DESIGN THINKING WORKSHOP
design thinking

is about applying the typical design cycle to new domains. The design cycle moves from (user centered) research to creative thinking to prototyping to testing and implementing or indeed going back to the beginning of the design cycle to start again.
Why should I use design thinking?

design thinking

- Human-centered
- Creative
- Structured
- Team-oriented
- Iterative
design thinking

Human-centered

- Understand who you’re designing for
- Address the root problem
- Make sure users accept and benefit from your solutions

Creative

Structured

Team-oriented

Iterative
Design thinking

- Creative
  - Human-centered
  - Structured
  - Iterative
  - Team-oriented

- Identify unique and interesting concepts
- Bring new products and technology into the world
- Avoid fixation on a single solution
design thinking

Human-centered
Creative
Structured
Iterative

Team-oriented
Bring together different perspectives
Utilize the expertise of all team members
Learn from and with each other
Design thinking:

- Human-centered
- Creative
- Structured
- Team-oriented
- Iterative

Find processes, tools, and techniques that help you understand and create.
Reduce bias and fixation, promote flexibility.
**design thinking**

- **Human-centered**
- **Creative**
- **Structured**
- **Team-oriented**
- **Iterative**

- Learn from “failure” and respond to feedback
- Improve upon ideas and solutions
- Reframe your thinking over time (you don’t have to do it all at once!)
focus on experiential learning
What is the problem?

Write

Sketch
What is the problem?

**Write**

Did you include the person or people for whom you’re designing in the problem statement?

**Sketch**

Did you immediately start thinking about potential solutions?
Learning about the audience for whom you are designing

Redefining and focusing your question based on your insights from the empathy stage.

brainstorming and coming up with creative solutions.

Building a representation of one or more of your ideas to show to others.

Returning to your original user group and testing your ideas for feedback.
Focus

FLARE!

Empathize
Define
Ideate
Prototype
Test
Focus.

- Empathy
- Define
- Ideate
- Prototype
- Test

FLARE!
Empathy

Learning about users and the design context

Prioritizing needs over wants and assumptions

Keeping an open mind and avoiding judgment
empathy: what?

when you **FEEL** what the other person is feeling. When you can **MIRROR** their expression, their opinions, their hopes.
empathy: understanding user in context
Designers approach empathy...

- without judgment
- with a beginner’s eyes
- with curiosity
- optimistically
- respectfully

Designers build empathy by...

- talking with stakeholders
- observing people in their daily lives
- collecting artifacts
- role-playing and building personas
- co-constructing problems and concepts

Focus on users in context

empathize: how?
Building a persona

- Identify who you are designing for
- A persona typically represents a composite of your users, but can refer to a single user
- Fill out the template as best you can. It’s okay if you don’t know something, you can learn this later.
- Complete more than one if you have different users/user groups

<table>
<thead>
<tr>
<th>Demographic?</th>
<th>Age, gender, ethnicity, education, living situation, family, etc.</th>
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</thead>
<tbody>
<tr>
<td>Hobbies &amp; interests?</td>
<td>Weekend activities, jobs on the side, collections, etc.</td>
</tr>
<tr>
<td>Work motivations?</td>
<td>Money, family, child support, husband/wife unemployed, loves job, knows owner, etc.</td>
</tr>
<tr>
<td>Personality &amp; emotions?</td>
<td>Cheerful, shy, boastful, reserved, content, energetic, passionate, pessimistic, etc.</td>
</tr>
<tr>
<td>Values?</td>
<td>Family time, being outdoors, expensive things, relationships, religion, etc.</td>
</tr>
</tbody>
</table>

Name
User interviews

Tell us about a time when you...

Tell us about a time when you feel in that situation?

Tell us about a time when you...

How does that connect to what you said earlier?

1. Have 1–2 team members act as users
2. Ask them questions that evoke stories, explore emotions, and question their statements
3. Note what they say, think, do, and feel
Synthesizing user and context information

Identifying core needs to address through engineering

Define

Focusing your work on a specific and important problem
are human physical and emotional necessities

capture the goals and motivations of the person for whom you are designing

are verbs, not nouns (opportunities, not solutions: ladder vs to reach)
Point of view statement

A ninth-grade girl at a new school

user
teenager

need
to eat healthy food

insight
certain nutrients are necessary for physical and cognitive
health and development

She needs to feel socially accepted. (her need, not a projected need)

In her crew, a social risk is more dangerous than a health risk. (surprising finding rooted in empathy work)
What does your user need?

___________ needs (a way) to _________ because _________.

Insert your user’s name

For example... meet a goal, perform some activity, alleviate a challenge, etc.

What insight(s) about the user from your research and discussions helped you identify the need?

How is this different than your initial problem statement?

Side note: As you move forward, you can work to convert your user’s needs into design specs
Ideate

Generating A LOT of (crazy) ideas

Keeping an open mind and avoiding judgment/evaluation

Combining and transforming ideas in unique ways
„The best way to get a good idea is to get a lot of ideas“

Linus Pauling, Nobel Price winner for Chemistry (1954) and Peace (1963)
ideate: how?

Defer judgement
Go for volume
One conversation at a time
Be visual
Headline
Build on the ideas of others
Stay on topic
Encourage wild ideas
Quick Sketching Tips

- Use bold strokes
- Combine basic shapes
- Make & reuse icons
- Use arrows as verbs
- Add text annotations
- Try some special effects
# Creative Matrix

New products and services for luggage systems

<table>
<thead>
<tr>
<th>Social Media</th>
<th>Outdoor Enthusiasts</th>
<th>Business Commuters</th>
</tr>
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<tbody>
<tr>
<td>Social Media</td>
<td>![Post-it notes]</td>
<td>![Post-it notes]</td>
</tr>
<tr>
<td>Wearable/Mobile Tech</td>
<td>![Post-it notes]</td>
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</tr>
<tr>
<td>Wildcard</td>
<td>![Post-it notes]</td>
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</tbody>
</table>

**Categories for enabling solutions**

1. Identify your users and others who will interact with your design
2. Identify potential categories, approaches to your solutions
3. Generate many ideas and place them on the grid
4. Update the grid as needed

**Volume, wild ideas, no evaluation!**

**Categories related to people**

**NOTE: If you’re having trouble getting started, identify a few ideas and generate the categories from there**
Importance/Difficulty Matrix

- Place ideas on the graph based on the importance of problems they address and the difficulty you will have developing and implementing them
- Combine or synthesize ideas that fit together
- Add new ideas if they come up

Ideally, you’ll find an idea of high importance and low difficulty
Focus.

- Empathy
- Define
- Ideate
- Prototype
- Test

Flare!
Prototype

Learning from “failure”

Early and often

Varying levels of detail and completeness

Creates an experience to test functionality, user perceptions, and form/look
prototype: fail early and often

cost of failure vs. project time
Prototypes come in many forms

Product simulation

Labeled sketch

Physical model

Storyboard
Rapid Prototyping

- **Choose** the most promising solution to develop.
- Consider what you want to **learn** from the prototype.
- Describe a **scenario** where the solution would be used.
- Add **details** that demonstrate functionality and features
- **Simulate** as much functionality as possible.
- **Iterate** on the solution as you prototype.
Testing with Users

Select one or two members of your team to **act as the users** you described in your personas earlier.

**Present** your prototype(s) to the “users.”

**Observe** the “users” **Interacting** with the prototype (users, be sure to approach interactions from the perspective of the users, not yourself)

**Ask** questions about the prototype and how they feel about it, how they could see themselves using it.

**Encourage** “users” to make changes to the prototype as they share their perspectives
Cyclical, not linear

STAGES INFORM EACH OTHER
Iteration and the Co-Evolution of the Problem-Solution Space

Knowledge of users, problem definition, specifications

Design ideas/concepts, prototypes, final products
Reframe the problem based on what you learned in ‘building empathy’. Are there themes you uncovered in the empathy step?

What types of solutions might address the reframed problem? Where can I draw inspiration to generate a large quantity and variety of ideas? How can I connect or modify ideas to generate new ideas? How do I remain flexible, open-minded, and persistent to generate many different ideas?

How can I implement my ideas? What form will they take? What materials, tools, knowledge will I need? What do I want to learn from testing? How can I realize my ideas to address user needs?

What was the users’ feedback on the prototype? What did you learn about users, the problem, and your solution? How can it be improved?

Who are your users? What are their needs? How does my design impact them? How do they use the design in their daily lives?
Some things to think about…

How did it go?
• E.g., what was surprising? Why?

Think
about the question

Pair
with your partner

How might you use design thinking in your project?

Share
your ideas with others
Any questions or final thoughts?