

CS-639 — Interaction Design Studio

What is Interaction Design?

Professor Bilge Mutlu

Welcome!

TL;DR

- Welcome to **Interaction Design Studio**
- This is not a coding course.
- It's about shaping **experiences, interactions, and ideas.**
- You will learn to see, think, and communicate like a designer, mainly through **learning by doing.**

Introductions

My background

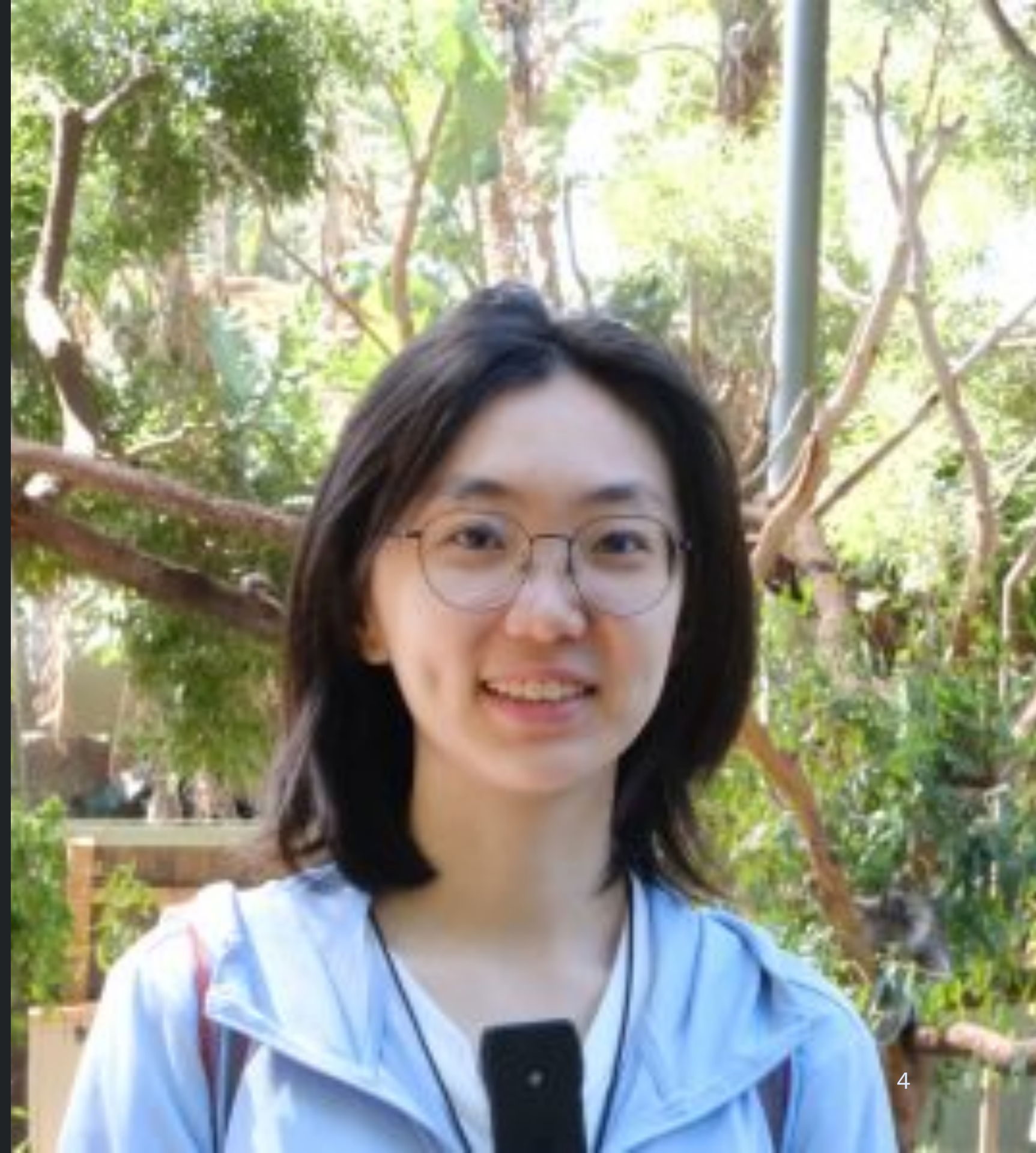
- Industrial & interaction designer
- Human-computer interaction researcher
- Professor of computer science



Introductions

Our teaching assistant

- First-year graduate student
- Designer, HCI researcher



How about you?

Your year, major + one thing **design-related you've done**

(E.g., Bucky, sophomore, cheerleading, taking a graphic design course)

Why This Course?

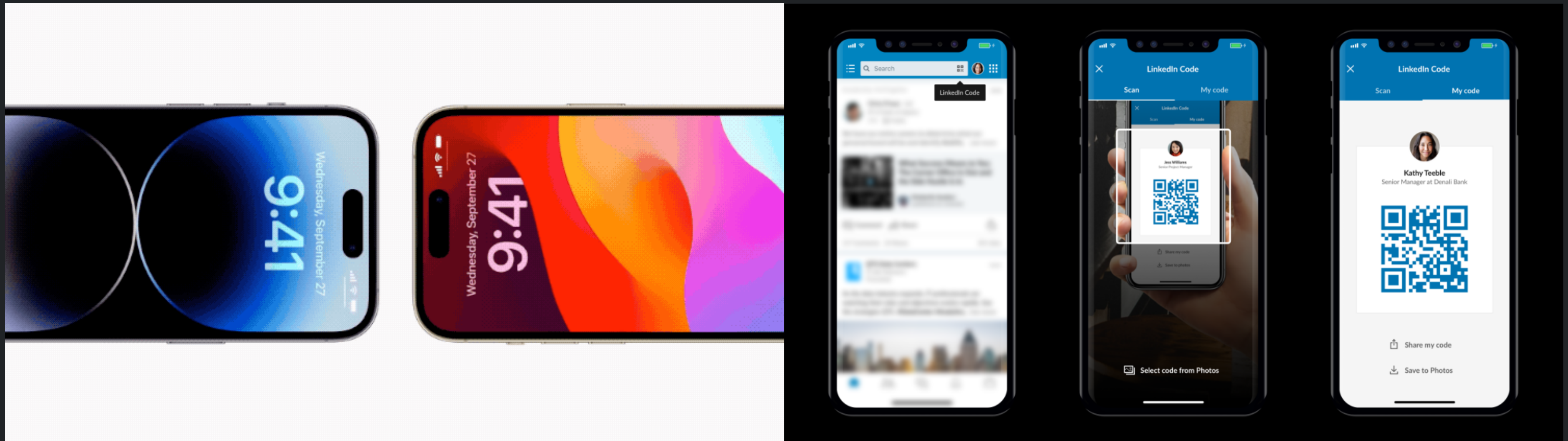
- Interaction is at the heart of digital systems.
- Poor design frustrates, great design delights.
- You'll learn to design interactions from the **ground up**.
- No design background needed — you'll build it here.

What Is Design?

- Not just aesthetics or decoration.
- Design is **decision-making**: how things work, feel, behave.
- A way to shape problems and imagine new solutions.

“Design is the rendering of intent.” – Jared Spool

Design Examples



Which one is more intuitive, efficient, joyful? Why?

What Is Interaction Design?

- Design of **interactive systems**: digital, physical, conversational.
- Focus on:
 - **Form**: layout, visuals, structure
 - **Behavior**: interaction flow, feedback
 - **Experience**: delight, accessibility, usability

Examples of Interactive Systems

- Voice assistants
- Fitness trackers
- Museum exhibits
- Chat interfaces
- Responsive animations

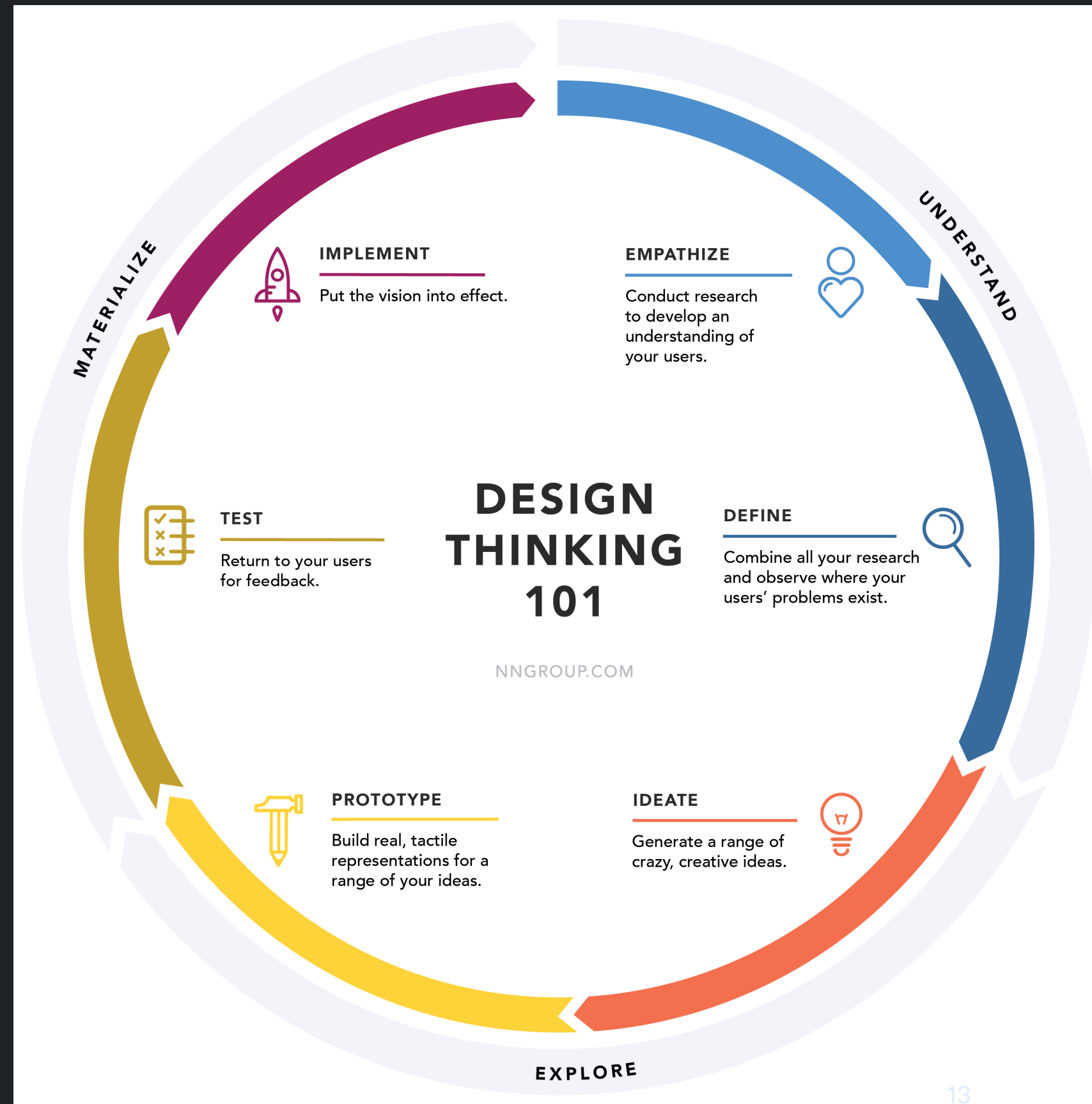
What You'll Learn

- **Design thinking** — Learn how designers frame problems and explore solutions
- **Visual and interaction design** — Understand layout, flow, feedback, and behavior
- **Sketching and iteration** — Generate ideas quickly and refine them over time
- **Critique and communication** — Give and receive feedback to improve your work

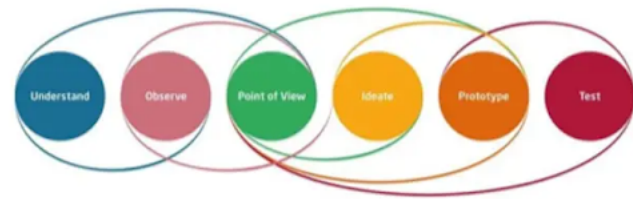
What You'll Learn (Cont'd)

- **AI tools in design** — Use AI to support ideation, layout, and exploration
- **Final project and portfolio** — Apply your skills to a polished, process-rich design

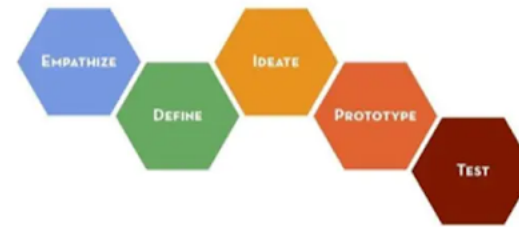
Design → Design thinking + Design process



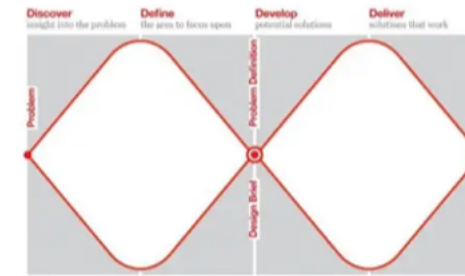
No one design process!



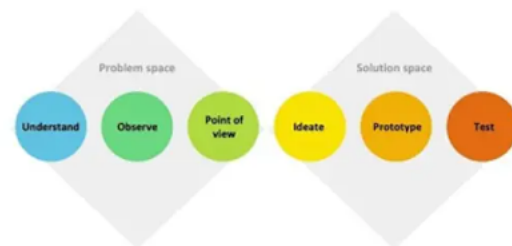
HPI School of Design Thinking



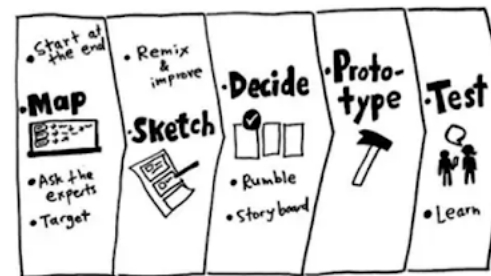
Stanford D.School



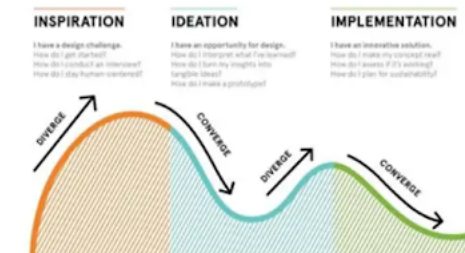
Design Council Double Diamond



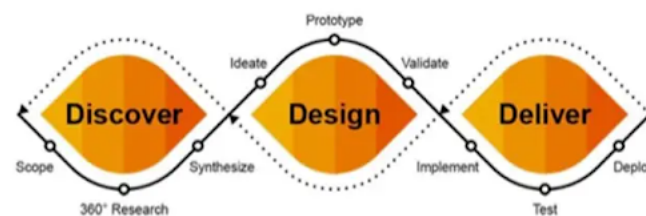
HPI & Double Diamond



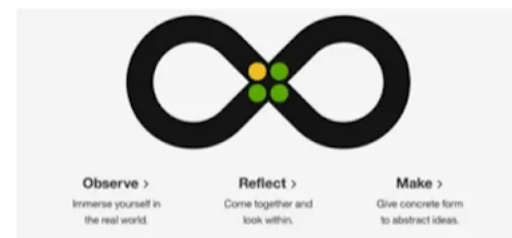
Design Sprint



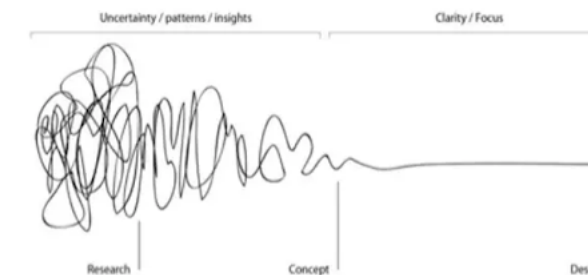
IDEO Human Centered Design



SAP Enterprise Design Thinking



IBM Design Thinking



“Fuzzy” Process

What about AI?

We'll explore how AI can shape and be shaped by interaction design:

1. **AI as material** → designing systems with AI behaviors (recommendation, generation, conversation)
2. **AI as a tool** → using tools like ChatGPT, Midjourney, Galileo AI, Figma plugins

What happens when you think like a designer?

Meet Clare

Clare is a CS major. Her mom runs a neighborhood coffee shop.

She wants to help by creating an online ordering system.

What does she do?



Clare: Before Interaction Design Studio

- Builds a website with Apple Pay + Square
- Prints a QR code for quick ordering

Clare: After Interaction Design Studio

- Maps the full customer experience
- Sketches and explores creative interaction concepts
- Experiments with ambient, conversational, and AI-powered ideas
- Thinks through flow, transitions, and feedback
- Refines the design through critique and iteration

Interaction Design vs. Other Design Practices

Interaction design focuses on **what happens between people and systems over time**, especially **behavior, flow, and response**.

UI design

→ layout, visual composition

Interaction design

→ structure, feedback, timing, transitions

Studio Culture

- Studio = space to explore, test, and refine ideas
- Expect:
 - Lots of sketching
 - Iteration
 - Constructive critique
- Everyone contributes. Everyone grows.





Course Structure

- Weekly rhythm:
 - **Monday:** Lecture
 - **Wednesday:** Hands-on design work
 - **Friday:** Critique, discussion, or assignment launch
- 4 themed blocks/assignments + final project
- Blend of **paper** and **digital** tools

Materials

- You'll be provided:
 - Sketching supplies
 - UI stencils
 - Dot stickers and other analog tools
- Later: **Figma** for digital prototyping
- AI tools for exploration and generation



Grading

- **Participation and studio work:** (✓ / ✓+ / –)
- **4 block-based assignments** — 3-day late bank
- **Attendance matters** — critique depends on your presence; 3-day absence bank
- **Rule of Thumb:** you'll get an A or AB if you do everything; A vs. AB depends on work quality
- **Workload:** Expect to spend ~6–8 hours/week outside of class on sketching, critique prep, assignments

Final Project

- Create a polished, portfolio-ready design
- Demonstrate process, not just outcome
- Integrate visual, interaction, and behavioral design
- Consider AI in design where appropriate

This Is a New Course!

- This is the **first time** Interaction Design Studio is being offered.
- Some parts will evolve as we go — and that's part of the design process!
- We'll ask for your feedback as we shape this experience together.
- Expect a few bumpy moments — and opportunities to help us improve it.

Closing Thoughts

- You don't have to be an artist to be a designer.
- Design is a **practice** — we'll build that practice together.
- Be bold. Be curious. Think with your hands.

What's Next?

- **Friday:** In-class sketching warm-up
- **Week 2:** Visual design elements and principles
- You'll start building your design vocabulary — and sketching a lot!

Friday: Warm-Up Activity

- In-class design warm-up challenge
- You'll get sketching, ideating, and presenting
- Come ready to **draw**, **think**, and **share**

Media Sources

Medium | LinkedIn | SD4G Lab | NN Group | CMU | Freepik
| UI Stencils