can really differ depending on who
give ‘names’ (allows referring back with more info later)
characteristics of person (e.g., job, expertise)
story forces us to fill in description with details

Sometimes describe a complete “accomplishment”
forces us to consider how features work together
Task: Park in a New Neighborhood

Peter is going to brunch on a Sunday with his roommates. He is trying a new place he found on Yelp. He has the address for the place and he is using his phone’s GPS for directions. He leaves the apartment with his roommates at 8:30am and he wants to beat the crowd so they won’t have to wait in line. He is driving a Toyota Corolla that he has owned for five years. It is a rainy day and he doesn’t have an umbrella.
Hierarchical Task Analysis

Steps of the task execution (detailed in a hierarchy)

park in new neighborhood

determine destination
drive to destination
locate parking spot
secure parking spot
park

enter address in GPS
follow directions
arrive at destination

...

Hierarchical Task Analysis

Steps of the task execution (detailed in a hierarchy)

park in new neighborhood

determine destination

drive to destination

locate parking spot

secure parking spot

park

enter address in GPS

follow directions

arrive at destination

... Or step back a level and motivate ridesharing
Using Tasks in Design

Write up a description of tasks formally or informally run by people and rest of the design team get more information where needed

Manny is in the city at a restaurant and would like to call his friend Sherry to see when she will be arriving. She called from a friend’s house while he was in the bus tunnel, so he missed her call. He would like to check his missed calls and find the number to call her back.
Using Tasks in Design

Rough out an interface design
discard features that do not support your tasks
or add a real task that exercises that feature
major elements and functions, not too detailed
hand sketched

Produce scenarios for each task
what person does and what they see
step-by-step performance of task
illustrate using storyboards
Scenarios

Scenarios are design specific, tasks are not

Scenarios force us to show how things work together settle arguments with examples but these are only examples, and may need to look beyond flaws

Show people storyboards topic for next Thursday
Tasks, Personas, and Scenarios

**Task**: a design-agnostic objective

**Persona**: a fictional person with a backstory

**Scenario**: narrative that demonstrates a persona completing a task using a particular design

**Use Case**: in software engineering, describes requirements using one or more scenarios
Tasks in Your Projects

Say what is accomplished, not how

Real tasks that people currently encounter, or new tasks your design will enable

Reasonable coverage of the interesting aspects of your problem and your design space

Range of difficulty and complexity

- Park at the zoo
- Park Friday night in Ballard
- Park at the airport
CSE 440: Introduction to HCI
User Interface Design, Prototyping, and Evaluation

Lecture 05: Task Analysis

Tuesday / Thursday
12:00 to 1:20

James Fogarty
Kailey Chan
Dhruv Jain
Nigini Oliveira
Chris Seeds
Jihoon Suh