



The ITI Program @ SC&I Presents

Design and Prototyping Workshop

*March 11, 2019
RWH Room 206*

HOW TO DESIGN AND PROTOTYPE USER INTERFACES
WITH INDIGO STUDIO @ Indigo.Design



ITI PROGRAM AT SC&I

Where } people
make IT happen



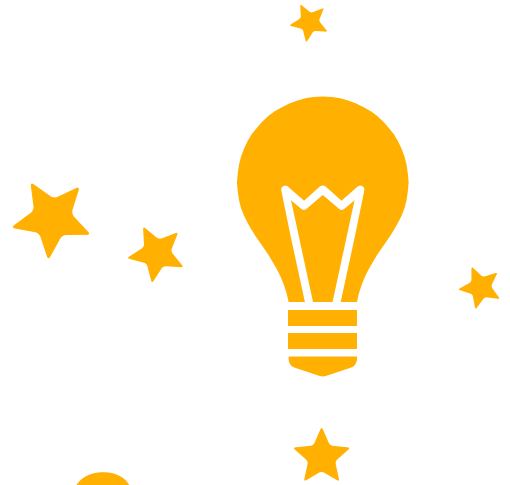
Getting in the Design Frame of Mind



Draw the process of making toast

- Take the next 2 minutes and sketch out your own diagram of the process of making toast
- When done, compare your diagram with the other people at your table.
- What do you notice?
- What are your takeaways?

What is Design Thinking?



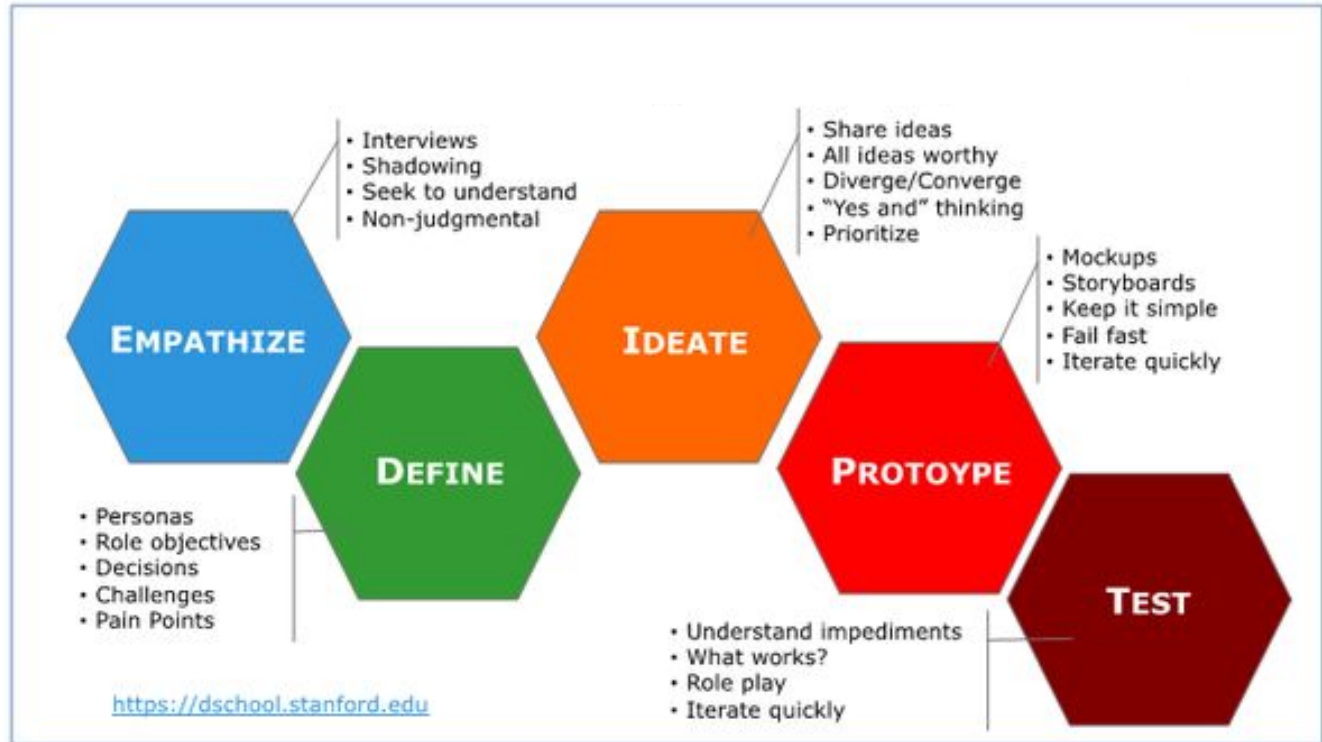
A way of thinking and doing that takes a creative, iterative and hands on approach to solving problems



We are going to use the Design Thinking process to create an app called RU Chat

Each of you has a handout with screen suggestions to build the user flow and screens for the app prototype. We'll do this in teams after the presentation.

Five Stages of Design Thinking



DESIGN THINKING IS ALWAYS



- About the creative process
- Open to new ideas
- About building up and iterating on ideas
- Participatory and team-based
- Linked to an improved future

DESIGN THINKING PHASE 1 - EMPATHIZE

Identify your user and their problem



Ask

- Who are you designing for? Who will use this tool in their everyday life?
- What is the problem?

AND...



Ask why 5 times...

by the fifth time you will get to the heart of the problem.



Getting to the Root Cause (5 Whys?)

Problem Statement: I got a parking ticket



WHY? *I was late for class and parked in the wrong lot.*

↳ **WHY?** *Because I woke up late.*

↳ **WHY?** *Because I forgot to set the alarm on my phone.*

↳ **WHY?** *Because my phone isn't working and I don't have an alarm clock.*

↳ **WHY?** *Because I depend on my phone to be an alarm clock.*

Prevention Measure

Buy an alarm clock



Getting to the Root Cause - Exercise

Problem Statement: The customer didn't get their delivery on time



WHY? *Answer the question and ask again why?*

↳ **WHY?** *Answer the question and ask again why?*

↳ **WHY?** *Sometimes the root causes become evident after 2 or 3 whys, sometimes a deeper dive is needed.*

↳ **WHY?** *Answer the question and ask again why?*

Prevention Measure

Offer a solution

↳ **WHY?** *Answer the question - the true root cause of the problem.*

Getting to the Root Cause - Template

Problem Statement:



WHY?



WHY?



WHY?



WHY?



WHY?

Prevention Measure

Offer a solution

EMPATHIZE



RU Chat App empathize phase done:

- Main Audience - RU students
- Offer single RU-centered communication platform

DESIGN THINKING PHASE 2 - DEFINE

Define all the options to solving the problem



Ask

- What are all the options? *Don't get locked in too early. What are the pain points?*
- How can we gather the most diverse collection of options? *Better answers happen in diverse groups.*



DEFINE



RU Chat App goals already defined:

- Connect with network of on-campus friends
- Coordinate activities
- Simple, fast communication

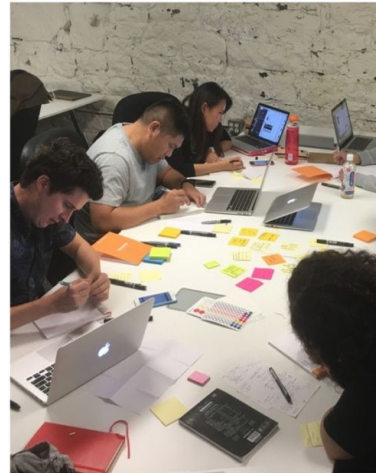
DESIGN THINKING PHASE 3 - IDEATE

Nurture ideas and refine direction



Explore

- New ideas based on your deeper understanding of the user, their needs, and what might be possible.
- How the ideas fit together.
- What this solution could look like.





Even the strongest of new ideas can be fragile in their infancy



- Encourage experimentation
 - no idea is too far out to be discussed
- View mistakes and failures as a necessary part of the learning process

IDEATE



RU Chat App functions decided:

- Where RU?
- How RU?
- RU Hungry?

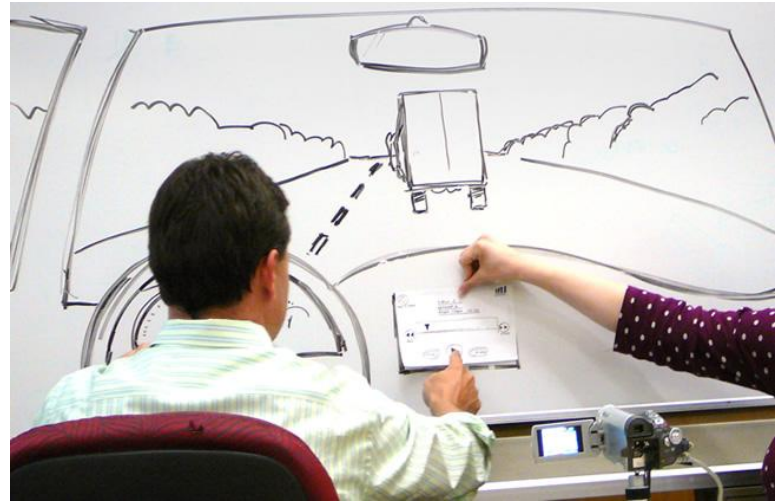
DESIGN THINKING PHASE 4 - PROTOTYPE

Choose a direction and get started



Process

- First develop a low fidelity prototype.
- Refine the interactions and use a tool to create a medium fidelity prototype.
- If the medium fidelity prototype solves the initial problem, create a high-fidelity prototype.





PROTOTYP E



**RU Chat App Prototype
with Indigo Studio!**

DESIGN THINKING PHASE 5 - TEST

Solicit and incorporate feedback



How

- Gather feedback from users.
- Figure out what they like, dislike, or is missing.
- Ask 'What can they do?'
- Ask 'What can't they do that they want to do?'



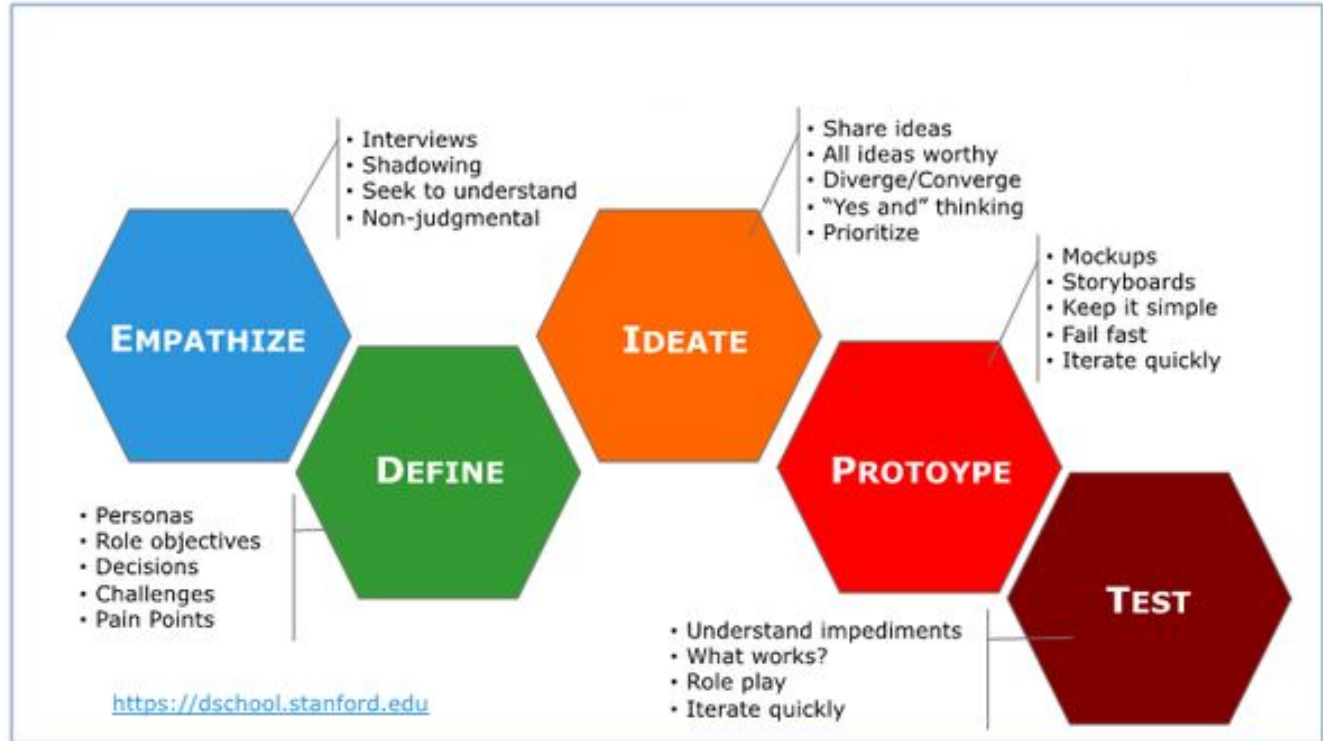
TEST



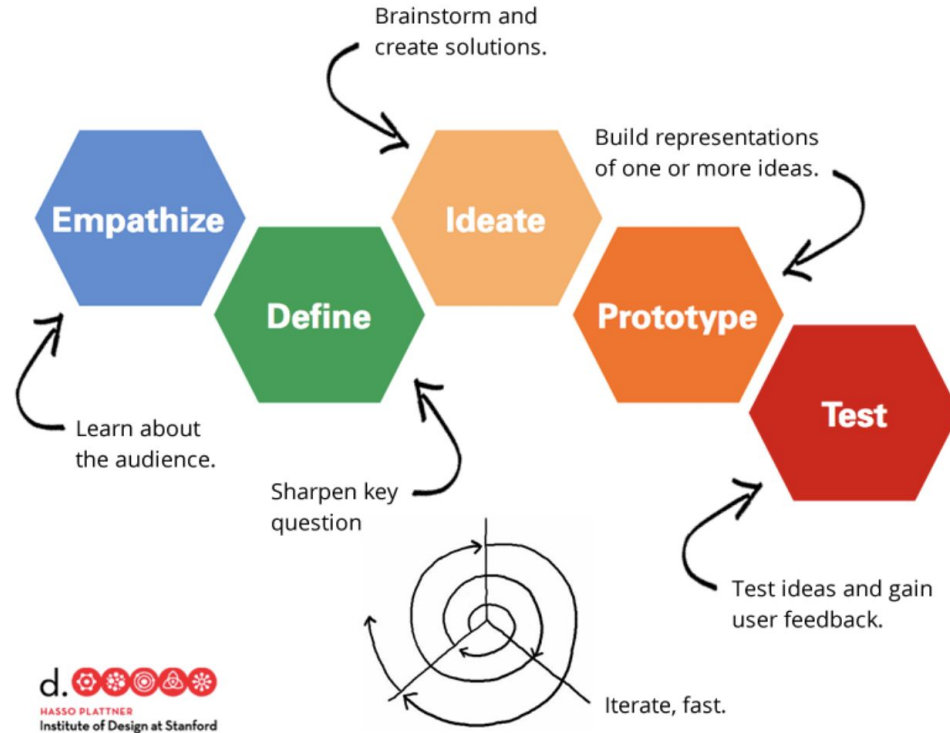
RU Chat App test phase:

- Optional: After you publish your team's prototype to Indigo Studio cloud, send link to friends to test.

Round 1 Finished! NEXT...



ITERATE, ITERATE, ITERATE





A note about Usability

Prof. Collick



Video

- **Build screens with Indigo Studio**
- **Add interactions between screens**



ACTIVE LEARNING!

1. Form into groups of two or three
2. As a group, review handouts
3. Build additional application screens per instructions on handouts
4. Be prepared to share!

All materials and tutorial videos available at <https://itishowcase.rutgers.edu/workshop-materials>



Video

- Publish and share your prototype

All videos and materials available on website

<https://itishowcase.rutgers.edu/workshop-materials>

Online Office Hours



Victoria K.
[Audio Introduction](#)

I'm Victoria K. for the ITI Department at SC&I. Over the next seven weeks, Showcase students will be involved one way or another in the design and prototyping of an IT application or website using Indigo as your prototyping tool. Starting tomorrow, Tuesday, March 12, I will be holding office hours to help guide and advise you on Indigo. Office hours will be each week for 2 hours on Tuesdays from 10 - 12 and Wednesdays from 6 - 8 pm, up until the Showcase event on May 1st.

How to sign up for office hours

1. Go to <https://victoria-kuliko.youcanbook.me/>
2. Choose a 20 min. time slot (Tuesdays 10 am-noon, Wednesdays 6 pm -8 pm)
3. Download the free meeting software Zoom from <https://zoom.us/>
4. You will receive an email invitation to the meeting through the email you provided
5. Use the invite link to join the meeting on the day scheduled
6. Please note, the Zoom meeting will be recorded, so team members who cannot attend can view the recorded meeting

QUESTIONS? Email me at kuliko@comminfo.rutgers.edu

Credits



- Presentation by Prof. Pascal, Victoria Kulikowski, Ben Bakelaar
- Presented by Prof. Pascal and Ben Bakelaar
- Presentation template by [SlidesCarnival](#)
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