CSE440: Introduction to HCI
Methods for Design, Prototyping and Evaluating User Interaction

Lecture 09: Personas & Storyboarding

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Project Status

Framing the problem
- User research
- Competitive analysis
- Data analysis and summary

Exploring the solution space
- Brainstorming
- Ideation through sketching

Finding a good solution
- Scoping
- Consideration of constraints
- Scenarios, storyboards, personas
- Design rationale

Refining the solution
- wireframes
- lo-fi prototypes
- early evaluations
- mockups/mid-fi prototypes
- additional evaluations

Today
Personas
“When you are designing for everyone, you are not designing for anyone.”
Personas

Samantha Bell

“I’d love to keep in contact with my friends”

Sam is about to go abroad for her gap year, so her parents decided to get her a new camera, to make sure she’s able to record everything she gets up to.

She likes the camera as it looks so modern, and it’s able to do so much more than a lot of her friends’ cameras.

She loves being in contact with people all the time, and finds it’s a great way to kill time like when waiting for the bus. She uses a lot of the more advanced features—panoramic shots, online upload and...

When she encounters a problem she ignores it most of the time - she’s not sure if she even got a manual with the camera. When she has trouble she can’t ignore she speaks to her friends, or goes into a camera store – she wants to be talked through the problem.

Ideal features

- Ability to take pictures
- Ability to upload images to personal site using 3G/WiFi
- Allowing others to access her pictures remotely
- Long battery life
- Ability to name and add comments to uploaded images
- Ability to create several albums, and upload pictures to each

Frustrations

- Lack of wireless/3G access
- Slow uploads
- Low battery life
- Need to be plugged in to upload images
- Slow shutter speed
- Want to be able to name/add comments to uploaded images
- Getting online is confusing
- Creating new albums

First time user

Female, 27 year old, single
Student
Sam prefers to learn how to things by trying things out by herself. She isn’t worried about ‘breaking’ anything, if she does need help she would prefer to not to refer to a manual but “do it herself”.

Needs

In order of preference:
1. To share pictures with her parents
2. To share her pictures with her friends
3. To share her pictures with people she meets whilst travelling

Key attributes

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Low</th>
<th>High</th>
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<tbody>
<tr>
<td>Knowledge</td>
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<td>Experience</td>
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<td>Help use</td>
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<td>Confidence</td>
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Webcredible – user experience research & design

March 2010
Benefits of Personas

Concreteness
Recognition
Evocativeness
Taking into account the needs of all relevant users and stakeholders
Communication with customers

Personas (and stories…) fight back cognitive laziness (i.e., being human)
Personas

**Christina Moletti**
Freelance Graphic Designer

"Living life is a creative process too"
- Has enough money but not much more
- Works hard during the day but on her own hours
- Walking is her main way to travel, day or night

**Personal Information**
- Age: 25
- Location: Pittsburgh, PA
- Education: BA Graphic Design NC State University
- Profession: Freelance Graphic Designer
- Part-Time Student
- Home Life: Lives with a roommate (Eva 25)
- Hobbies: Playing guitar and xylophone, reading, drawing, sewing, watching movies, sleeping
- Favorite TV Shows: Doesn't watch much TV
- Personality: Easygoing, outgoing, try new things

**User Goals**
- Christina uses this information system to...
  - Give her reasons to go out walking at night
  - To be active and aware of her surroundings at night
  - To find the safest places to go at night
  - Make walking and being out at night more social with her friends

**Maria Nantes**
Newspaper Editor

"I want to stay healthy both mentally and physically always"
- Health Conscious
- Use basic technology for day to day activities
- Enjoy Social groups

**Personal Information**
- Age: 31
- Location: Ann Arbor, MI
- Education: Master's in English from U of Michigan
- Profession: Newspaper Editor
- Home Life: Married, no children
- Hobbies: Walking, making friends, Yoga
- Favorite TV Shows: Desperate Housewives
- Personality: Outgoing, Passionate, Social, Sophisticated

**User Goals**
- Maria uses this information system to...
  - Connect and coordinate with friends
  - Find safe walking routes at night
  - Get a sense of safety by getting more info
  - Find out about social events taking place at night, which might be of potential interest
  - Wants to get emotional and mental relaxation by walking

**James Goetsinger**
Senior Engineer

"I know what I'm doing, I'm willing to try everything new."
- is willing to spend money on that
- Likes to chat with others online
- Knows that health is very important & work out

**Personal Information**
- Age: 37
- Location: San Francisco, CA
- Education: Master's
- Profession: Cellphone Interface Developing
- Home Life: Single
- Hobbies: Surfing online to look for new electronic products, working out at gym
- Favorite TV Shows: Friends, Heros
- Personality: knowledgeable in popular stuffs, talkative, keeping things on schedule

**User Goals**
- James uses this information system to...
  - Stay ahead of latest trends on mobile devices
  - Take more time to walk as the substitute for exercise
  - Meet new friends through this application
  - Feel free to walk at night
  - Discuss the new interaction
  - Try to figure out a method for socializing and also provide a feeling of security
Personas - Gender

Abby Jones

You can edit anything in blue print

- 28 years old
- Employed as an Accountant
- Lives in Cardiff, Wales

Abby has always liked music. When she is on her way to work in the morning, she listens to music that spans a wide variety of styles. But when she arrives at work, she turns it off, and begins her day by scanning all her emails first to get an overall picture before answering any of them. (This extra pass takes time but seems worth it.) Some nights she exercises or stretches, and sometimes she likes to play computer puzzle games like Sudoku.

Background and skills
Abby works as an accountant. She is comfortable with the technologies she uses regularly, but she just moved to this employer 1 week ago, and their software systems are new to her.

Abby says she's a "numbers person," but she has never taken any computer programming or IT systems classes. She likes Math and knows how to think with numbers. She writes and edits spreadsheet formulas in her work.

In her free time, she also enjoys working with numbers and logic. She especially likes working out puzzles and puzzle games, either on paper or on the computer.

Motivations and Attitudes

- **Motivations:** Abby uses technologies to accomplish her tasks. She learns new technologies if and when she needs to, but prefers to use methods she is already familiar and comfortable with, to keep her focus on the tasks she cares about.

- **Computer Self-Efficacy:** Abby has low confidence about doing unfamiliar computing tasks. If problems arise with her technology, she often blames herself for these problems. This affects whether and how she will persevere with a task if technology problems have arisen.

- **Attitude toward Risk:** Abby's life is a little complicated and she rarely has spare time. So she is risk averse about using unfamiliar technologies that might need her to spend extra time on them, even if the new features might be relevant. She instead performs tasks using familiar features, because they're more predictable about what she will get from them and how much time they will take.

How Abby Works with Information and Learns:

- **Information Processing Style:** Abby tends towards a comprehensive information processing style when she needs to more information. So, instead of acting upon the first option that seems promising, she gathers information comprehensively to try to form a complete understanding of the problem before trying to solve it. Thus, her style is "burst-y"; first she reads a lot, then she acts on it in a batch of activity.

- **Learning: by Process vs. by Tinkering:** When learning new technology, Abby leans toward process-oriented learning, e.g., tutorials, step-by-step processes, wizards, online how-to videos, etc. She doesn't particularly like learning by tinkering with software (i.e., just trying out new features or commands to see what they do), but when she does tinker, it has positive effects on her understanding of the software.

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1 Abby represents users with motivations/attitudes and information/learning styles similar to hers. For data on females and males similar to and different from Abby, see http://euseconsortium.org/gender/gender.php
Personas - Culture

https://www.researchgate.net/publication/278034641
Seven Questions to Knowing Your Audience

1. What are they like?
   Demographics and psychographics are a great start, but connecting with your audience means understanding them on a personal level. Take a walk in their shoes and describe what their life looks like each day.

2. Why are they here?
   What do they think they’re going to get out of this presentation? Why did they come to hear you? Are they willing participants or mandatory attendees? This is also a bit of a situation analysis.

3. What keeps them up at night?
   Everyone has a fear, a pain point, a thorn in the side. Let your audience know you empathize—and offer a solution.

4. How can you solve their problem?
   What’s in it for the audience? How are you going to make their lives better?

5. What do you want them to do?
   Answer the question “so what?”—and make sure there’s clear action for your audience to take.

6. How can you best reach them?
   People vary in how they receive information. This can include the set up of the room to the availability of materials after the presentation. Give the audience what they want, how they want it.

7. How might they resist?
   What will keep them from adopting your message and carrying out your call to action?
Why Personas Fail

They were created, but not used

No buy-in from leadership

Personas were created by UX people and imposed on others

People don’t know what personas are or why they’re useful

https://www.nngroup.com/articles/why-personas-fail/
Team activity

As a group, develop 2 diverse personas for your project:

What are the main users that you are designing for?
What characteristics do they share?
How are they different from each other?
Group these attributes to broadly define roles
Turn the roles into “real” personas

Use the handouts!
With another group...

Take turns explaining your personas to the other group.

Critique the personas:
- Are the personas diverse and representative of the user population?
- Is there an adequate level of detail?
- Do you feel like you have a good understanding of the users?
- Do the personas adequately represent “market segments”?

Keep them: they will come in handy throughout the next few assignments!
Storyboarding
Why do we need stories in design?
Why do we need stories in design?

How would you explain your favorite social media tool to someone living in 1995? E.g., yelp, twitter, snapchat,…

https://www.commoncraft.com/video/twitter
Three Ways of Telling Stories

Scenarios
- A short story about a specific user with a specific goal
- Written accounts and narratives of the experience
- Analogy: Books

Storyboards
- A series of sketches showing how a user might progress through a task in a system
- Visual storytelling with rough sketches/cartoons
- Analogy: Comics, Picture books

Video Storyboards
- Richer visual storytelling
- Analogy: Movies/TV
Sketching
Another one
Another one
Why Storyboards? (If you have Scenarios)

As a visual representation, storyboards help thinking deeply about…

- Specific environments where the system is used
- Physical constraints (size of system, space where it’s used…)
- Relationships among multiple people
Illustrating Time

Storyboards come from film and animation

Give a “script” of important events
leave out the details
concentrate on the important interactions
Allowing Exploration

Much faster and less expensive to produce
  Can therefore explore more potential approaches

Notes help fill in missing pieces of the proposal
Effective to communicate

Effective storyboards can quickly **convey information** that would be difficult to understand in text.

Imagine explaining the storyboard on the right in text, for various audiences.

Can illustrate key requirements and leave open less important details of design.
Storytelling

Stories have an audience
- Other designers, clients, stakeholders, managers, funding agencies, potential end-users

Stories have a purpose
- Gather and share information about people, tasks, goals
- Put a human face on user data
- Spark new design concepts and encourage innovation
- Share ideas and create a sense of history and purpose
- Giving insight into people who are not like us
- Persuade others of the value of contribution

"Maybe stories are data with a soul!" - Brene Brown
Stories Provide Context

Characters
  Who is involved

Setting
  Environment

Sequence
  What task is illustrated
  What leads a person to use a design
  What steps are involved

Satisfaction
  What is the motivation
  What is the end result
  What need is satisfied
Amal’s Guide to Storyboarding

Don't use this to illustrate all the UI features & components. *

* this is what paper prototyping is for.

Red & Sean were bored after going to the Bluegrass Festival & decided to find out what else they could do...

Dude, what do we do?!

Let me use Toursafari on my iPhone!

Instead, show why & when features would be used.

Amal Dar Aziz
Storytelling

Good stories
- Understand audience
- Provide context of use
- Are well-motivated
- Memorable
- Evokes a reaction
- Evokes empathy
- Illustrate experience
- Convey emotions
- Short and to-the-point

Bad stories
- Do not account for audience
- Boring or un-engaging
- Fantastical or unrealistic
- Wrong story for purpose
- Too long to hold attention
Elements of a Storyboard

Visual storytelling

5 visual elements
- Level of detail
- Inclusion of text
- Inclusion of people and emotions
- Number of frames
- Portrayal of time

Truong et al, 2006
1. How Much Detail?

Too much detail can lose universality

Scott McCloud
1. How Much Detail?

How to sketch people?

Star people
by Bill Verplank

PERSON

(c) 2009 SAGHA CHUA

(c) 2009 SAGHA CHUA
1. How Much Detail?
1. How Much Detail?
2. Use of Text
2. Use of Text

It is often necessary, but keep it short

1. At home, Mary checks her blood pressure.
2. After a few simple key presses, her blood pressure readings get sent to a clinic.
3. The information is made available to her doctor.
3. Include People and Emotions

Include people experiencing the design and their reactions to it (good or bad)

The point of a storyboard is to convey the experience of using the system
4. How Many Frames?

4-6 frames is ideal for end-users
   Less work to illustrate
   Must be able to succinctly tell story

More is not always better
   May lose focus of story
   May lose attention
4. How Many Frames?
4. How Many Frames?

Remove unnecessary frames
5. Passage of Time

Only use of necessary to understand

[Diagram showing a sequence of events at a museum. The first panel shows the entrance to the Museum of Modern Art with a clock. The second panel features a painting with a note saying, "This painting was created in the early 1970s. Proceed to the Blue Room after this stop on our tour." The third panel shows a door labeled "Blue Room." Further conversation notes are visible, including "You are now exiting the Green Room. The next stop on our tour is..." and "On this side of the room you'll find...".]
Team activity

Again, using your project as a basis:

Create one storyboard that puts together…
one previously defined persona,
and one of the tasks you plan to support.

When you finish, get feedback from another team.
More Examples and Tricks in Storyboarding
Storyboards for Comparing Ideas

Authoritative

Hey! You need to exercise at least 20 days a month.

Oh! Um... Okay.

Trainer

1st Week

5/30

13/30

2nd Week

21/30

Good job!

Phew.

Supportive

Hey! I will keep a record of days you exercise.

Okay! Let’s do it.

1st Week

5/30

13/30

2nd Week

21/30

Good job! You’ve exercised more than 20 days a month!

Thanks!

Cell phone is used to keep track of one’s fitness goal.
Storyboards for Comparing Ideas

Cooperative

Competitive
Storyboards for Comparing Ideas

Negative Reinforcement

I’m going to use my phone to keep track of my fitness goals.

Oh no! My virtual garden on my phone is ugly. I need to exercise to keep the flowers alive!

Positive Reinforcement

I’m going to use my phone to keep track of my fitness goals.

Each time I exercise, I will get another item added to my garden.

Now I have lots of flowers in my garden!

Now I have a full garden!
Use Pictures (only if really necessary)

**IT IS SO DARK JANE CAN HARDLY READ HER BOOK**

**SHE GESTURES IN FRONT OF HER SPECIAL PENDANT TO TURN ON THE LIGHTS**

**THE LIGHTS TURN ON!**

**FINALLY, SHE CAN READ HAPPILY.**
Existing Images from Other Sources

http://designcomics.org/
http://www.pdclipart.org/
Blur Out Unnecessary Detail

Using image editing software to simplify photos into sketches
Selective Use of Color
Selective Use of Color
Summary

Think about your audience
Think about your time constraints
Think about how much you want to tell
Think about options for presenting your story

And finally: Think about your users (see Personas, up next)
Ask me something!