

# **CSE 440: Introduction to HCI**

## **User Interface Design, Prototyping, and Evaluation!**

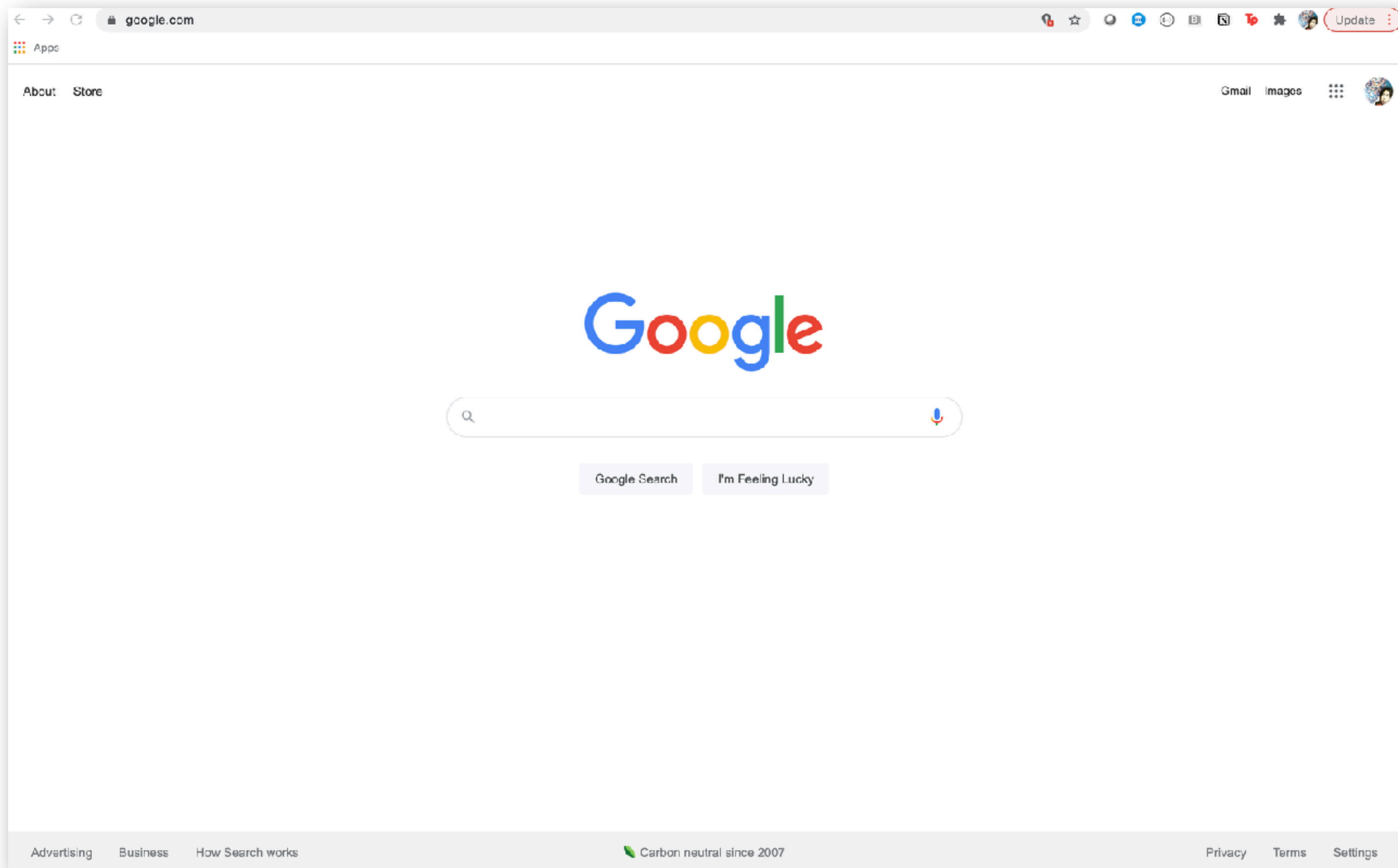
### **Lecture 10: Storyboarding**

Instructor: Amy Zhang, 2/4/2021

# Today's Topics

- UI Hall of Fame and Shame
- Storyboarding
  - 5 Considerations in a Storyboard
  - Tips and Tricks
- Class updates
- Team work time on 2e

# UI Hall of Fame and Shame



Fame or Shame?

Learnability for  
novice users?



# 1999

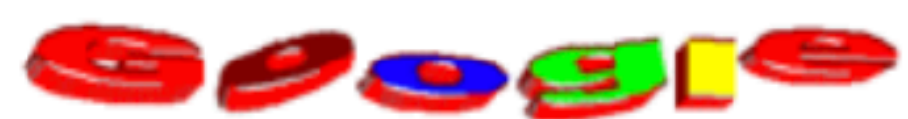
The logo features the word "Google!" in a colorful, 3D-style font. The letters are blue, red, yellow, blue, green, and red respectively. Below the "Google!" text, the word "BETA" is written in a smaller, grey, sans-serif font.

Search the web using Google

Google Search    I'm feeling lucky

[More Google!](#)

Copyright ©1999 Google Inc.

The logo consists of the word "Google" in a rounded, lowercase font. Each letter is a different color: G (red), o (blue), o (green), g (yellow), l (red), e (blue).

1997-1998

The logo consists of the word "Google" in a rounded, lowercase font. Each letter is a different color: G (green), o (red), o (yellow), g (blue), l (green), e (red).

1998-1999

The logo consists of the word "Google!" in a rounded, lowercase font. Each letter is a different color: G (blue), o (red), o (yellow), g (green), l (red), e (blue). There is an exclamation point at the end.

1999-1999

The logo consists of the word "Google" in a rounded, lowercase font. Each letter is a different color: G (blue), o (red), o (yellow), g (green), l (blue), e (red).

1999-2010

The logo consists of the word "Google" in a rounded, lowercase font. Each letter is a different color: G (blue), o (red), o (yellow), g (green), l (blue), e (red).

2010-2013

The logo consists of the word "Google" in a rounded, lowercase font. Each letter is a different color: G (blue), o (red), o (yellow), g (green), l (blue), e (red).

2013-2015

The logo consists of the word "Google" in a rounded, lowercase font. Each letter is a different color: G (blue), o (red), o (yellow), g (green), l (blue), e (red).

2015+

# Storyboarding

# **Why do we need stories in design?**

Stories help explain the experience of something to someone who hasn't experienced it before.

# Three ways of telling stories in design:

- **Scenarios**

- A short story about a specific user with a specific goal
- Written accounts and narratives of the experience
- Analogy: Books

- **Storyboards**

- A series of drawn panels showing how a user might progress through a task in a system
- Visual storytelling with rough sketches/cartoons
- Analogy: Comics, Picture books

- **Video Storyboards**

- Richer visual storytelling
- Analogy: Movies/TV



<https://www.commoncraft.com/video/twitter>

# Storytelling

- Stories have an **audience**
  - Other designers, clients, stakeholders, managers, funding agencies, potential end-users
- Stories have a **purpose**
  - Gather and share information about people, tasks, goals
  - Put a human face on analytic data
  - Spark new design concepts and encourage innovation
  - Share ideas and create a sense of history and purpose
  - Giving insight into people who are not like us
  - Persuade others of the value of contribution

# Stories Provide Context

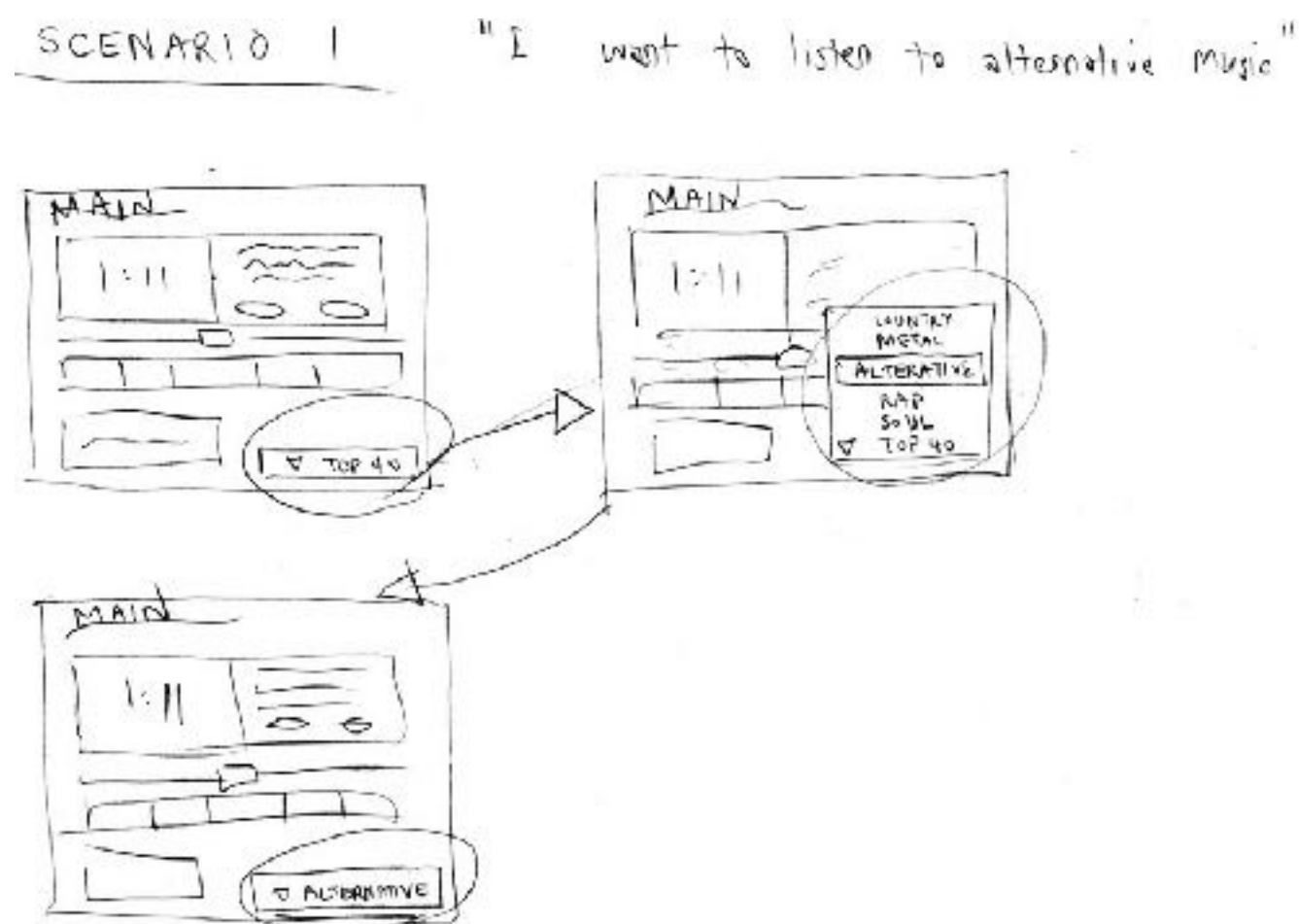
- Characters
  - Who is involved
- Setting
  - Environment
- Sequence
  - What task is being accomplished
  - What leads a person to use your technology
  - What steps are involved
- Satisfaction
  - What is the motivation for the user?
  - What is the end result?
  - What need are you satisfying?



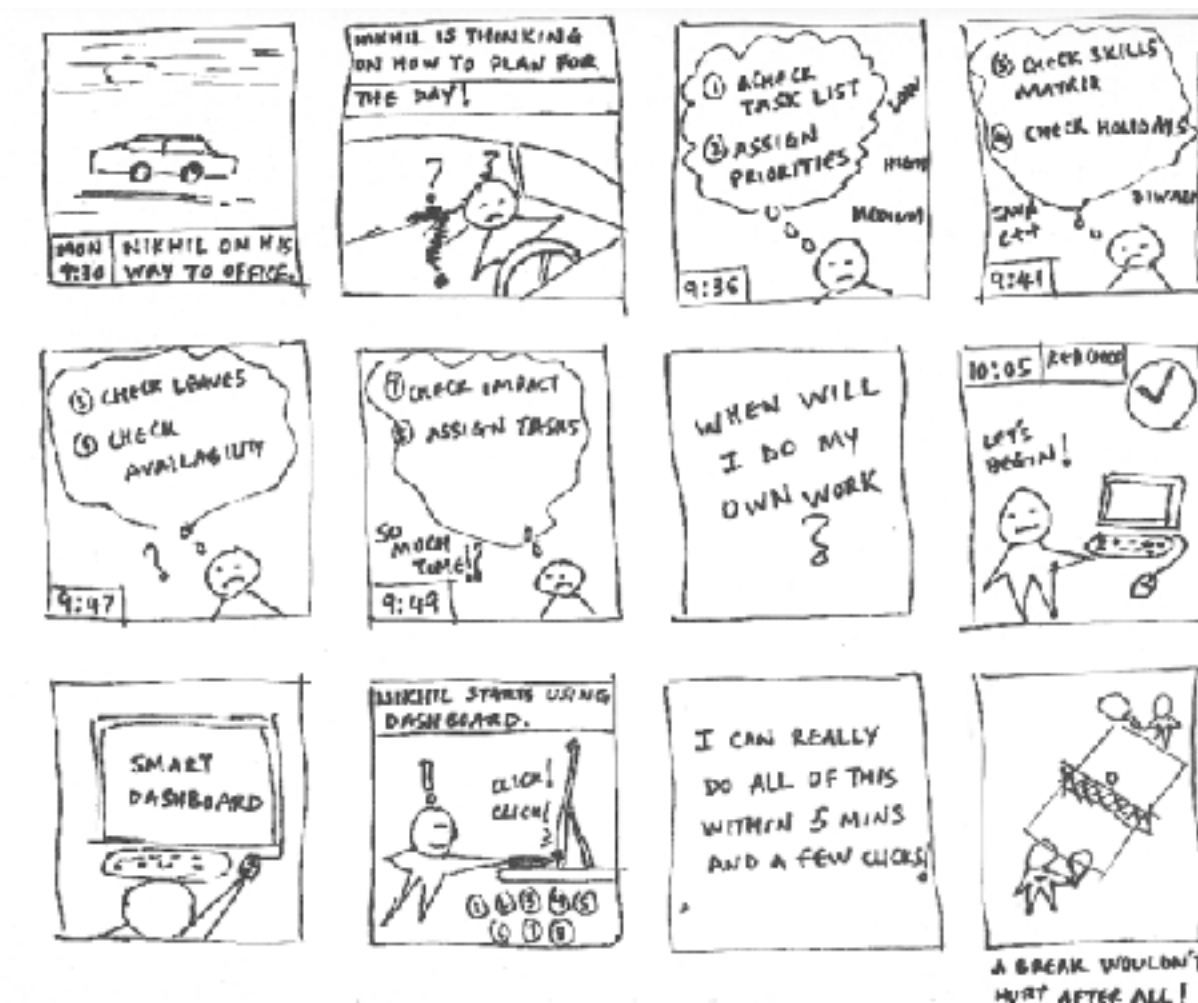
2a



2e



2f



Sketch



Storyboard

# Sketches (2a)

Movies

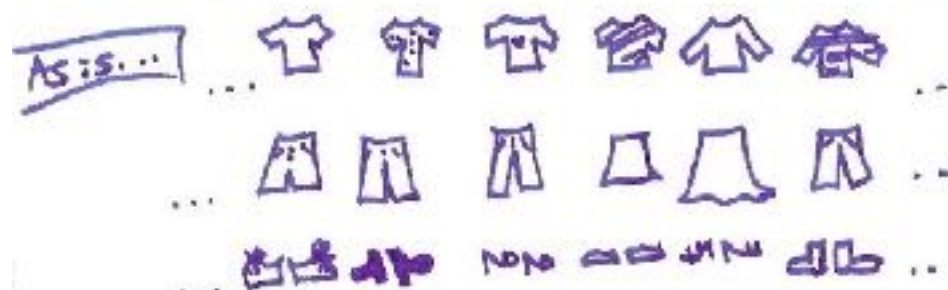
Theater: Shattuck Cinemas  
Phone: (510) 665-1342 Dist: 1.5 mi.  
Address: 2122 Shattuck Ave  
Berkeley, 94709  
Cost: \$8.50 normal, \$6.00 senior, \$4.50 matinee

Map-I+


<u>Art of War</u>	☆☆☆
(10:00)-(1:00)-4:00-7:00-10:00	
<u>Bittersweet Motel</u>	☆☆☆
(11:00)-(1:30)-4:00-6:30-9:00	
<u>Godzilla</u>	☆☆
(10:30)-(2:00)-5:30-9:00	
<u>The Cell</u>	☆☆☆
(11:00)-(1:00)-3:00-5:00-7:00-9:00	

STORE FOR THE STYLE - CHALLENGED

As is...




?? ??



As it should be...

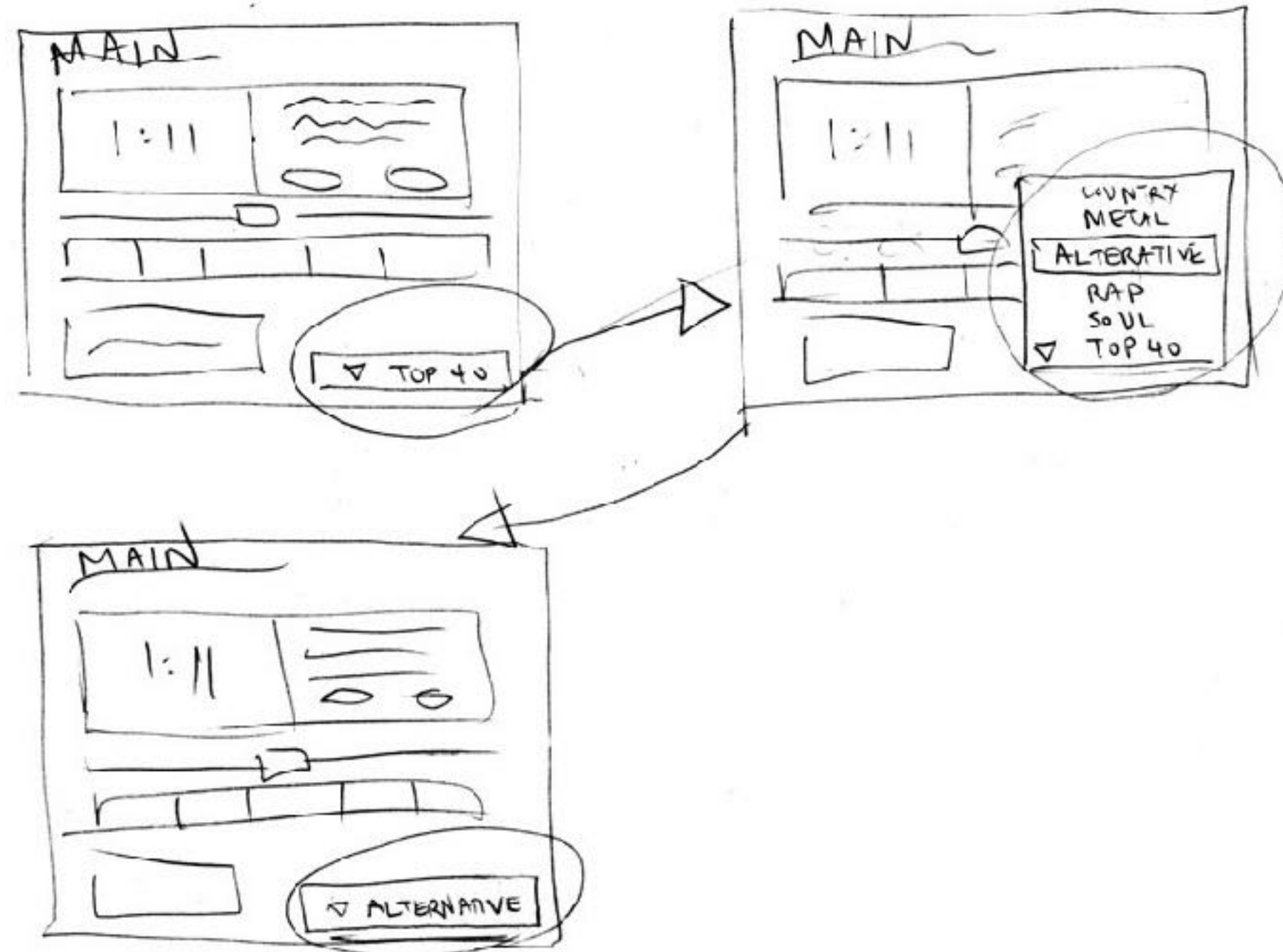
outfit#1      outfit#2      outfit#3



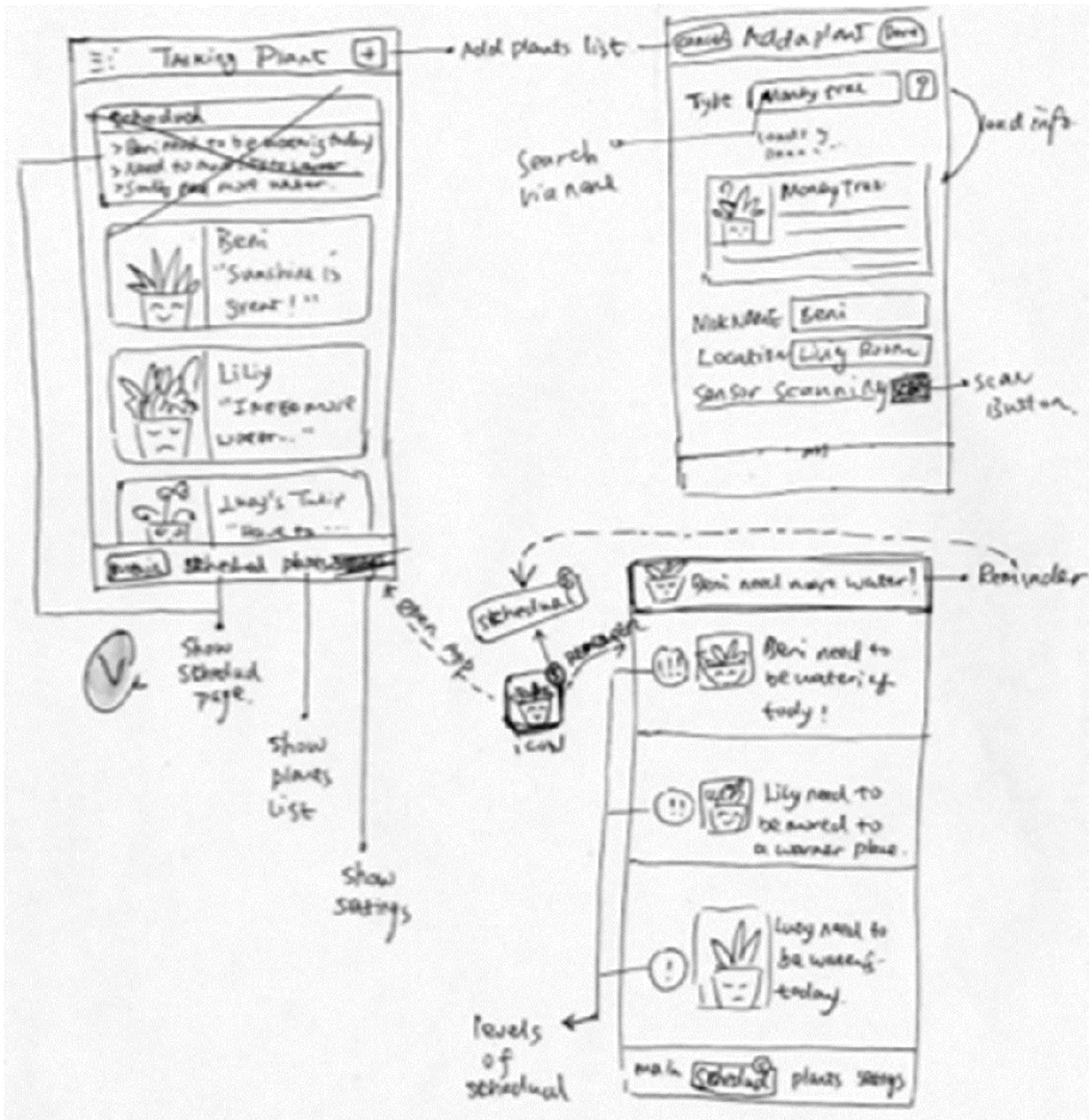
(pre-selected to match so you don't have to choose.)

# Sketches (2e)

SCENARIO 1 "I want to listen to alternative music"

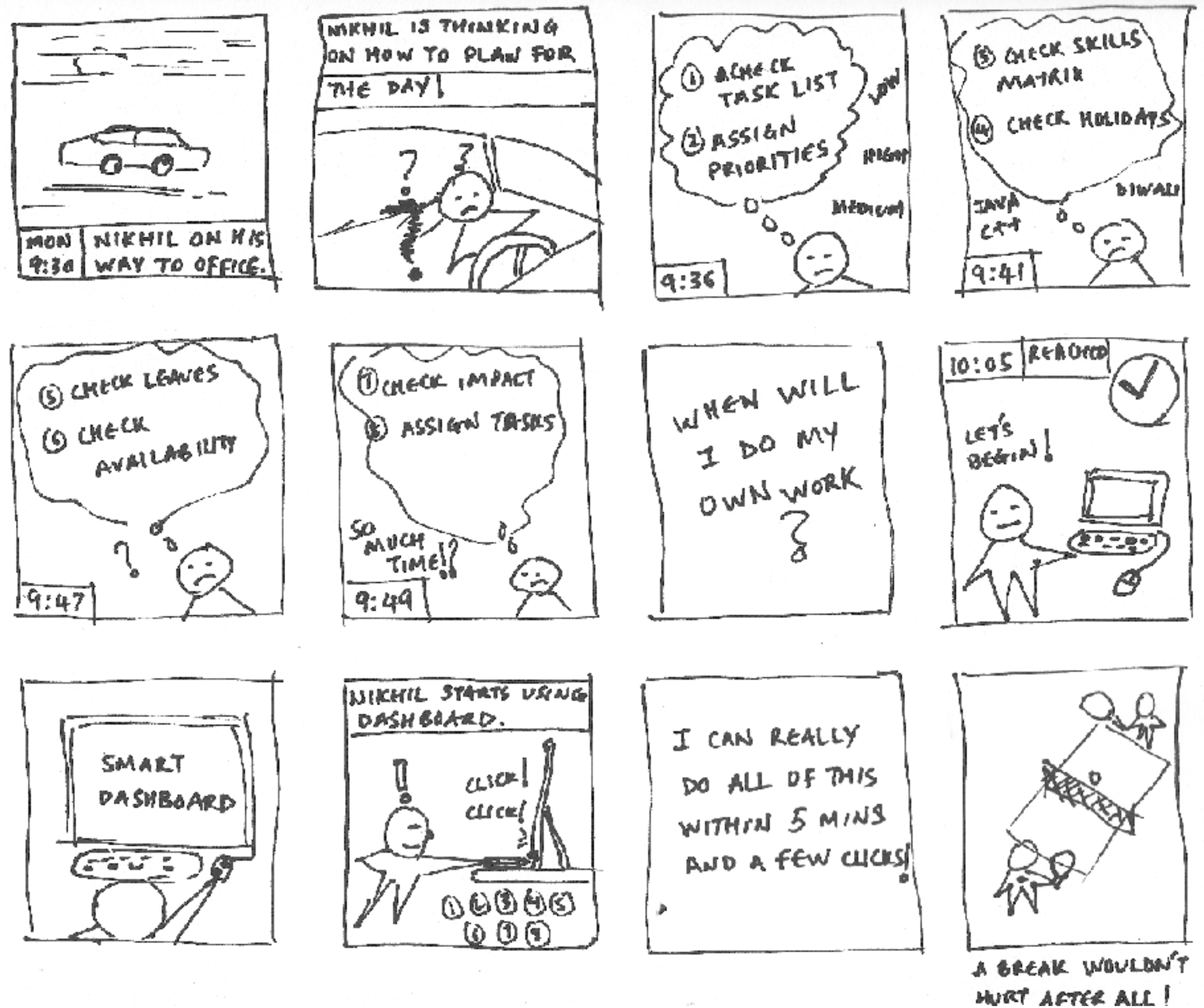






# Sketches (2e)

# And finally... a storyboard! (2f)





# Storyboards (2f)

The storyboard is a sequence of panels illustrating a customer's shopping experience at Argos. It begins with an exterior view of the store and a large sign. The main character, Paul, is introduced in a panel where he explains his purpose. The next panel shows him entering the store, noting the helpfulness of the exterior sign. A subsequent panel shows a queueing system with a sign indicating an 8-minute wait. Paul then moves to a product display, where he identifies the sports section. He is then shown at a service counter, where the staff member checks the product's availability. The final panels show Paul using a provided slip and pen to note the product number and price, and then using a calculator to determine the total cost.

**WHAT IS A SERVICE?  
THE ARGOS EXPERIENCE...**

**thinkpublic**  
www.thinkpublic.com

HI, MY NAME IS PAUL AND I'M GOING TO USE THE ARGOS SHOPPING SERVICE TODAY. MY GIRLFRIEND WANTS A EXERCISE BALL WHICH SHE SAW AT HOME IN THE CATALOGUE...

THE SHOP WAS EASY TO FIND WITH THE BIG SIGN OUTSIDE!

THIS SIGN IS USEFUL, I KNOW HOW LONG THIS IS GOING TO TAKE

STEP 1: SELECT PRODUCT

HERE'S ALL THE SPORTS STUFF, IT SHOULD BE IN THIS SECTION...

HERE WE GO... THIS IS WHAT SHE WANTED

THIS IS REALLY USEFUL, I CAN SEE IF THERE ARE ANY IN STOCK BEFORE QUEING UP. IT LOOKS LIKE I'M IN LUCK, THERE ARE 5 IN STOCK!





















I'LL MAKE A NOTE OF THE NUMBER USING THE SLIP AND PEN PROVIDED...

AND HERE'S THE CATALOGUE NUMBER AND PRICE

HOW DO ARGOS PROVIDE A SERVICE FOR THEIR CUSTOMERS?  
ONE INTREPID REPORTER FINDS OUT...



# Storyboards (2f)

1  Slide 1	2  Sugar Plum Dreams	3  No problem, typing	4  Here's the Page	5  There it is
6  Peak and off peak?	7  I'll Try	8  Dates OK No Price?	9  OK Shows Price	10  Type Type Type
11  Blank Price	12  Back Back Back	13  Still \$0	14  Arrrgh	15  Send Form
16  Annoying	17  I don't get it	18  Slide 18	19  Hello Radio City	20  Slide 20



# Storyboards (2f)

Maria Oakeisen, David Guichard, Pieter Nieymeer, Jean Munson

**altVerto FROM APATHY TO ADVOCACY**

AFTER A LONG WORKDAY, JEN DECIDES TO CHECK TRAFFIC BEFORE HEADING HOME...

UGH! YOU'VE GOT TO BE KIDDING.

I'D RATHER WAIT THAN DRIVE IN THIS.

HUH... THEY'RE PROMOTING SOME SORT OF TRANSIT PLUGIN

WHY DON'T I GIVE IT A SHOT?

ONE WEEK LATER...

HI JEN. WE'RE GOING TO LINDA'S TAVERN FOR DRINKS AROUND 7 TONIGHT. YOU INTERESTED?

SOUNDS GOOD. WHAT'S THE BEST WAY TO DRIVE THERE FROM MY PLACE?

NOT SURE... JUST GOOGLE IT.

WILL DO. CYA LATER.

ALTVERTO SUGGESTS: TAKE THE BUS AND SAVE MONEY!

HUH, I DIDN'T KNOW THIS ROUTE.

THE BUS IT IS THEN.

A MONTH GOES BY...

ACCORDING TO ALTVERTO, I'VE SAVED A LOT OF MONEY BY TAKING THE BUS.

IT'S A SHAME THAT THERE AREN'T CONVENIENT BUS ROUTES FOR MY COMMUTE

AREN'T YOU ALWAYS TELLING ME ABOUT YOUR WEEKEND BIKE RIDES?

WHY NOT BIKE?

MAYBE... I'D HAVE TO GET SOME **ADVICE** AND FIGURE OUT A **GOOD ROUTE** FIRST.

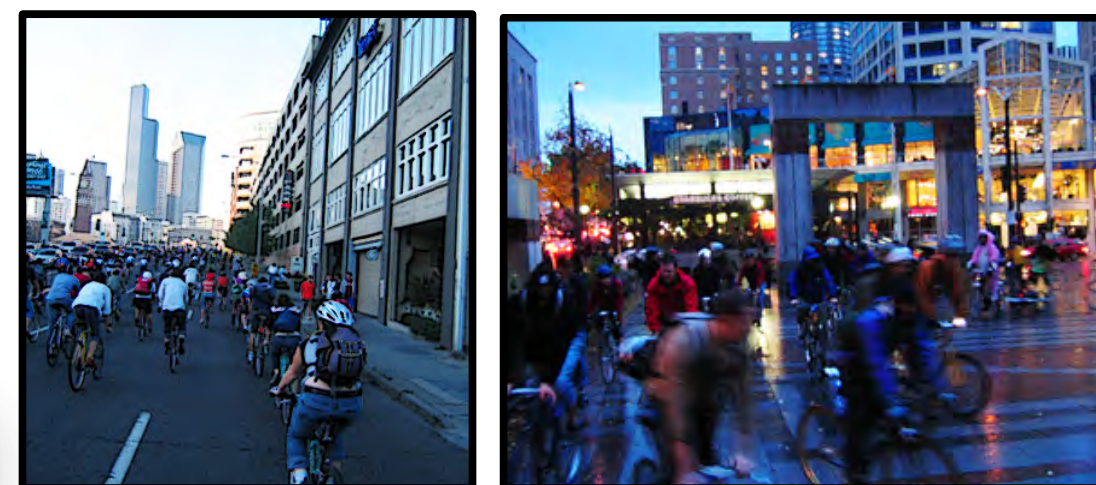
Enter your discussion topic  
Bike commuting tips?  
Enter your comments  
Hi! After finding out that there's a good bike route to work, I've plunge, and was wondering if you could pass along some tips for...  
Specifically, I'm curious about...  
- work clothes that are...  
- best messenger bag...  
- arriving and not...

SEEMS LIKE THE **ALTVERTO CYCLING FORUM** IS A GOOD PLACE TO START.

LATER THAT SAME YEAR...

	last post	replies
Good bike repair shops on Capitol Hill?		7
Need help figuring out safe bus route District to Fremont!		4
Special critical mass tomorrow in s downtown bike lanes!		14
What's your favorite fun-ride on the eastside?	yesterday, 6:07p	

MORE BIKE LANES DOWNTOWN WOULD MAKE MY COMMUTE A LOT SAFER. I SHOULD DO THE CRITICAL MASS RIDE.



seattle critical mass images from flickr user timmycorkery

Field trial participants not only reported changing their behavior - reducing single occupant trips by around 10% - but they also told us about encouraging their peers and colleagues to do so during and after the field trial.

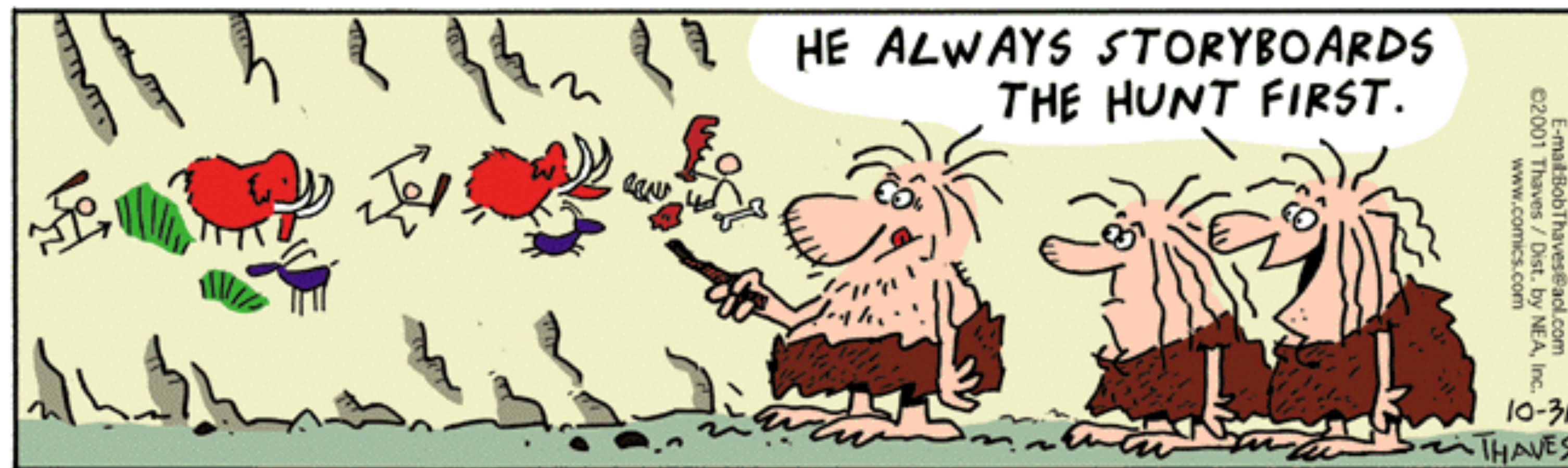


# Why Storyboards if you have Scenarios?

- They help you think more deeply about...
  - Specific details about the environments where the system is used
  - Physical constraints (size of system, space where it's used)
  - Relationship among multiple people
  - Feelings and concerns of people

# Illustrating Time

- Storyboards come from film and animation
- Give a “script” of important events
  - leave out the details
  - concentrate on the important interactions



# Allowing Exploration

- Still relatively fast and inexpensive to produce
- Can explore more potential approaches
- Notes help fill in missing pieces of the proposal





# Effective to communicate

- Effective storyboards can quickly convey information that would be difficult to understand in text
- Imagine explaining the storyboard on the right in text, for various audiences



**5 considerations in a storyboard**



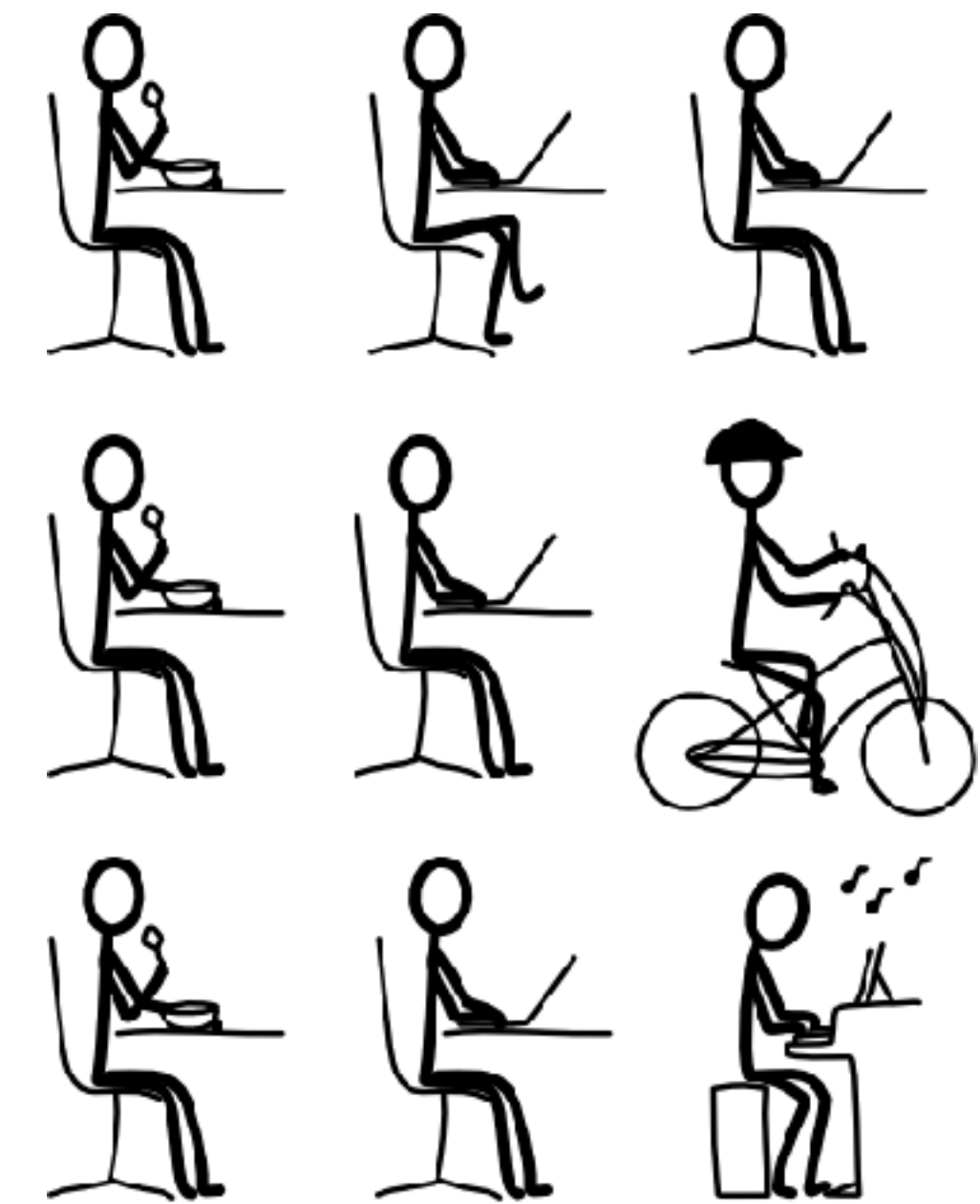
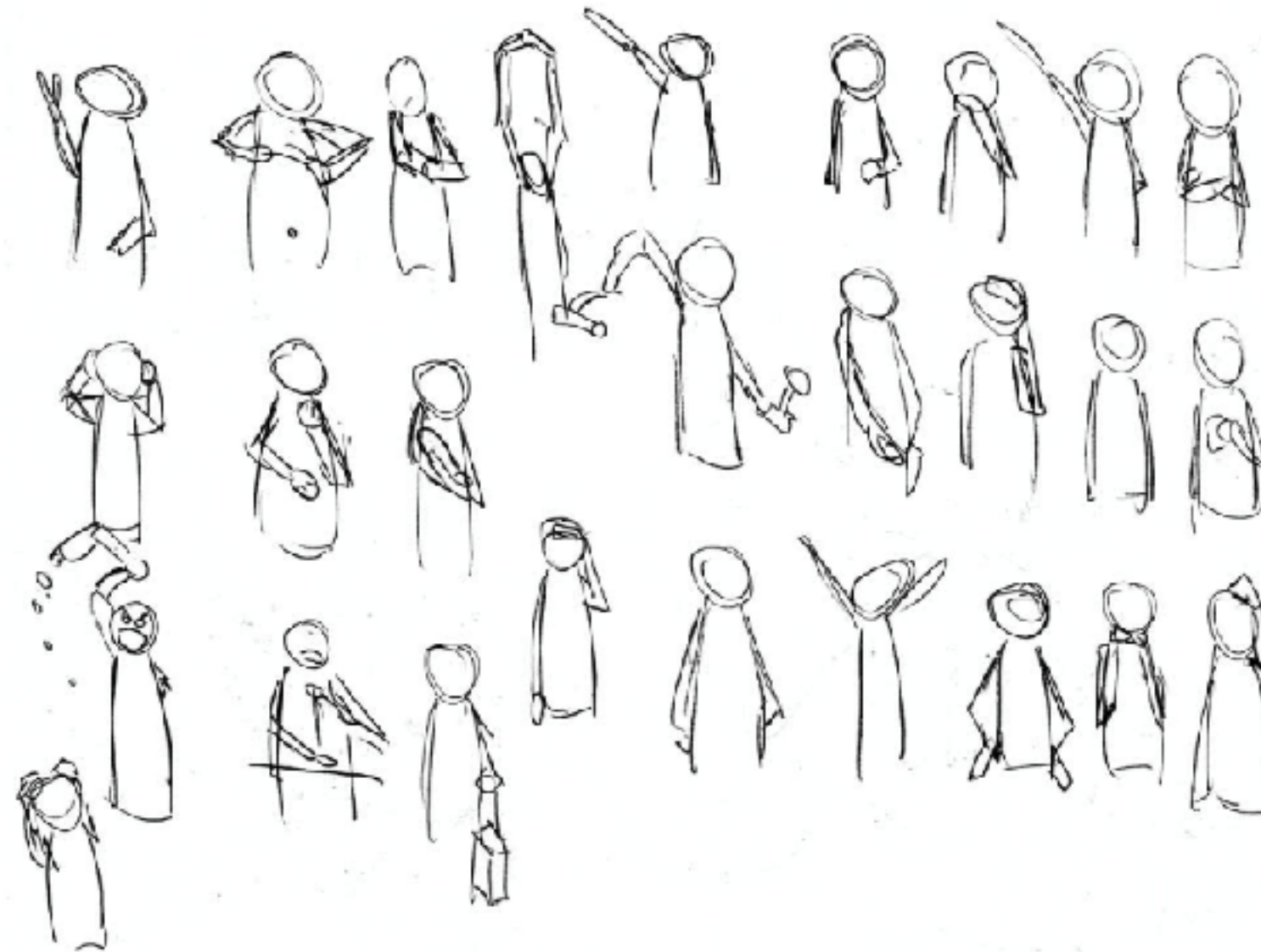
# 5 Considerations in a Storyboard

1. Level of detail
2. Inclusion of text
3. Inclusion of people and emotions
4. Number of frames
5. Portrayal of time

Truong, Khai N., Gillian R. Hayes, and Gregory D. Abowd. "Storyboarding: an empirical determination of best practices and effective guidelines." *Proceedings of the 6th conference on Designing Interactive systems*. 2006.

# 1. Level of detail

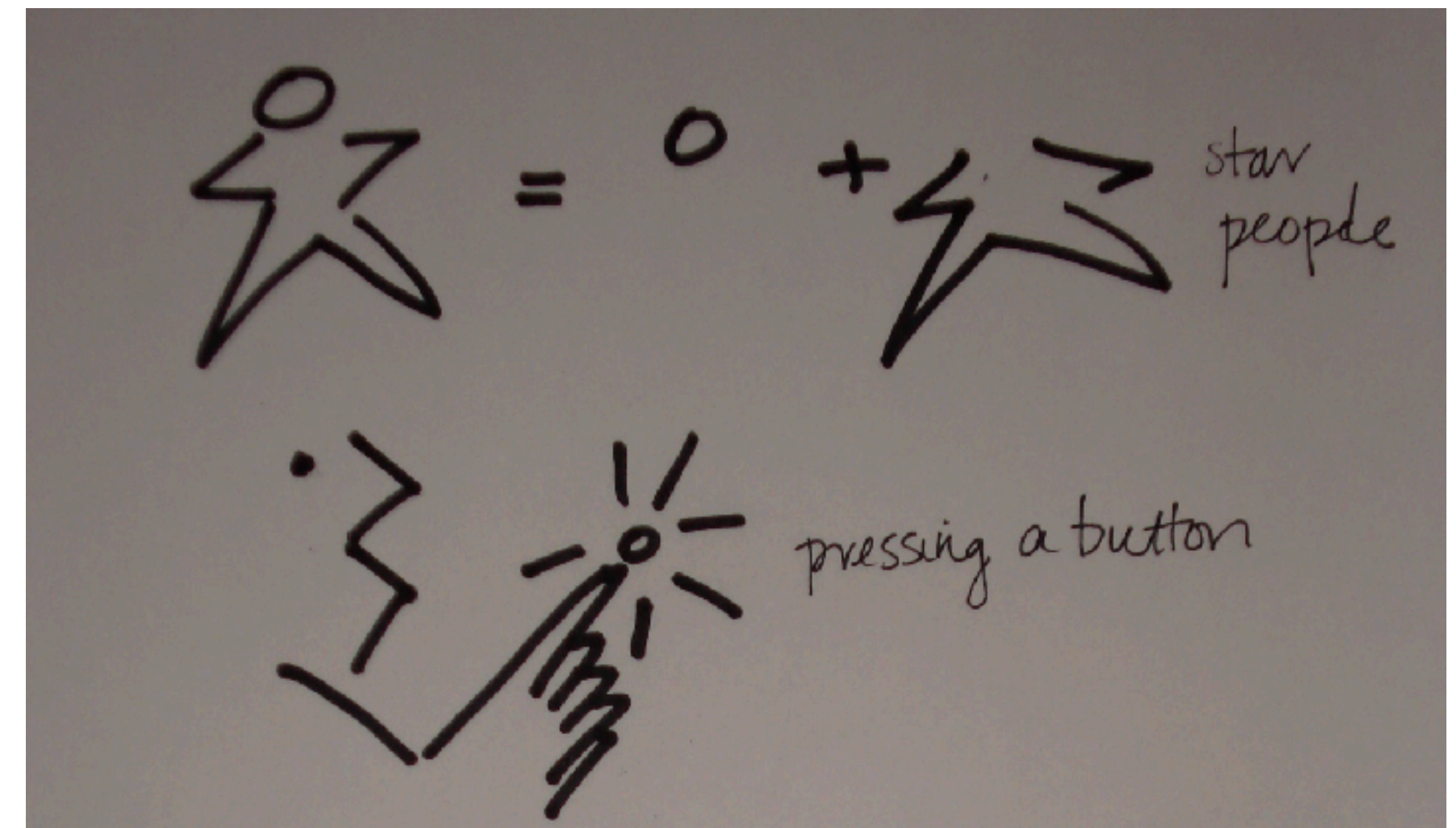
- Guideline: too much detail can lose universality
- How to draw people?



(c) 2009 SACHA CHUA

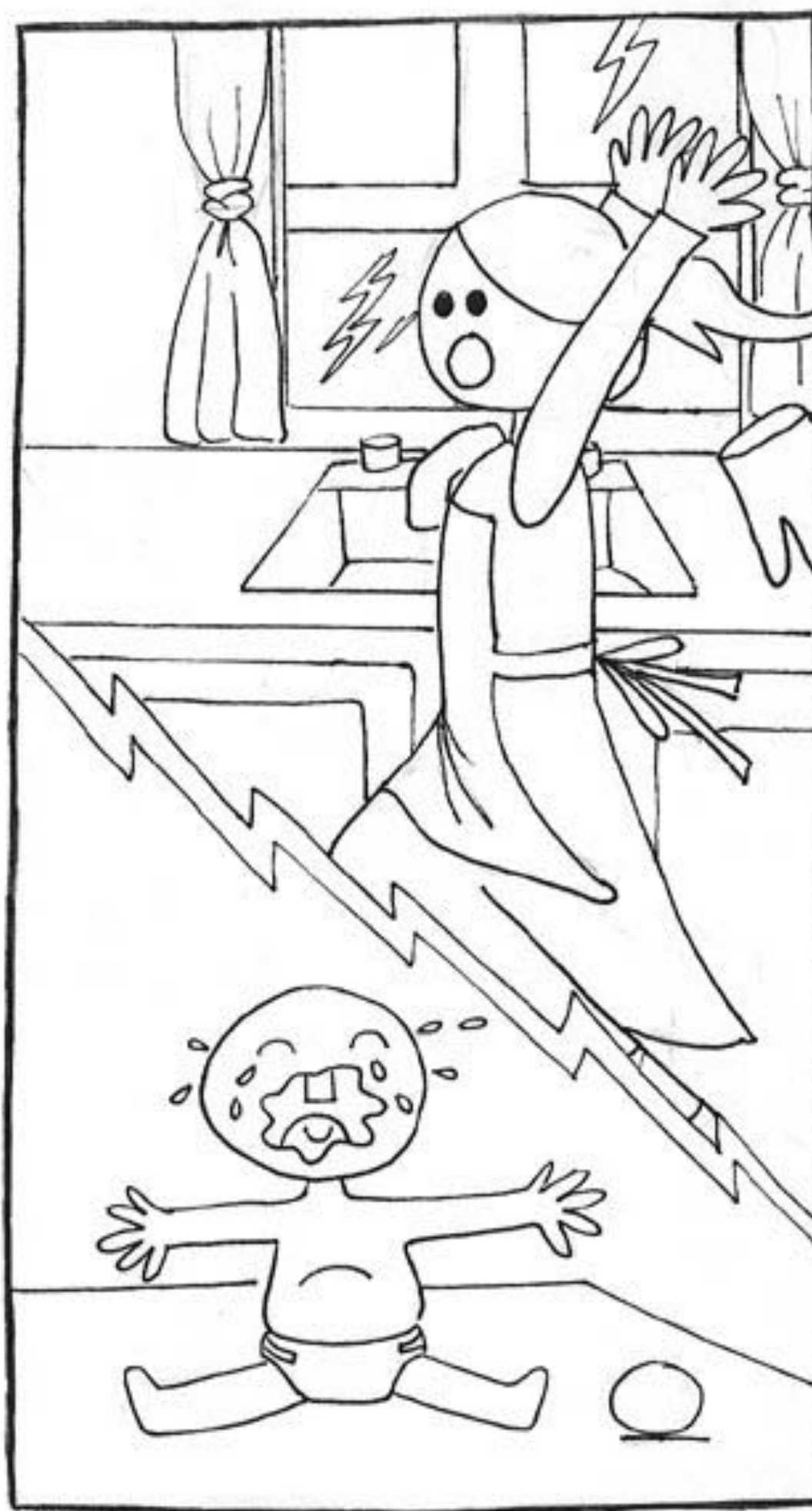
# 1. Level of detail

- How to easily indicate pointing or pressing

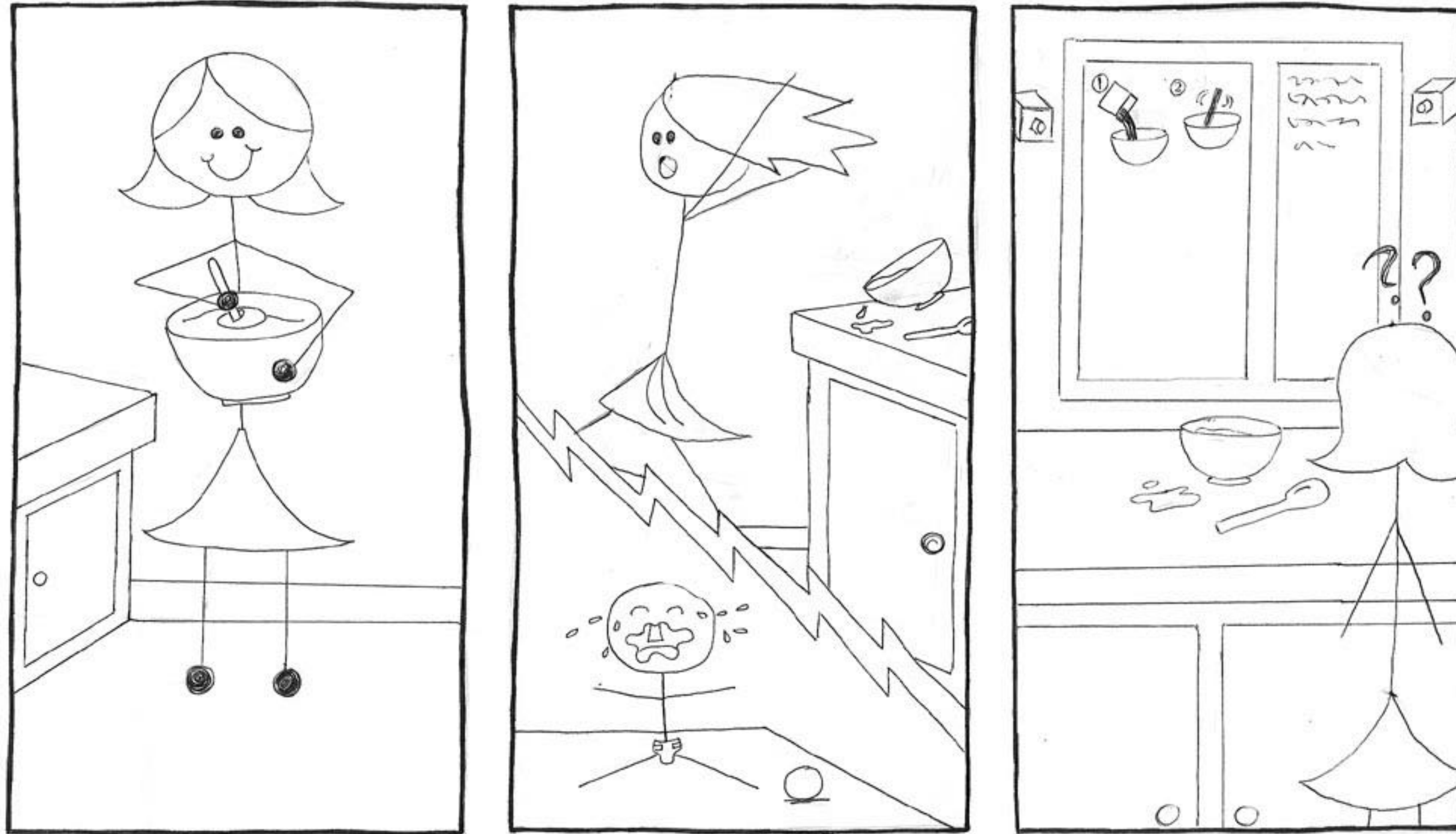




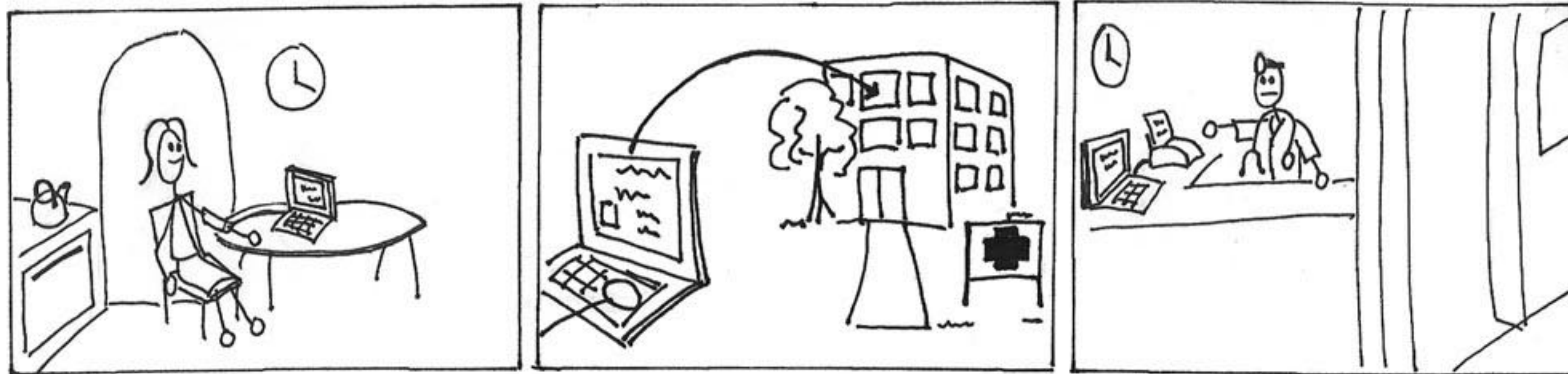
# 1. Level of detail



# 1. Level of detail



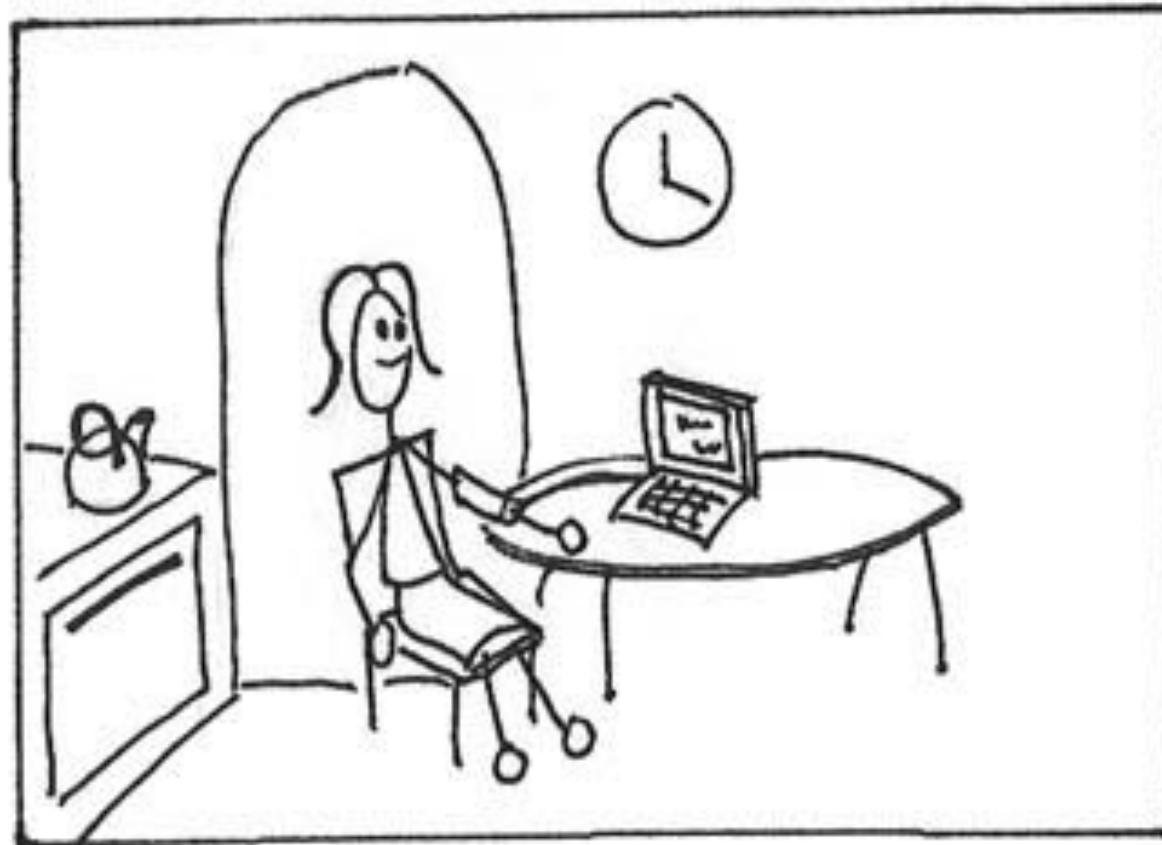
## 2. Inclusion of Text



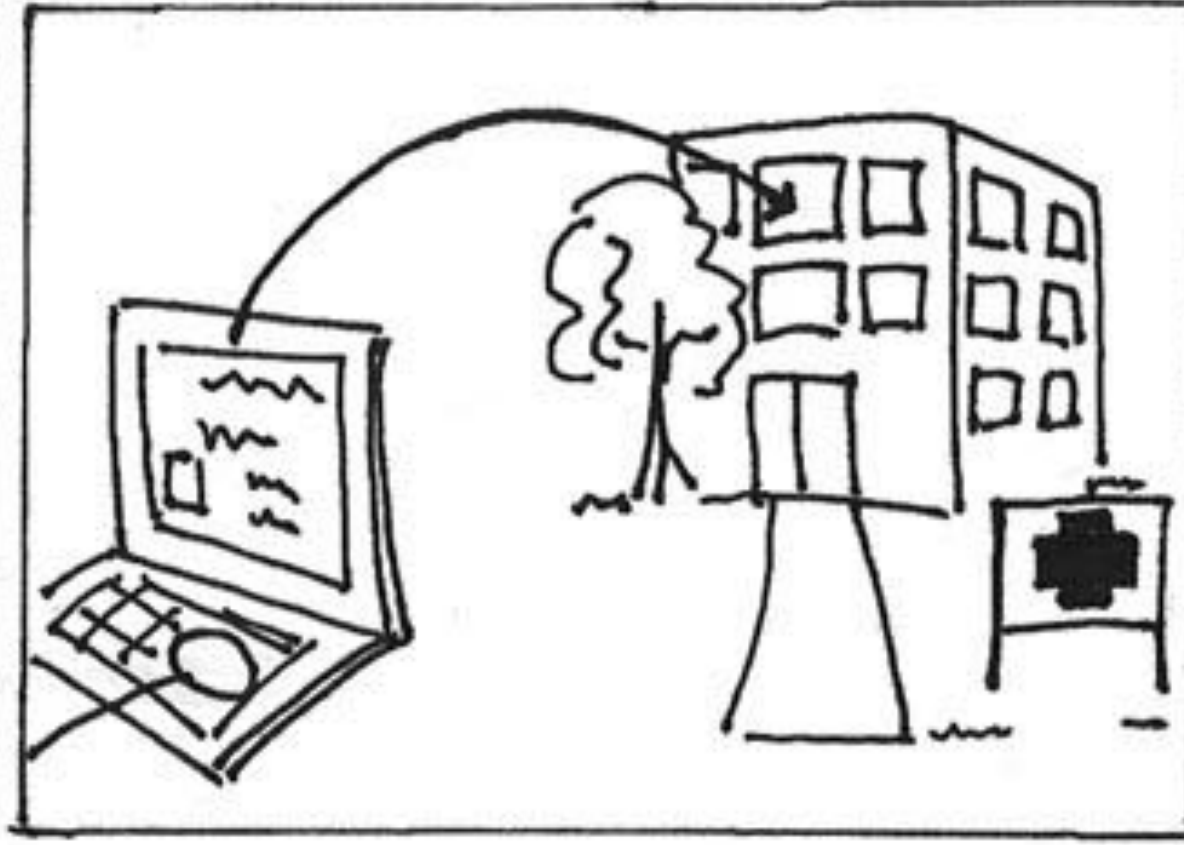


## 2. Inclusion of Text

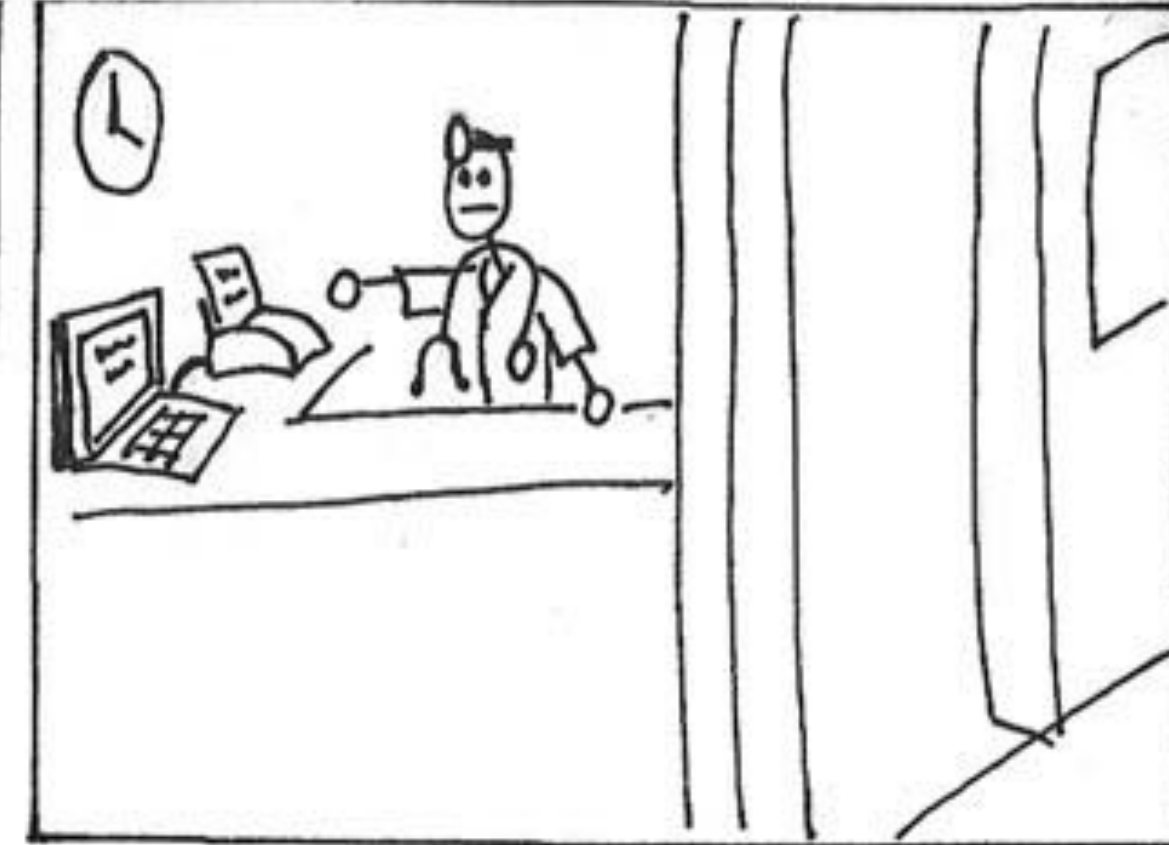
- Guideline: text is often necessary—but keep it short!



1. At home, Mary checks her blood pressure.



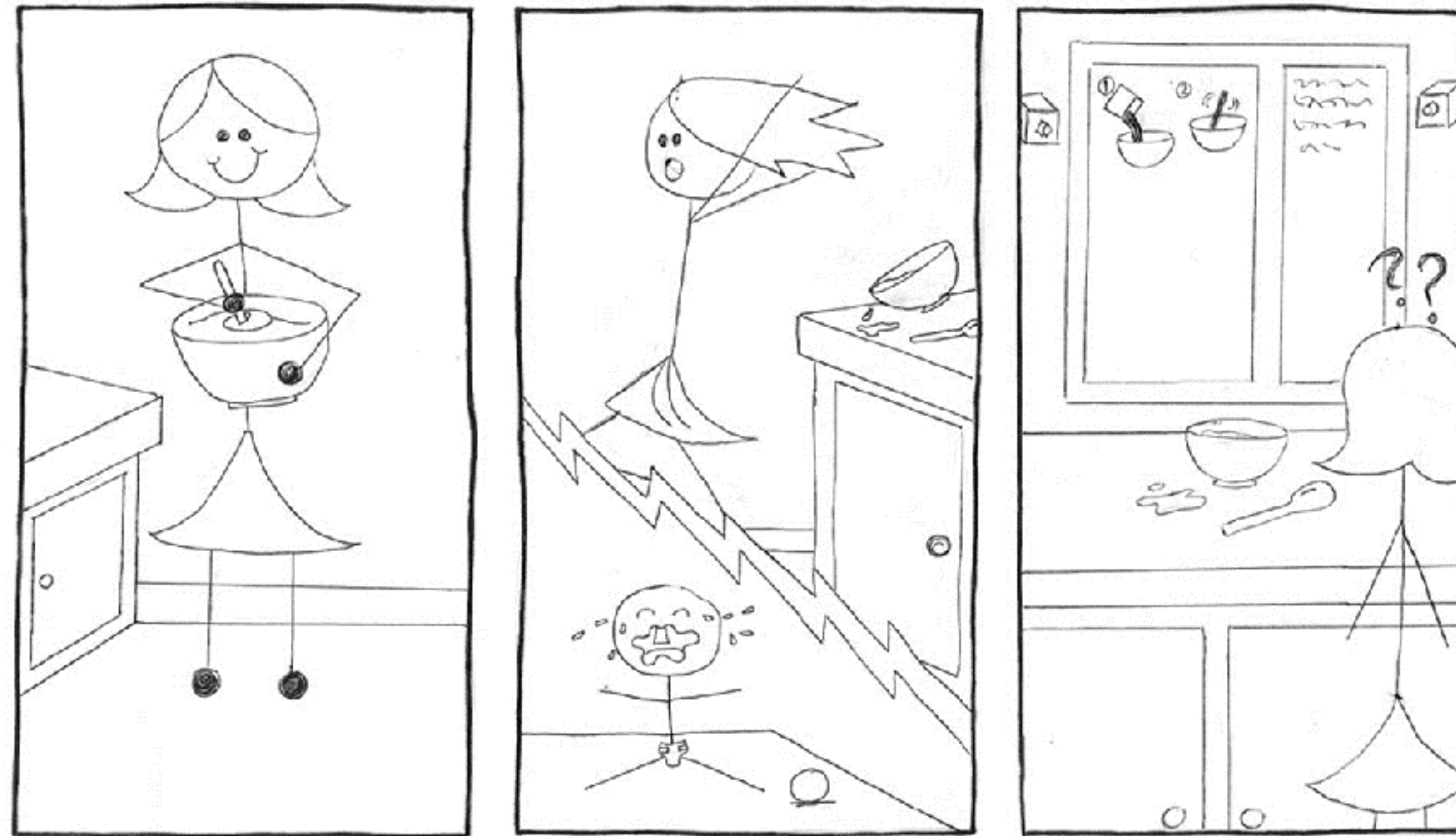
2. After a few simple key presses, her blood pressure readings get sent to a clinic.



3. The information is made available to her doctor.

# 3. Inclusion of People and Emotions

- Guideline: Include people experiencing the design and their reactions to it (good or bad)
- Remember, the point of storyboards is to convey the experience of using the system.

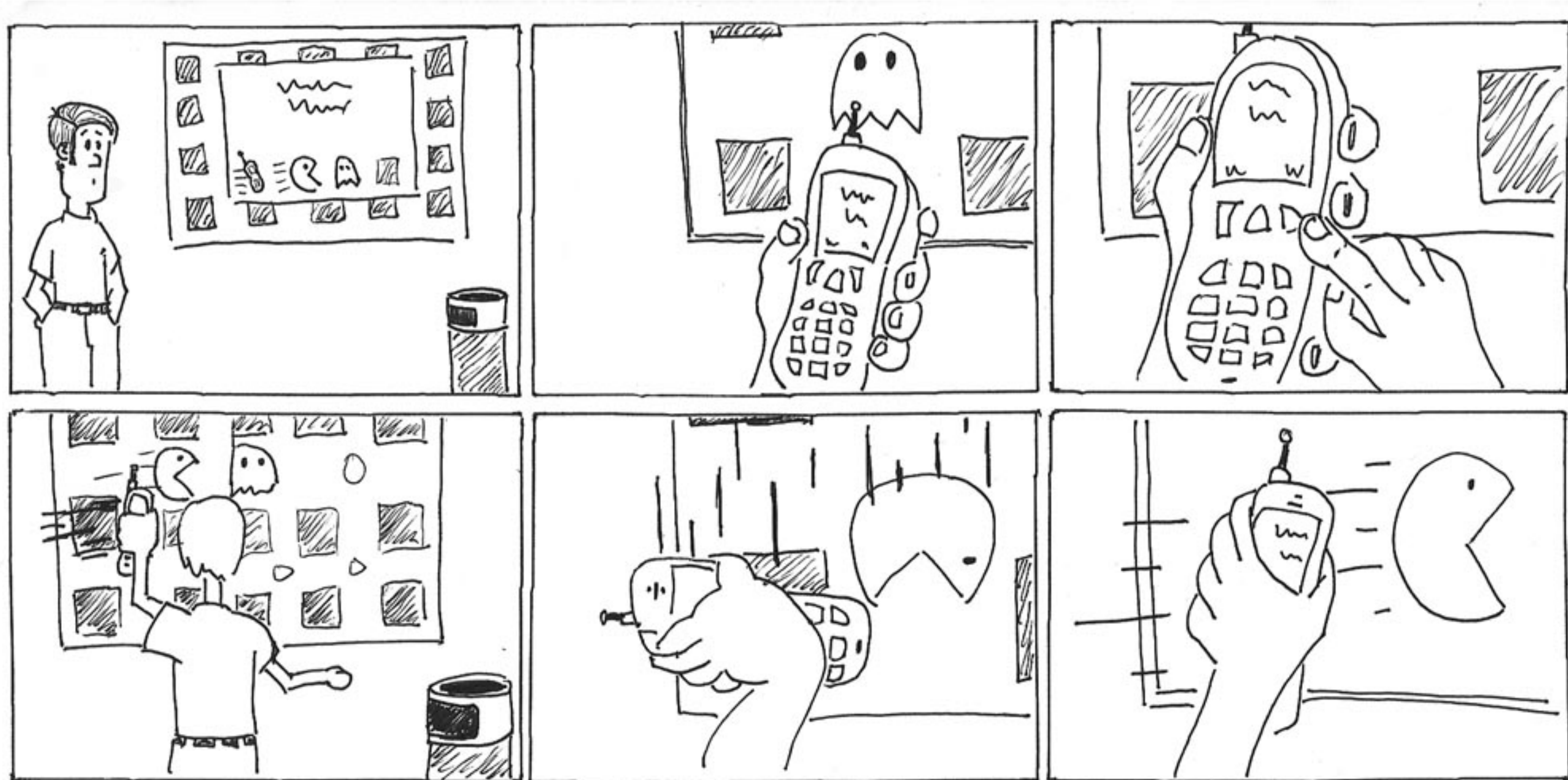


# 4. How Many Frames?

- Guideline: 4-6 frames per scenario is ideal for end-users
  - Less work to illustrate
  - Must be able to succinctly tell story
  - Potentially longer for design clients
- More is not always better
  - May lose focus of story
  - May lose attention

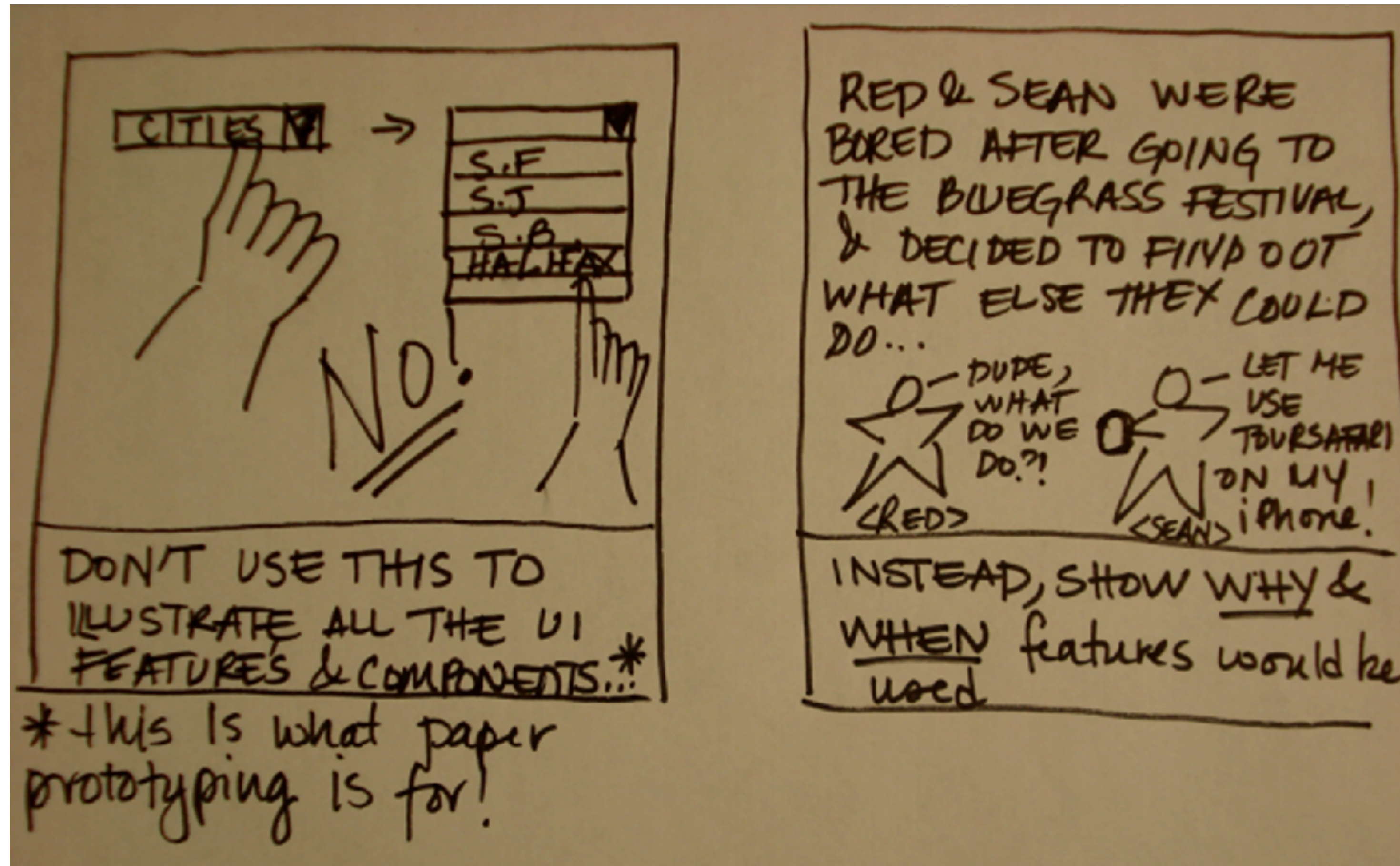
# 4. How Many Frames?

- Guideline: Remove unnecessary frames





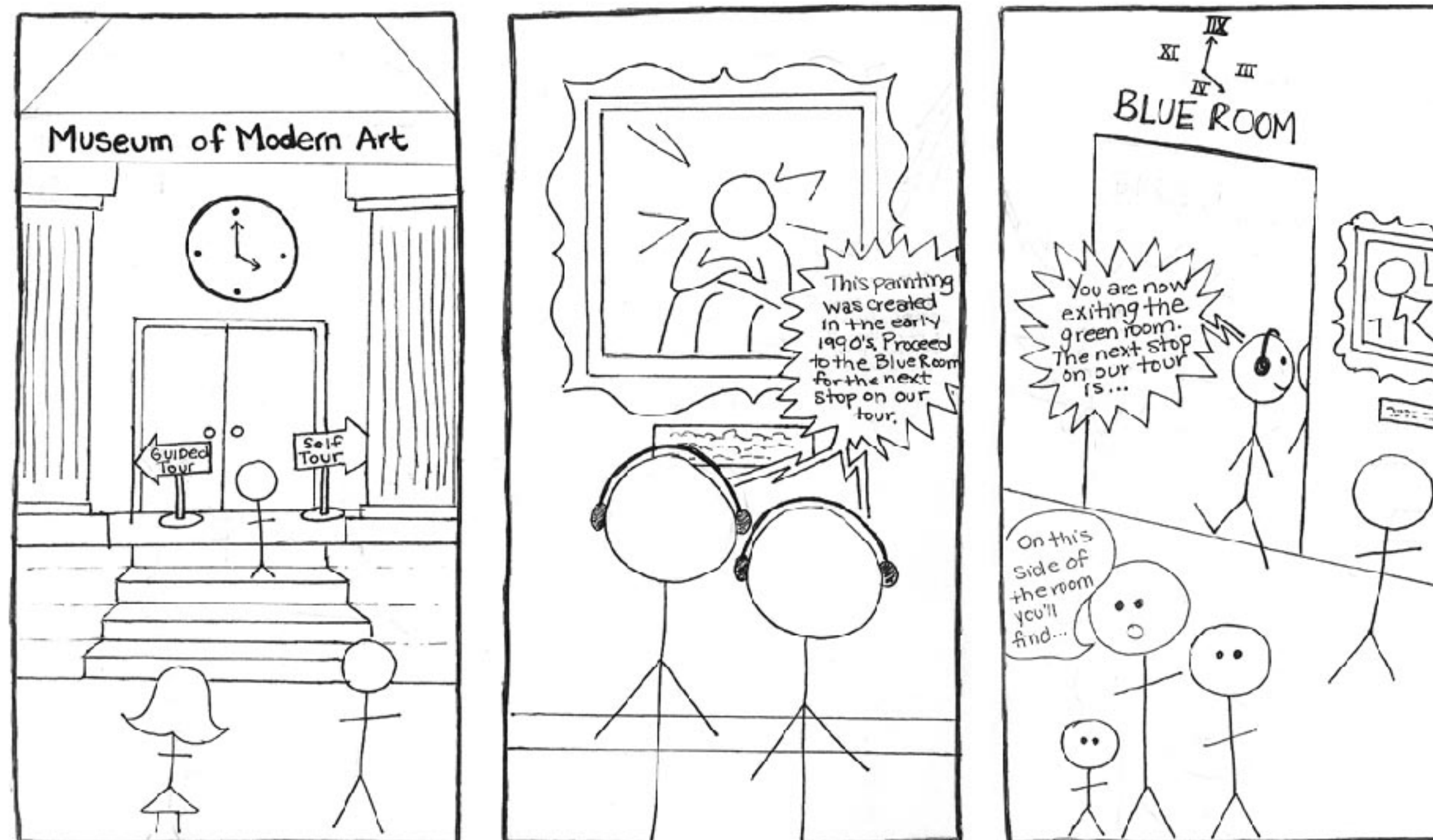
# 4. How Many Frames?





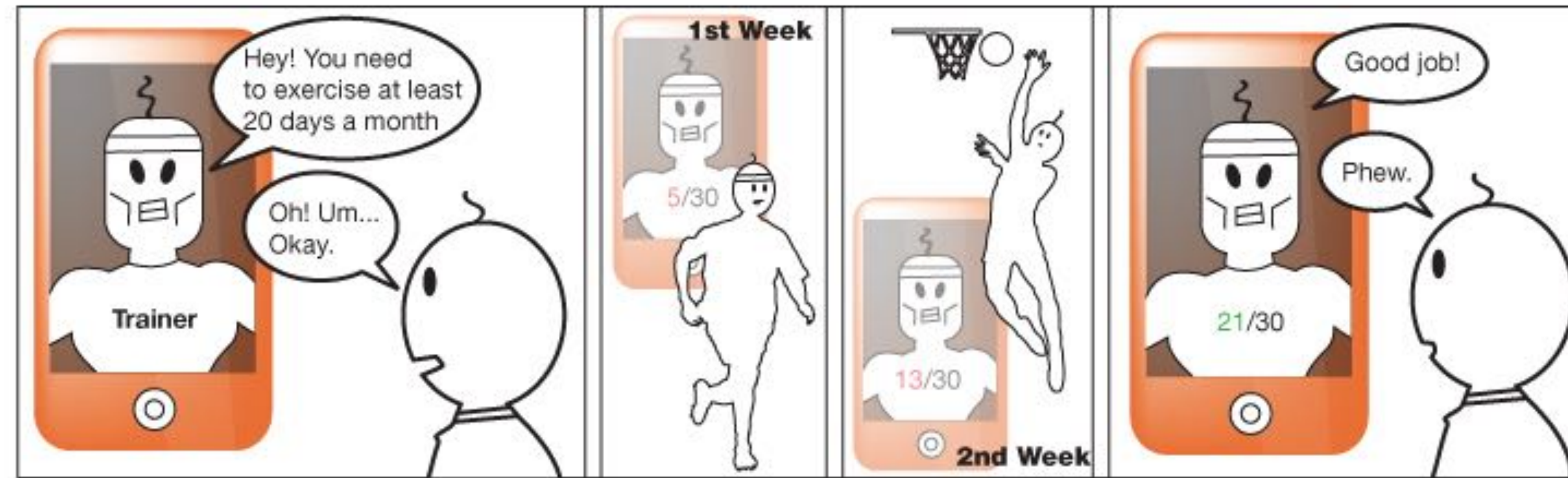
# 5. Passage of Time

- Guideline: Don't need explicit indicators since assumption is that time is going by, unless you need to show how much time has gone by.



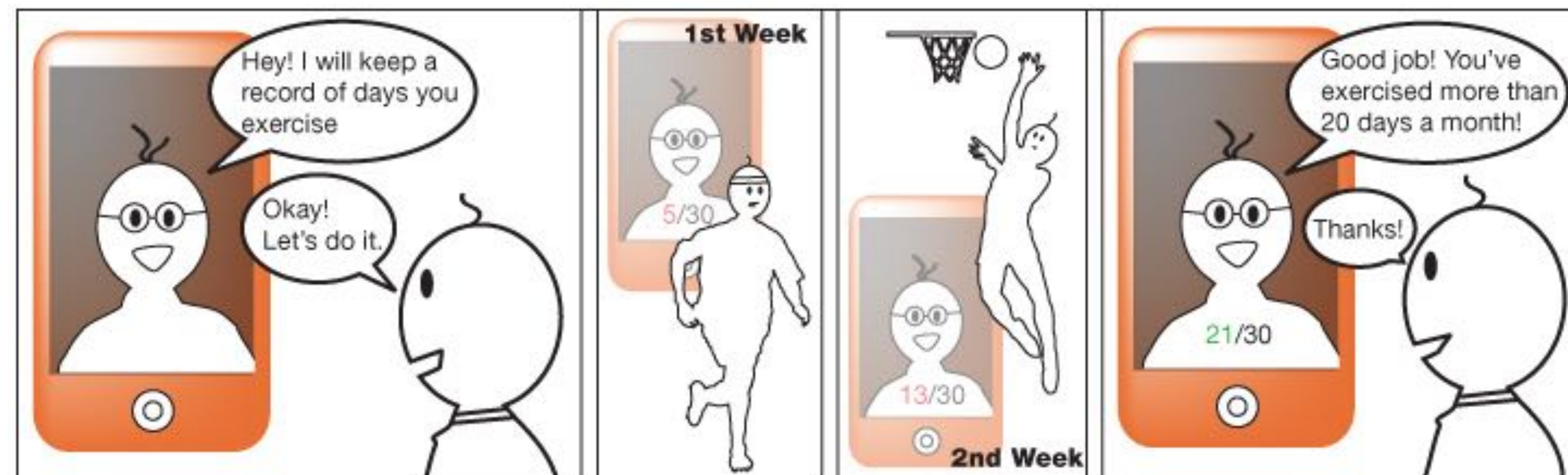
# Storyboards for Comparing Ideas

Authoritative



Cell phone is used to keep track of one's fitness goal.

Supportive

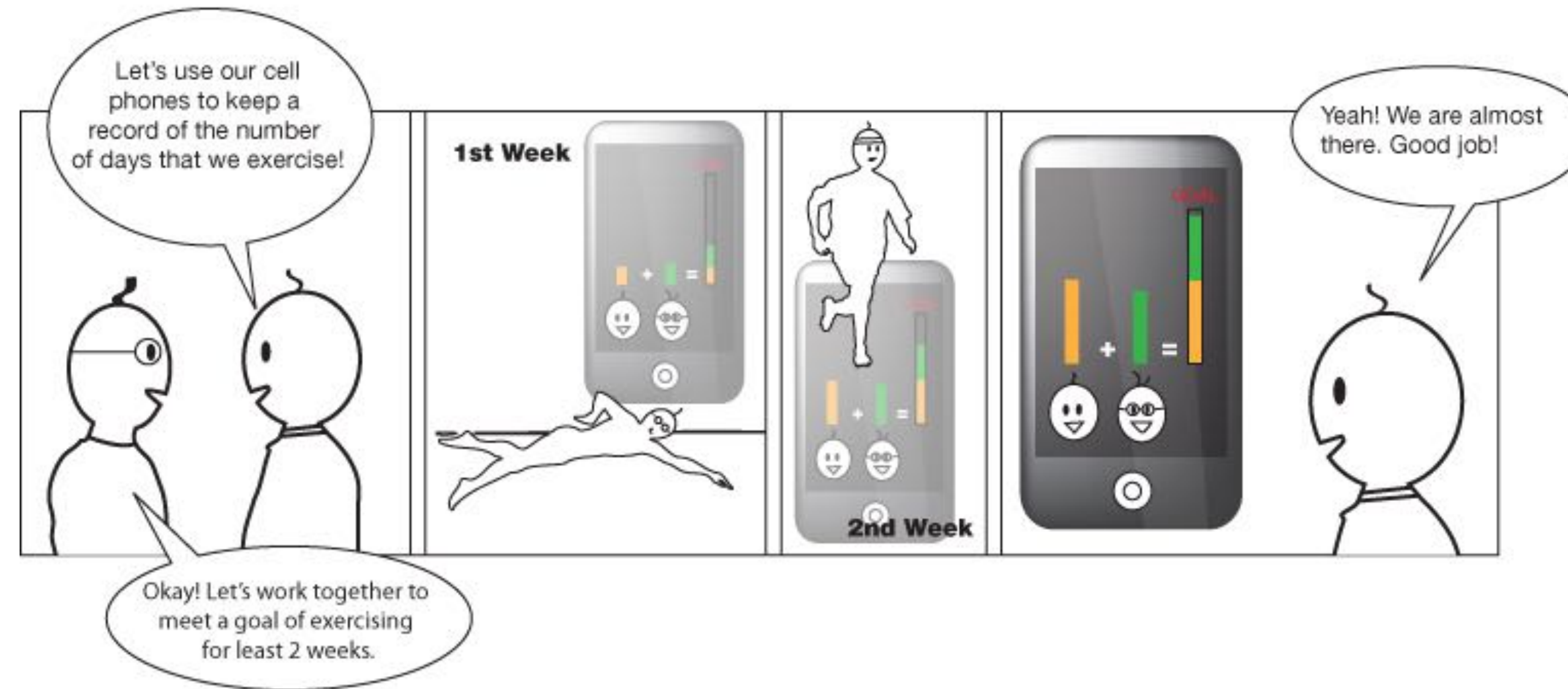


Cell phone is used to keep track of one's fitness goal.

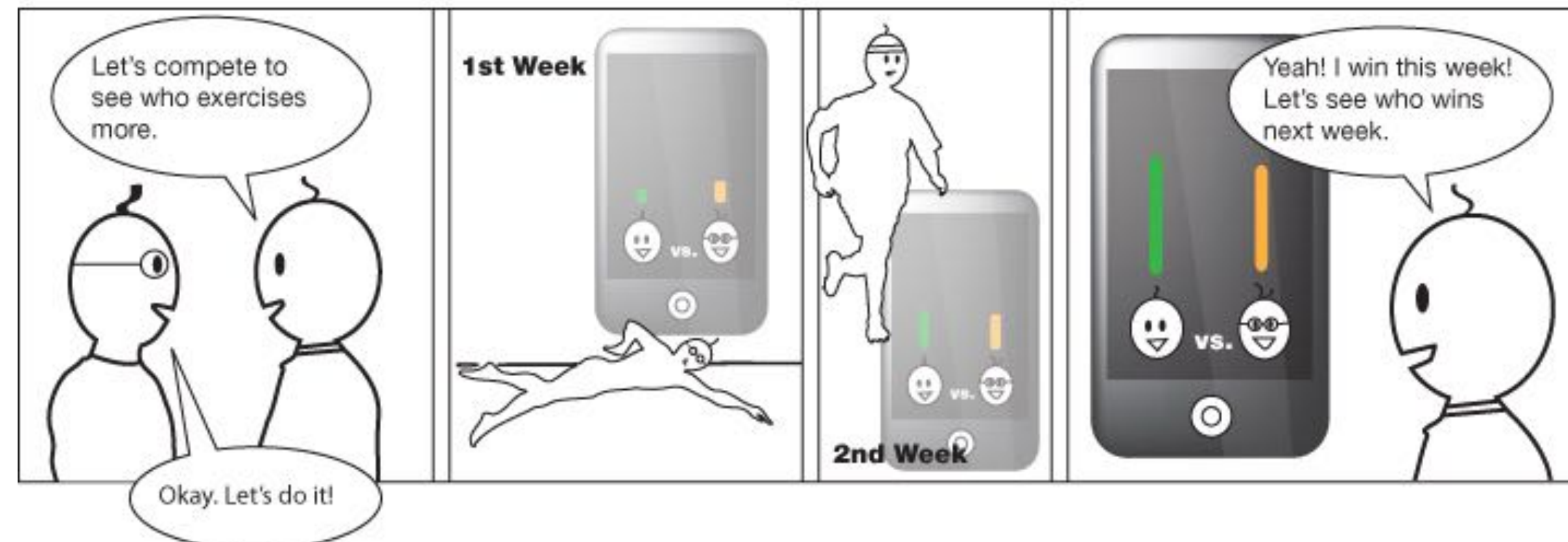


# Storyboards for Comparing Ideas

Cooperative



Competitive





# Tips and Tricks for Storyboarding

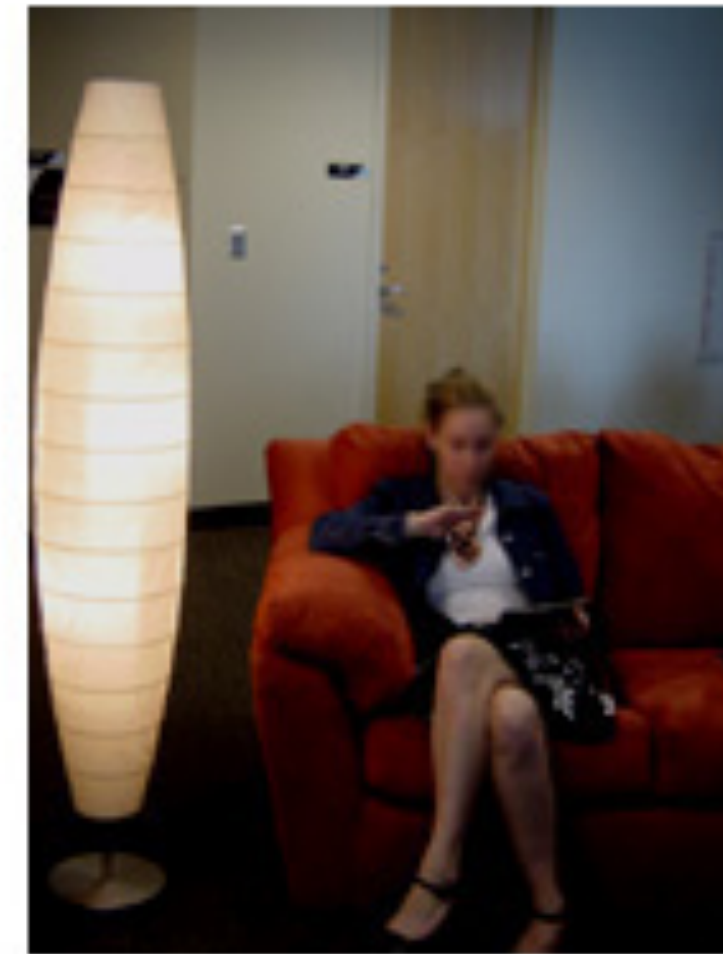
# You can use photos (only if really necessary)



IT IS SO DARK JANE CAN  
HARDLY READ HER BOOK



SHE GESTURES IN FRONT OF HER  
SPECIAL PENDANT TO TURN ON  
THE LIGHTS



THE LIGHTS TURN ON!

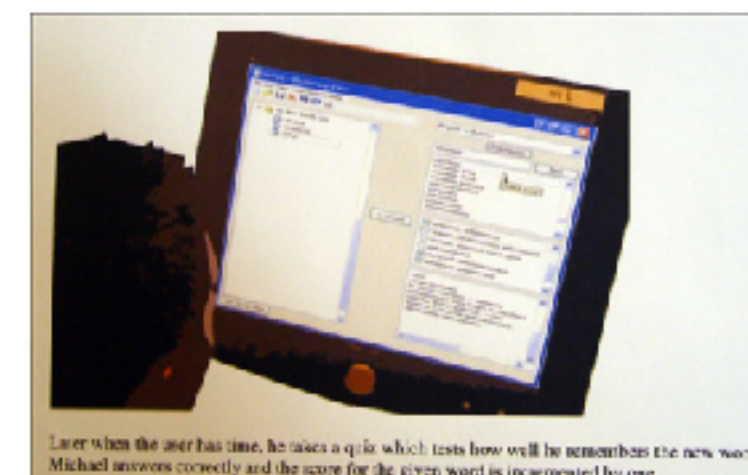
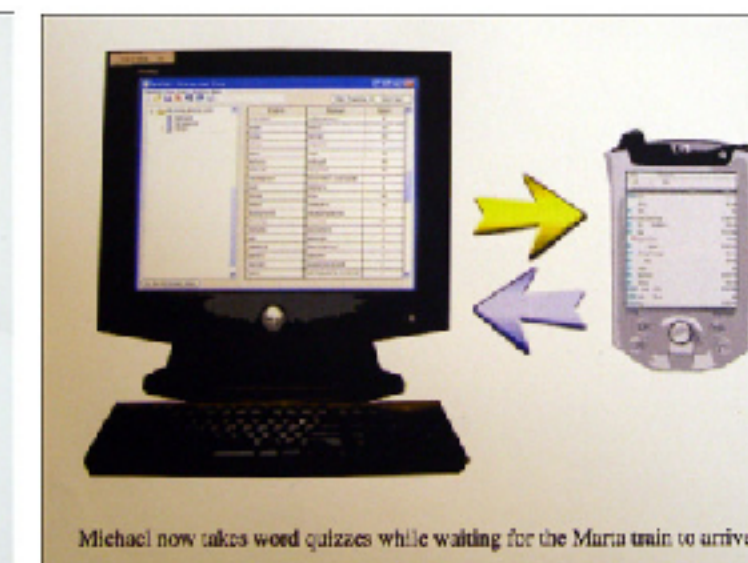
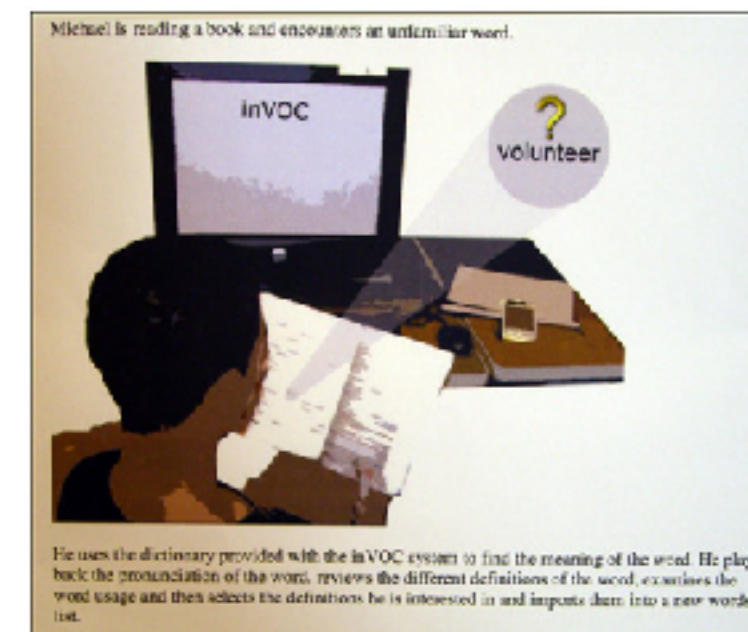


FINALLY, SHE CAN  
READ HAPPILY.



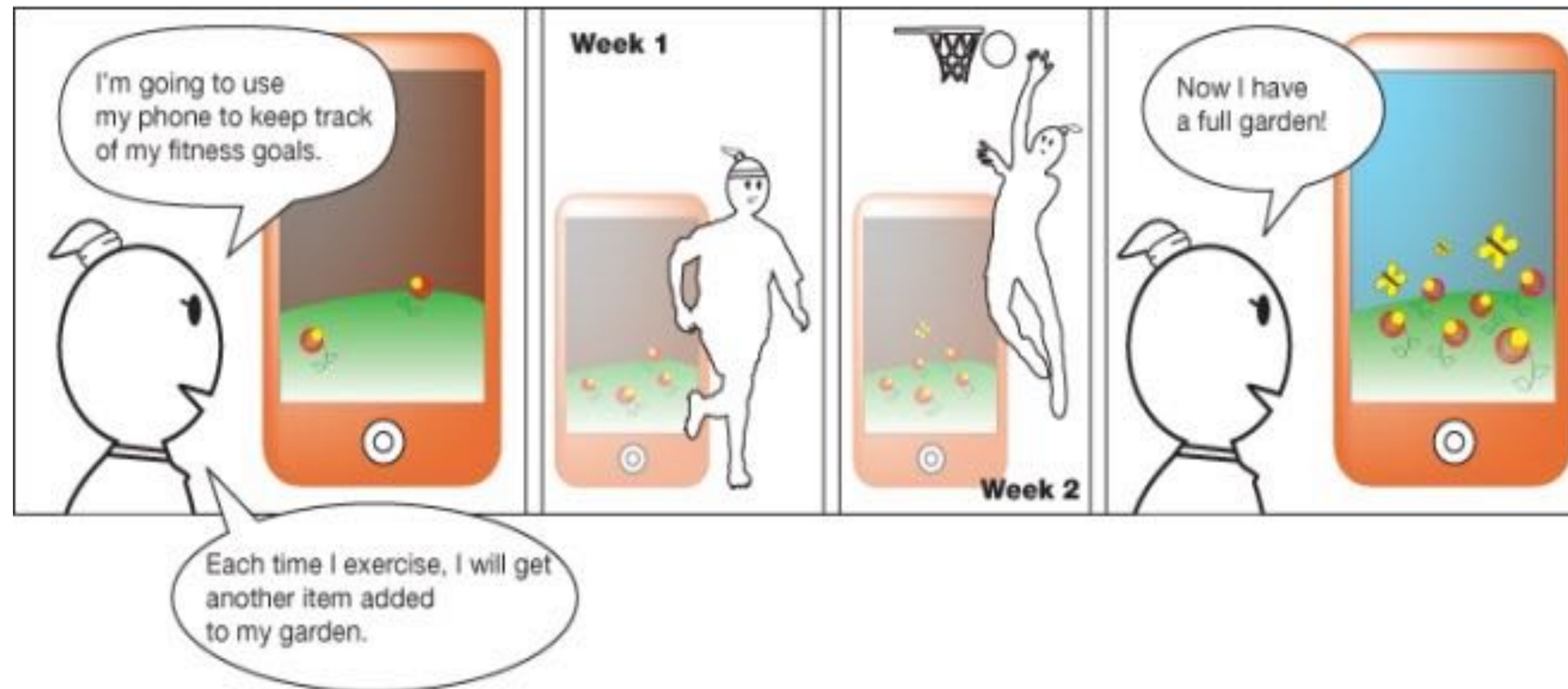
# Blur Out Unnecessary Detail

Using image editing software to simplify photos into sketches



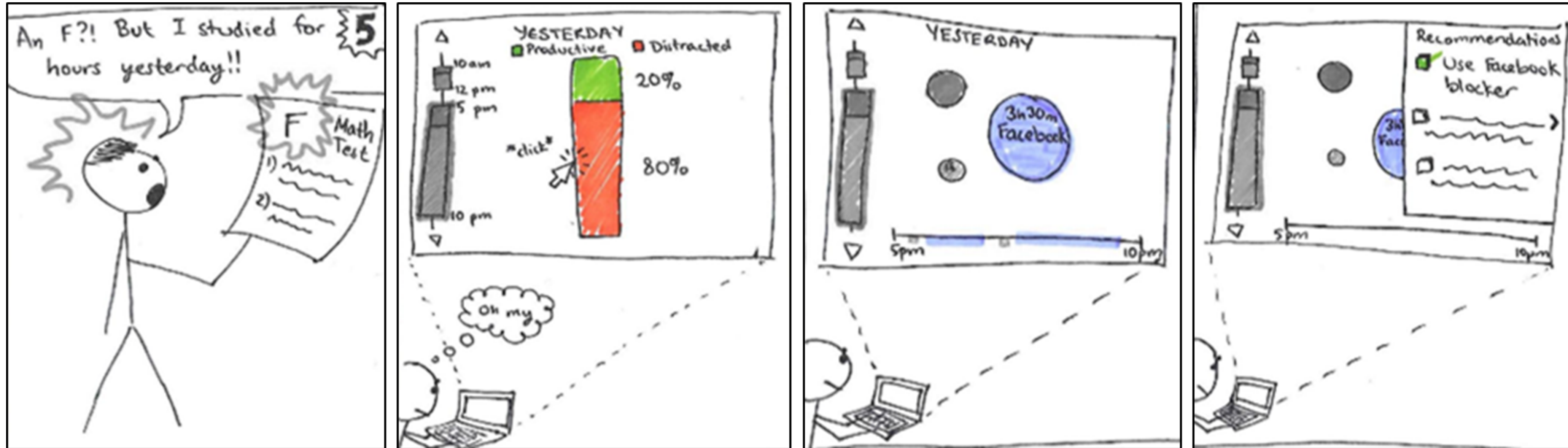


# Use existing images from other sources



<http://designcomics.org>  
<http://www.pdclipart.org>  
<https://thenounproject.com>

# Selective use of color



**Class updates**



# Updates to the rest of class

- We'll email each Monday giving an overview of the week:
  - lecture topic, assignment deadlines, work time/presentation time in lecture and Fri section
- We'll give examples from previous class assignments linked for each assignment spec to get a sense of expectations (overall length, length of different sections, and layout).
  - Remember these are NOT intended to be ideal but to show a range of possibilities.
- Reminder:
  - We are quick to respond on Ed and the staff email if you want quick/last-minute answers about the assignment before the deadline, or want to get more explanations about a grade
  - Let us know if we can help with any group-related issues!

# Looking ahead...

- 2d: Task Analysis - you should have received staff feedback by now!
- 2e: Design Check-In (3x4)
  - **Work time in class today**
  - Preliminary presentation and feedback in section tomorrow
  - Final due tomorrow 8PM PT
- I will release **2f: Design Review (1x2)** tomorrow
  - Work time on 2f next Tuesday, preliminary presentations next Thursday
  - Final due next Thursday 8PM