

KAIST Spring 2025

CS374: Intro to HCI

hci.cstlab.org

Class 04: Ideation

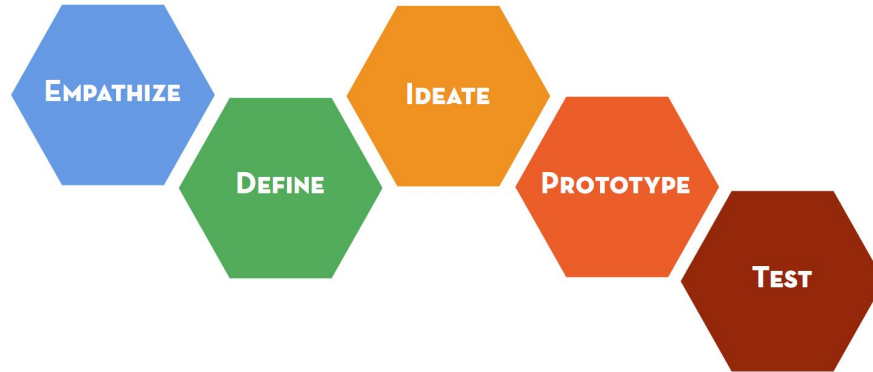
2025.03.06

Joseph Seering

ADMIN NOTES

- Today's class: I'll give instructions for Stage 2 in the first 20 mins, and the rest of work time in your teams.
- Communication policy:
 - In class > Campuswire > Email cs374kaist@googlegroups.com
- 3/11 (Tue)
 - Class: Prototyping (1/2)
 - HW1 released
- 3/13 (Thu)
 - Class: Heuristic Evaluation

PREVIOUSLY ON CS374



NANOQUIZ

- Simple questions about the pre-class material
- 3 minutes
- Open book, open notes, but they won't help much.
- Use of external tools for answering questions (e.g., ChatGPT) is not allowed.

LEARNING OBJECTIVES

After this class, you should be able to...

- Work on various ideation and brainstorming tasks in a team.

MINI PROJECT REQUIREMENTS

Posted on the course website

- Design Project tab → “Mini-Project”
- **Slides** due for studio in class by 2:29PM on 3/20
- **Individual reflection** due by 11:59PM on 3/21

MINI PROJECT REQUIREMENTS

Slides due by 2:29PM on 3/20.

- The TAs will lock your slides so you can't edit them during other presentations!
- You can use the slides as a template, and present directly from them.
- If you want to add some slides or change the formatting that's fine, but it is not required.

MINI PROJECT REQUIREMENTS

Part 1. Peer and Team Reflection

Overall, how effectively did your team work together on this project? *

	1	2	3	4	5	
Poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Excellent

What is the name of Teammate #1? *

Your answer _____

Leave a comment on Teammate #1's efforts, performance, and work ethics. *

Your answer _____

EACH TEAM SHOULD

- Get post-its and pens.
- Define a way to identify who contributed what.
 - Color, Name prefix, ...

EACH PERSON SHOULD

- Be ready to quickly add their ideas.
- Be creative!

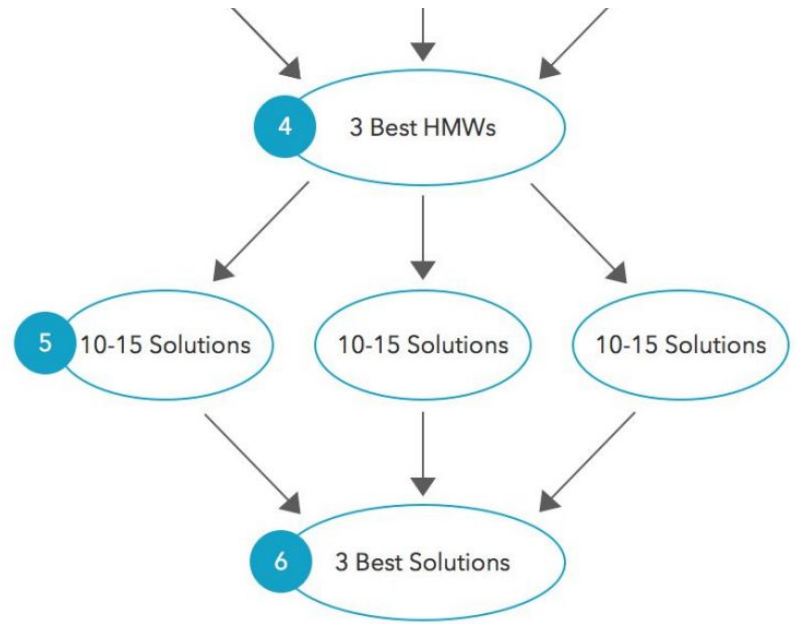
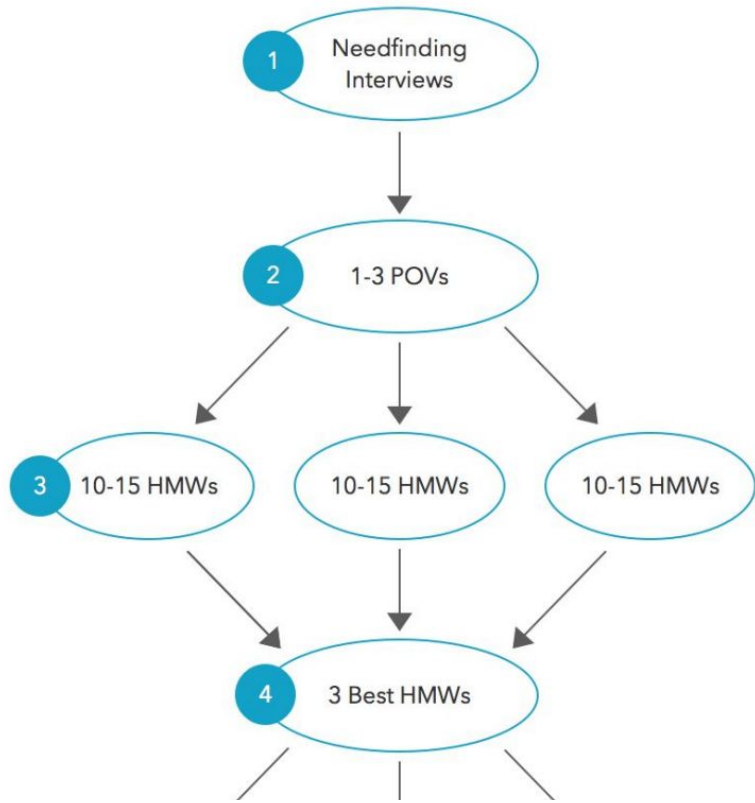
We'll walk through the ideation process:
needs, insights, POVs,
personas, HMWs,
solution ideas, & storyboards.

NOTES ON THE PROCESS

- Mini Project: Personas and storyboards are not required.
- You'll be doing another round of ideation with personas and storyboards in the main Design Project.

design thinking bootleg

d. 
HASO PLATTNER
Institute of Design at Stanford



...

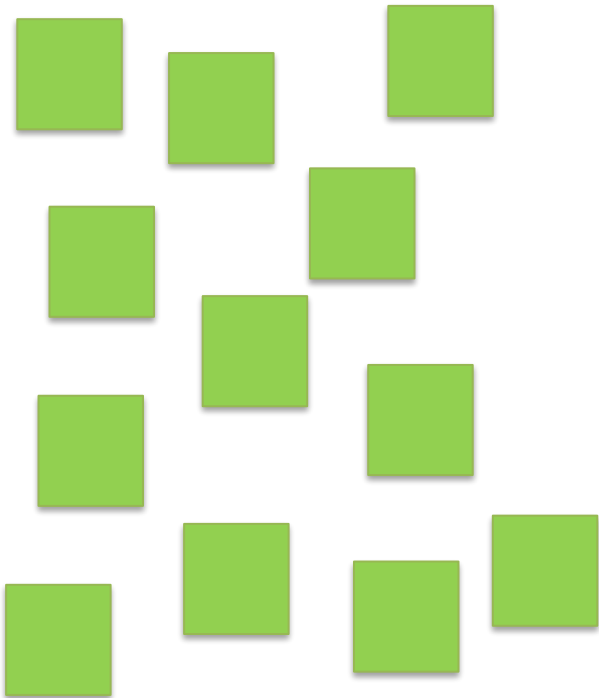
Scenarios
Storyboards

Demographic Info
Notable Characteristics
Observations
Interesting Moments

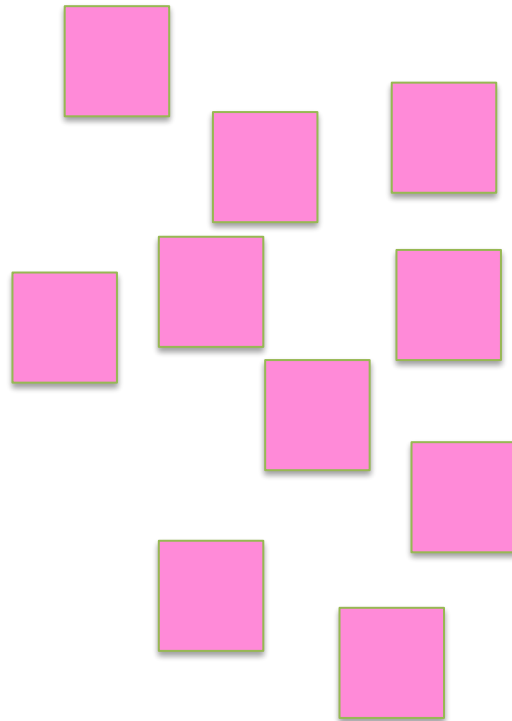


Write down user classes,
goals, and needs from
Stage 1 on post-its.

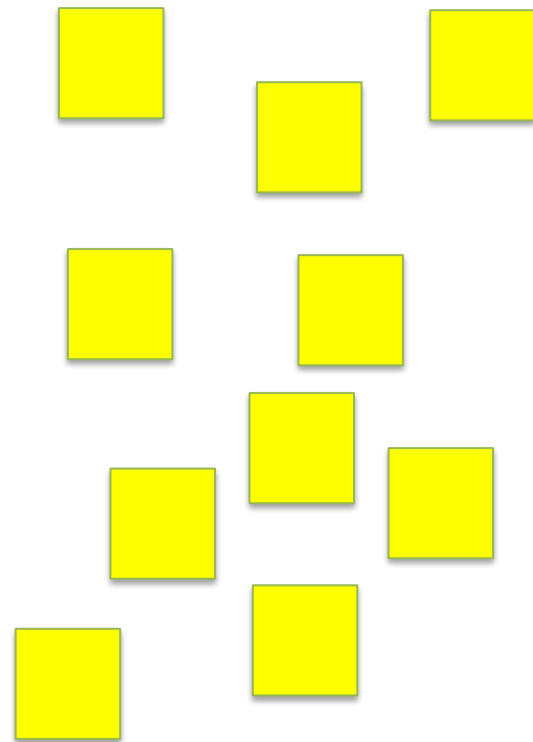
User classes



Goals



Needs



POINT OF VIEW

- Focus on ONE meaningful challenge.
- “a unique, concise reframing of the problem that is grounded in user needs and insights.”

POV EXAMPLE

- We met...
 - Busy parents trying to plan healthy meals for their families during the work week.
- We were amazed to realize...
 - how much mental effort and time they spent trying to balance nutritional needs, picky eaters, and limited time for grocery shopping and cooking.
- It'd be game-changing to...
 - provide a personalized, streamlined meal planning and grocery solution that significantly reduces their cognitive load and saves them valuable time.

NourishEase: The Personalized Family Meal Planner

- Personalized Profiles: Users create profiles for each family member, including dietary restrictions, allergies, and preferred foods.
- AI-Powered Meal Suggestions: The app generates weekly meal plans based on these profiles, considering nutritional balance and time constraints.
- Smart Grocery Lists: Automatically creates a grocery list organized by store aisle, based on the selected meal plan.
- Integrated Grocery Delivery/Pickup: Allows users to directly order groceries from their preferred store through the app.

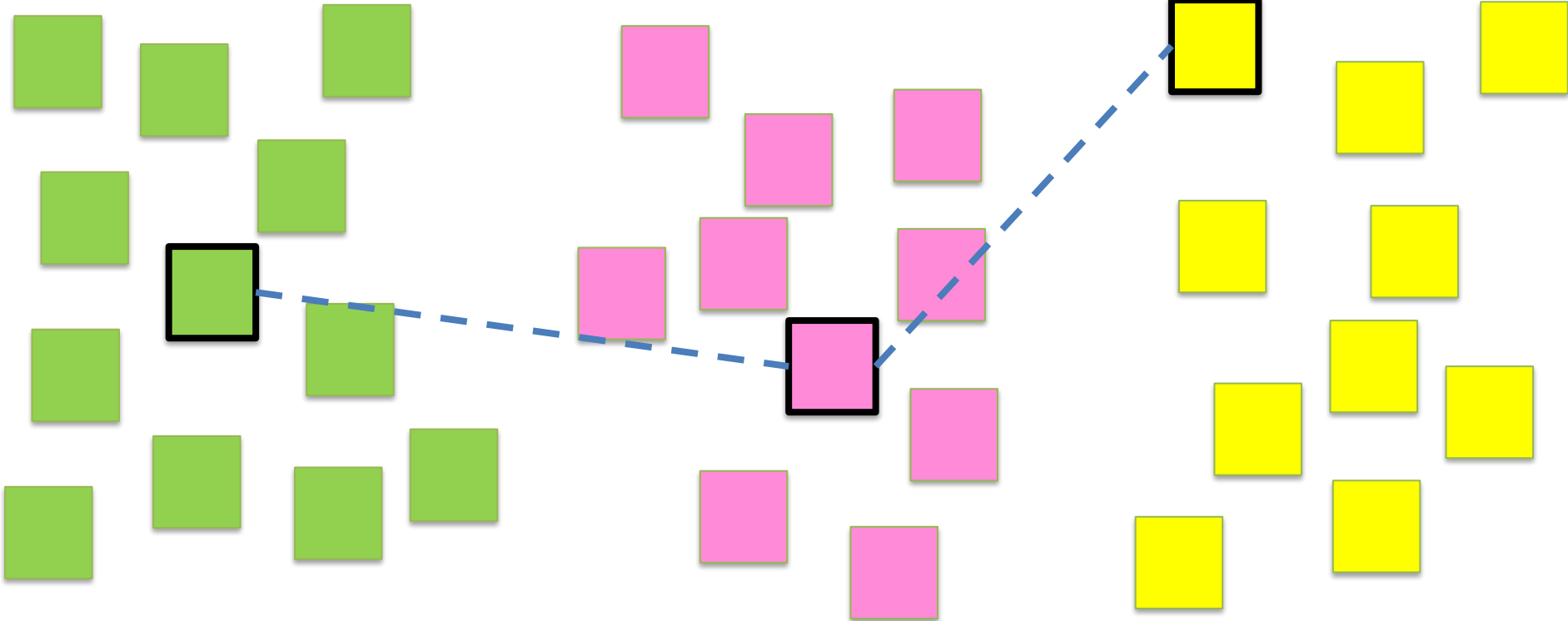


NOURISHEASE

Users

Goals

Needs



"We met..."

"We were amazed to realize..."

"It'd be game-changing to..."

We met...

We were amazed to realize...

It'd be game-changing to...

Come up with
1 POV and write down
on a sheet of paper.

HOW MIGHT WE QUESTIONS

- “Might” helps you defer judgment.
- Go for quantity.
- Encourage wild, open ideas.

- Too narrow: “HMW create a cone to eat ice cream without dripping?”
- Too broad: “HMW redesign dessert?”
- Proper: “HMW redesign ice cream to be more portable?”

How to write “how might we” (HMW) questions:

Start with your design challenge and Point of View statement (see card #11). Then break down the larger challenge into smaller actionable bits and ask questions that open up the solution space.

Challenge

Redesign the airport waiting space.

Point of View

A frenzied mother of three rushes to her gate to find out her flight is delayed. She has to entertain her playful children to avoid irritating already-frustrated fellow passengers.

How Might We

Alleviate tension: HMW separate the kids from fellow passengers?

Explore the opposite: HMW make the wait the most exciting part of the trip?

Question an assumption: HMW remove wait time altogether?

Create an analogy from need to context: HMW make the airport like a spa? Like a playground?

Change a status quo: HMW make playful, loud kids less annoying?



Amp up the good
Remove the bad
Explore the opposite
Question an assumption
Go after adjectives

For your POV,
come up with at least
10 HMW questions.

ID unexpected resources
Create an analogy from need or context
Play POV against the challenge
Change a status quo
Break POV into pieces

VOTING

3 most popular

or

Rational, delightful, long shot

or

set your own categories and pick the best in each

Vote for 3 best
HMW questions.

Be visual
Defer judgment
Encourage wild ideas
Build on the ideas of others

For each HMW,
come up with
10 solution ideas.

Go for quantity
One conversation at a time
Stay focused on the topic

SOLUTION IDEAS

Extreme in some way

- ultra-learnable
- ultra-efficient
- ultra-safe (preventing all errors)
- for illiterate users
- for blind users
- for children
- for the elderly
- for use while driving
- for other extreme users, context, situations

Vote for 3 best
solution ideas
across all ideas.

WHERE TO GO FROM HERE?

- You probably realized your new focus requires additional analysis of the initial needfinding results.
- Do more ideation & brainstorming in your team.
 - Today was meant to give you a quick rundown. The actual process might require more ideas, time, and communication.
- Before next class, try to complete Stage 2 so that we can move on to Stage 3 in class.

PERSONA

- Model that represents a user class

DOLBY

DOLBY.COM CONSUMER PERSONAS

boltpeters
USER EXPERIENCE



TIM the ESCAPIST

SKILLFUL SOLITARY IMMERSIVE

"Perfecting audio settings is a stress reliever."

▶ DEVICES TIM USES



GAMES

Tim plays immersive games online for a couple of hours to unwind.



MOVIES

Another immersive experience Tim loves is playing movie Blu-rays on his surround system.



AUDIO

He's looking for perfectly tuned settings and a clean sound.



MOBILE

Even his headphones sound awesome. He'll put these on when working.



MEGAN the ENTERTAINER

COMMUNITY ATMOSPHERE COMPATIBILITY

"I want to be in the middle of the action with my friends and neighbors."

▶ DEVICES MEGAN USES



TV & MOVIES

She hosts parties to watch the big game or the latest Blu-ray on her flatscreen and surrounds.



MOBILE

Occasionally she'll listen to music on-the-go.



GAMES

Sometimes she'll play casual games when groups of friends come over.



AUDIO

She uses her nice quality surround system to play the game on TV or for background music.

TO TIM, DOLBY MEANS **ALGORITHMS.**

DOLBY SHOULD MEAN:

Perfectly calibrated sound for complete escape.

▶ CORE DIMENSIONS OF TIM'S PERSONALITY

TECH CAPABILITY **EXPERT**

SHOPPING **EVALUATIVE**

ENTERTAINMENT MOTIVATION **SELF**

TO MEGAN, DOLBY MEANS **THEATER STUFF.**

DOLBY SHOULD MEAN:

A way to provide the next best thing to being there.

▶ CORE DIMENSIONS OF MORGAN'S PERSONALITY

EQUIPMENT DESIRES **LATEST**

ENTERTAINMENT MOTIVATION **SOCIAL**

TYPE OF QUALITY **EXTREME**

<https://boltpeters.com/clients/dolby/>

Bolt Peters, Dolby Personas

MAKING A PERSONA

Step 1. Make user observations: needs & insights

Step 2. Find patterns from your data

- What are the major attributes that determine the user's experience?

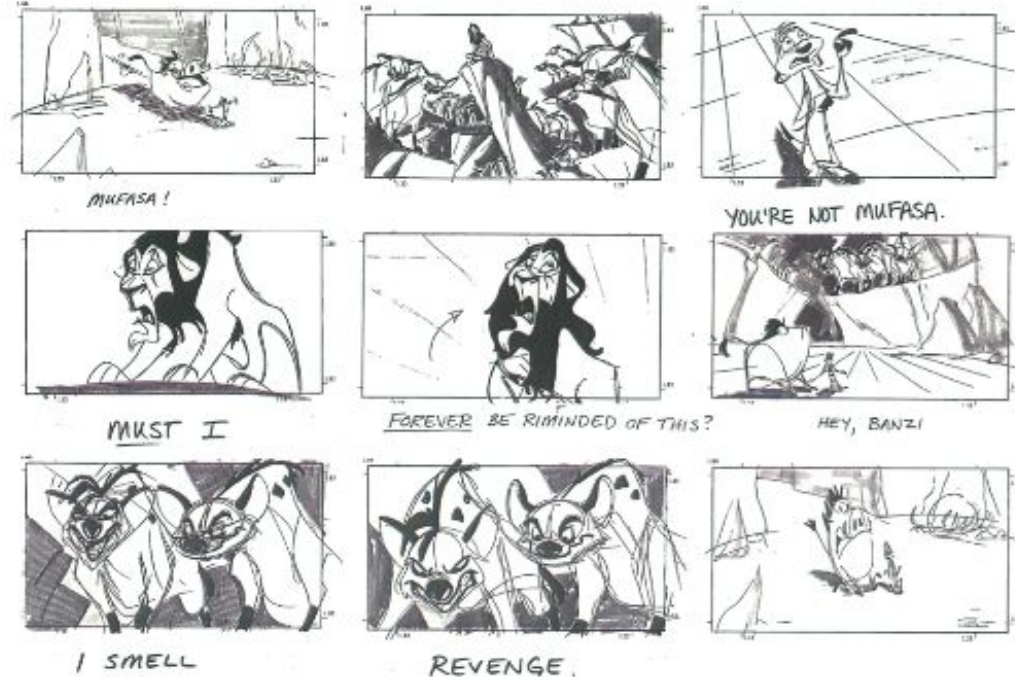
Step 3. Identify user segments

- Remember the Stage 1 activity from last class

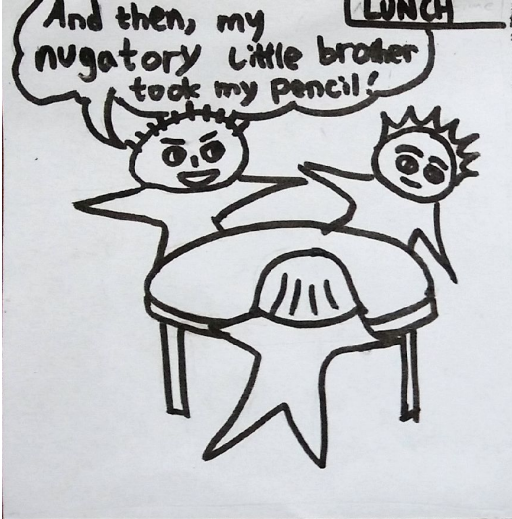
Step 4. Represent a user segment as a persona

STORYBOARDS

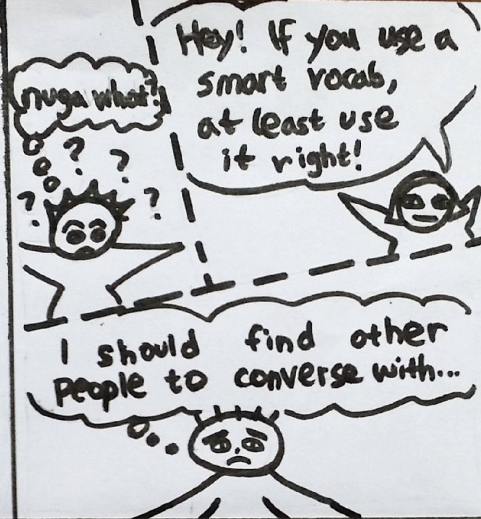
- Visual walkthrough of a concrete scenario
- Originally from movie production
- Focus on important, representative moments
- Visual, memorable, empathetic, engaging



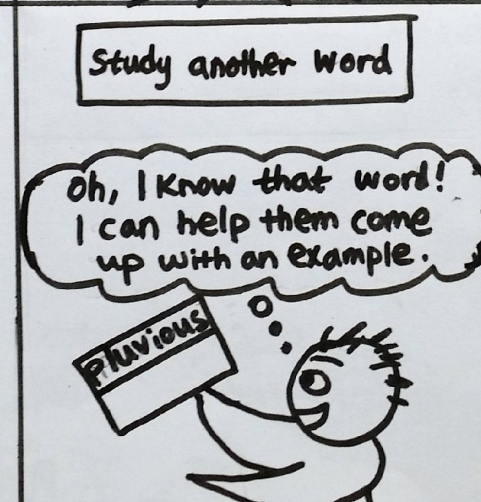
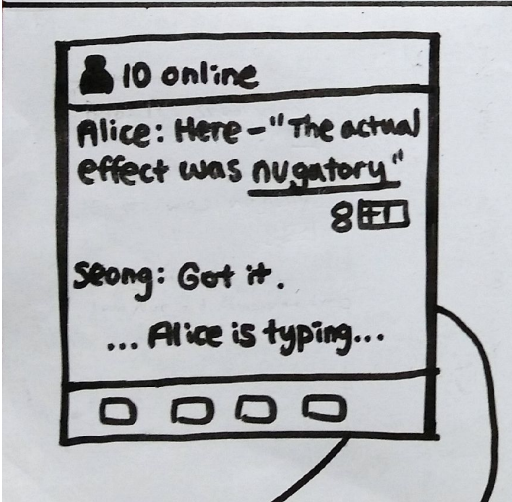
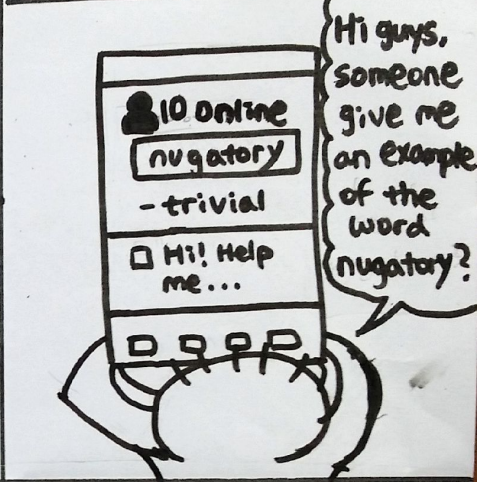
The Lion King storyboard art from Disney.



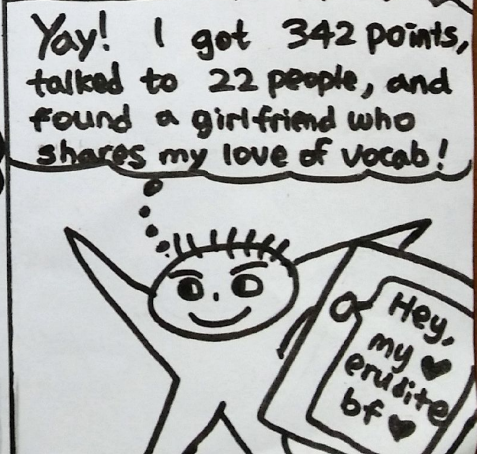
LUNCH



EVENING



NIGHT



Solution: Ingredient based recipe recommendation



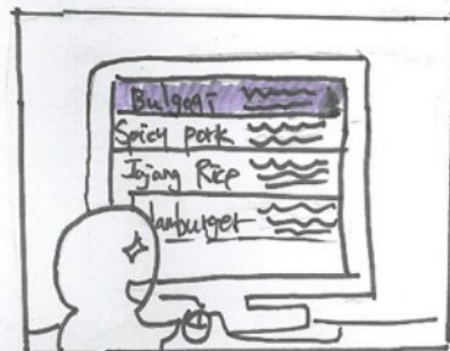
Grian has a problem, that his fridge is full of ingredient.



His meat's expiration date is tomorrow!!



Don't worry! Just turn up cookit! and type ingredient.



There are many recipes, and Grian chooses 'Bulgogi'.



Cookit gives the recipe and Grian makes it!



Enjoy your meal!

MAKING A STORYBOARD

- Character
 - Persona involved in the story
- Scene
 - What environment is the user in? Use real-world context.
- Plot
 - Don't just show the solution: clear story should be present
 - User's goal & challenge they are facing
 - User's motivation for using the proposed solution
 - Benefit the solution provides to the user