Grading policy: aim for transparency
(This is a summary; logistics tab on course website has full details)

- 165 total points. No curve. Standard letter grade scale (e.g., 90% is A-)
  - Assignments (107 points total for 8 assignments)
    - The staff will grade based on a public rubric
    - You will also self-assess to give yourself a grade based on same rubric
    - For team assignments, you will also assess your teammates
      - (ungraded, but may be used in extreme cases to rebalance scores for fairness)
  - Completing self-assessment form (8 points, 1 for each assignment)
  - Exam 1 (15 points)
  - Exam 2 (15 points)
  - Studio attendance and participation (20 points)
Learning Objective

to create prototypes of varying degrees of fidelity throughout the design process.

Outline

- Prototyping: what, why, and how?
- Storyboards, paper prototypes, Wizard-of-Oz
- Prototyping in-class activity & discussion
Before this class:
“Let’s build something cool!!!”
<code code code code code code code>
After Week 1 of class: “Let’s do some needfinding. OK, found some needs. Let’s build something cool!!!”
<code code code code>
Today’s big question: Why shouldn’t you right away?
What is a prototype? Why build prototypes?
Prototypes facilitate conversations
Fidelity (realism)

Storyboards

Paper Prototypes

Digital Mock-ups (e.g., Photoshop, PowerPoint)

Interactive Prototypes (e.g., web app with fake data)

Final Product

Time
Prototypes facilitate conversations about …

Picky usability details
Interactive Prototypes
(e.g., web app with fake data)

Visual design
Digital Mock-ups
(e.g., Photoshop, PowerPoint)

User interactions
Paper Prototypes

User tasks
Storyboards

Time

Fidelity (realism)
What are the chances that your initial design ideas are the best ones?
Prototypes allow you to quickly test on users, get feedback, iterate, and pivot.
STORYBOARDS
(slides adapted from Amal Dar Aziz)
STORYBOARD = A hand-drawn comic that features: Setting + Sequence + Satisfaction

No artistic skill required!
STORYBOARD =
A hand-drawn comic that features:
Setting + Sequence + Satisfaction

The main point of storyboarding is to understand how your product fits in with the world. You want to illustrate a scenario.

THE GIST
STORYBOARD =
A hand-drawn comic
that features:
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Benefits:
- focuses the conversation and feedback on user tasks
- gets everyone on same page about the app’s goals
- avoids nitpicking about user interface details
STORYBOARD =
A hand-drawn comic
that features:
Setting + Sequence + Satisfaction

*this is what paper prototyping is for!
PAPER PROTOTYPES
PAPER PROTOTYPE = A hand-drawn user interface (usually) on multiple sheets of paper of varying sizes

You can photocopy your hand-drawn components, but don’t create anything on the computer!

Paper prototype of Hanmail.net  https://www.youtube.com/watch?v=GrV2SZuRPv0
Paper prototype of Hanmail.net https://www.youtube.com/watch?v=GrV2SZuRPv0
PAPER PROTOTYPE = A hand-drawn user interface (usually) on multiple sheets of paper of varying sizes

Benefits:
- much easier than writing GUI code
- starts conversation about user interactions
- change elements on-the-fly when given feedback

Paper prototype of Hanmail.net  https://www.youtube.com/watch?v=GrV2SZuRPv0
Increasing the fidelity a bit ...

- Storyboards
- Paper Prototypes
- Digital Mock-ups (e.g., Photoshop, PowerPoint)
- Interactive Prototypes (e.g., web app with fake data)

Fidelity (realism)

Time
Video prototype combining storyboard and paper prototype concepts. From Lisa Seeman, Stanford University: https://www.youtube.com/watch?v=FXSk9UJM738
VIDEO PROTOTYPE =
A video that conveys your storyboard and/or paper prototype concepts.

Benefits:
- clean & self-contained; just share a YouTube link
- can more vividly inspire people's imagination
- good for "pitching" or "selling" to management
WIZARD-OF-OZ
(a way to “run” your prototypes without writing code)


**Wizard-of-Oz**

- Interactive Prototypes (e.g., web app with fake data)
- Digital Mock-ups (e.g., Photoshop, PowerPoint)
- Paper Prototypes
- Storyboards

**Time**

**Fidelity (realism)**
WIZARD-OF-OZ=
A human operator pretending to be an interactive computer app
WIZARD-OF-OZ=
A human operator pretending to be an interactive computer app

Benefits:
- makes your prototypes interactive without writing backend logic code
- gets more sophisticated feedback on complex tech
- you can learn a lot by being the wizard

PAY NO ATTENTION TO THE MAN BEHIND THE CURTAIN
WIZARD-OF-OZ=
A human operator pretending to be an interactive computer app

Tips:
- Have one teammate be wizard, and another be the study facilitator
- Write an “algorithm”/prompt for wizard so that they follow pre-set rules
- Practice on friends first
Summary of prototyping techniques:

- **Storyboards**
- **Paper Prototypes**
- **Video Prototypes**
- **Digital Mock-ups** (e.g., Photoshop, PowerPoint)
- **Wizard-of-Oz**
- **Interactive Prototypes** (e.g., web app with fake data)
- **Final Product**
OK YOUR TURN!

IN-CLASS STORYBOARD ACTIVITY
(designed along with TA Shawn Kang, Fall 2016)
Remember the restaurant-picking needfinding activity from Week 1?

- **Person A**: wants to find a restaurant to go to lunch with B, who is their boss.

- **Person B**: boss who plans to go to lunch with A but doesn’t have access to web/mobile themselves. is not very tech-savvy, but is very picky about food and has strong opinions overall.

- **Person C**: observer who watches A and B interact. (needs to not be shy about maybe reporting findings in front of class)
Review of Week 1’s needfinding activity:

- Person A and B should try to agree on a place for lunch, with Person A using their cell phone to look up places (if they have decent Internet access on it), or their laptop (if they don’t).

- Remember, Person B is the non-tech-savvy, super-picky-about-food, strongly-opinionated boss. Get into the role :)

- Person C is a silent observer watching how A interacts with their phone/laptop, and how A interacts with B. Do not talk to either A or B. Get a clear view of the phone/laptop, though.
Person C’s (People C’s?) report back …

- What difficulties or stumbles did A have when using mobile or web app?
- Did A and B both look on the screen at once? Did A and B both try to interact with the app?
- Any unusual interactions with the app?
- What did you wish you could jump in to suggest but couldn’t, since you had to remain silent?
- What do you think A or B need to make this restaurant-picking scenario go smoother?
- [focus on problems & needs; don’t jump to solutions just yet]
Right now: form a group of 3-4 with your neighbors

- Doesn’t need to be the same group as Week 1’s activity, but if you’re sitting next to the same people again, go for it!
- Create a **point-of-view** from the most compelling need that your group-mates discovered in class last week
- As a group, on a sheet of paper, write down your point-of-view sentence and draw a *4-panel storyboard* that illustrates a potential technology solution to a need you identified (don’t focus on UI or technical details).
- At the end of class, I will get volunteers to bring me their storyboards, and *I will try to comprehend/explain them.*
STORYBOARD = Setting + Sequence + Satisfaction

- Create a point-of-view from the most compelling need that your group-mates discovered in class last week
- As a group, on a sheet of paper, write down your point-of-view sentence and draw a 4-panel storyboard that illustrates a potential technology solution to a need you identified (don’t focus on UI or technical details).
NOW I WILL TRY TO EXPLAIN YOUR STORYBOARDS

Who wants to volunteer?
Learning Objective

to create prototypes of varying degrees of fidelity throughout the design process.

TODOs after class

- Make sure you're registered for Gradescope
- Assignment 1 due Thursday night on Gradescope