

CSE440: Introduction to HCI

Methods for Design, Prototyping and Evaluating User Interaction

Lecture 09:
Personas & Storyboarding

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Project Status

Framing the problem

- User research
- Competitive analysis
- Data analysis and summary

Exploring the solution space

- Brainstorming
- Ideation through sketching

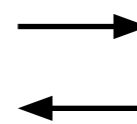
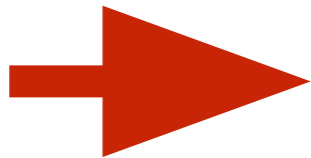
Finding a good solution

- Scoping
- Consideration of constraints
- Scenarios, storyboards, personas
- Design rationale

Refining the solution

- wireframes
- lo-fi prototypes
- early evaluations
- mockups/mid-fi prototypes
- additional evaluations

Today



Personas

“When you are designing for everyone,
you are not designing for anyone.”

Personas

Confident learner



Picture credits –
[Nerdcoregirl, Flickr CC](http://www.flickr.com/photos/nerdcoregirl/)
<http://www.flickr.com/photos/nerdcoregirl/>

Samantha Bell

“I’d love to keep in contact with my friends”

Sam is about to go abroad for her gap year, so her parents decided to get her a new camera, to make sure she’s able to record everything she gets up to.

She likes the camera as it looks so modern, and it’s able to do so much more than a lot of her friends’ cameras.

She loves being in contact with people all the time, and finds it’s a great way to kill time like when waiting for the bus. She uses a lot of the more advanced features – panoramic shots, online upload and .

When she encounters a problem she ignores it most of the time - she’s not sure if she even got a manual with the camera. When she has trouble she can’t ignore she speaks to her friends, or goes into a camera store – she wants to be talked through the problem.

First time user

Female, 27 year old, single
Student

Sam prefers to learn how to things by trying things out by herself. She isn’t worried about ‘breaking’ anything. If she does need help she would prefer to not to refer to a manual but “do it herself”.

Needs

In order of preference:

1. To share pictures with her parents
2. To share her pictures with her friends
3. To share her pictures with people she meets whilst travelling

Ideal features

- Ability to take pictures
- Ability to upload images to personal site using 3G/Wifi
- Allowing others to access her pictures remotely
- Long battery life
- Ability to name and add comments to uploaded images
- Ability to create several albums, and upload pictures to each

Frustrations

- Lack of wireless/3G access
- Slow uploads
- Low battery life
- Need to be plugged in to upload images
- Slow shutter speed
- Want to be able to name/add comments to uploaded images
- Getting online is confusing
- Creating new albums

Key attributes



Benefits of Personas

Concreteness

Recognition

Evocativeness

Taking into account the needs of all relevant users and stakeholders

Communication with customers

Personas (and stories...) fight back cognitive laziness (i.e., being human)

Personas

Christina
Moletti

Freelance Graphic Designer



"Living life is a creative process too"

- Has enough money but not much more
- Works hard during the day but on her own hours
- Walking is her main way to travel, day or night

Personal Information

Age: 25

Location: Pittsburgh, PA

Education: BA Graphic Design NC State University,

Profession: Freelance Graphic Designer,
Part-Time Student

Home life: Lives with a roommate (Eva 25),

Hobbies: Playing guitar and xylophone, reading,
drawing, sewing, watching movies, sleeping

Favorite TV shows: Doesn't watch much TV

Personality: Easygoing, outgoing, try new things

User Goals

Christina uses this information system to...

- Give her reasons to go out walking at night
- To be active and aware of her surroundings at night
- To find the safest places to go at night
- Make walking and being out at night more social with her friends

Maria
Nantes

Newspaper Editor



"I want to stay healthy both mentally and physically always"

- Health Conscious
- Use basic technology for day to day activities
- Enjoy Social groups

Personal Information

Age: 31

Location: Ann Arbor, MI

Education: Master's in English from U of Michigan

Profession: Newspaper Editor

Home life: Married, no children

Hobbies: Walking, making friends, Yoga

Favorite TV shows: Desperate Housewives

Personality: Outgoing, Passionate, Social,
Cheerful, Sophisticated

User Goals

Maria uses this information system to...

- Connect and coordinate with friends
- Find safe walking routes at night
- Get a sense of safety by getting more info
- Find out about social events taking place at night, which might be of potential interest
- Wants to get emotional and mental relaxation by walking

James
Goettsner

Senior Engineer



"I know what I'm doing, I'm willing to try everything new."

- is willing to spend money on that
- Likes to chat with others online
- Knows that health is very important & work out

Personal Information

Age: 37

Location: San Francisco, CA

Profession: Cellphone Interface Developing

Education: Master's

Home life: Single

Hobbies: Surfing online to look for new electronic products, working out at gym

Favorite TV shows: Friends, Heros

Personality: knowledgeable in popular stuffs,
talkative, keeping things on schedule

User Goals

James uses this information system to...

- Stay ahead of latest trends on mobile devices
- Take more time to walk as the substitute for exercise
- Meet new friends through this application
- Feel free to walk at night
- Discuss the new interaction
- Try to figure out a method for socializing and also provide a feeling of security

Personas - Gender

Abby Jones¹



You can edit anything in blue print

- 28 years old
- Employed as an Accountant
- Lives in Cardiff, Wales

Abby has always liked music. When she is on her way to work in the morning, she listens to music that spans a wide variety of styles. But when she arrives at work, she turns it off, and begins her day by scanning all her emails first to get an overall picture before answering any of them. (This extra pass takes time but seems worth it.) Some nights she exercises or stretches, and sometimes she likes to play computer puzzle games like Sudoku

Background and skills

Abby works as an accountant. She is comfortable with the technologies she uses regularly, but she just moved to this employer 1 week ago, and their software systems are new to her.

Abby says she's a "numbers person", but she has never taken any computer programming or IT systems classes. She likes Math and knows how to think with numbers. She writes and edits spreadsheet formulas in her work.

In her free time, she also enjoys working with numbers and logic. She especially likes working out puzzles and puzzle games, either on paper or on the computer

Motivations and Attitudes

- **Motivations:** Abby uses technologies to accomplish her tasks. She learns new technologies if and when she needs to, but prefers to use methods she is already familiar and comfortable with, to keep her focus on the tasks she cares about.
- **Computer Self-Efficacy:** Abby has low confidence about doing unfamiliar computing tasks. If problems arise with her technology, she often blames herself for these problems. This affects whether and how she will persevere with a task if technology problems have arisen.
- **Attitude toward Risk:** Abby's life is a little complicated and she rarely has spare time. So she is risk averse about using unfamiliar technologies that might need her to spend extra time on them, even if the new features might be relevant. She instead performs tasks using familiar features, because they're more predictable about what she will get from them and how much time they will take.

How Abby Works with Information and Learns:

- **Information Processing Style:** Abby tends towards a *comprehensive information processing style* when she needs to more information. So, instead of acting upon the first option that seems promising, she gathers information comprehensively to try to form a complete understanding of the problem before trying to solve it. Thus, her style is "burst-y"; first she reads a lot, then she acts on it in a batch of activity.
- **Learning: by Process vs. by Tinkering:** When learning new technology, Abby leans toward process-oriented learning, e.g., tutorials, step-by-step processes, wizards, online how-to videos, etc. She doesn't particularly like learning by tinkering with software (i.e., just trying out new features or commands to see what they do), but when she does tinker, it has positive effects on her understanding of the software.

¹Abby represents users with motivations/attitudes and information/learning styles similar to hers. For data on females and males similar to and different from Abby, see <http://eusesconsortium.org/gender/gender.php>

Personas - Culture



Australia



 demand for justification of inequalities and strive after equal distribution of power	Society 	hierarchical order is accepted, people have a place without the need for justification	
 individuals act as members of a group whose needs precede individual needs	Individualism 	individuals take care of personal achievements and needs of immediate families	
 preference for cooperation, modesty, caring for the weak, relations, and quality of life	Motivation 	preference for achievement, heroism, competition and material rewards for success	
 comfortable in unstructured situations, fewer rules, tend to be more pragmatic	Ambiguity 	unknown situations and unorthodox ideas are avoided by rules, laws, and regulations	
 short-term: preference for time-honoured traditions, steadiness, social obligations	Foresight 	long-term: encourage efforts in modern education as a way to prepare for the future	
 preference for logic, facts, directness; communication is clear, concise, and efficient	Communication 	emphasis on interpersonal relationships; words are not as important as context	
 organized around a calendar, high value on punctuality, planning, staying on schedule	Time 	many things going on at once, tolerant to interruptions plans and commitments are flexible	

identification and affiliation to social group



"Every Australian I have talked to said the Victoria Bitter is kind of the student beer"

"In Australia if you are a CEO you wear a suit and you have this type of style, not what you want to wear"

"People here talk a lot about food and at which restaurant they went for dinner"

themed, unique features and trendy design



"It is aesthetically appealing if you cover everything up by a fancy facade"

"This was one of the things you expected it to be like that: people have this I would say surfer-style"

"On Melbourne Cup Day they dress as Victorian Royals and wear a hat, it is themed"

Australia is a rather remote area



"The sun is so strong, they even give away free sunscreen in some open-air bars"

"There are a lot of Australian made products, such as Macadamia, Mangos, or also Didgeridoos"

"I experience Australia as a beach-lifestyle country with bad internet providers"

people depend on regulations and simplicity



"Australians really believe in the complete safety of their bicycle helmets"

"Every traffic light has an additional audio signal so pedestrians always know when they can cross"

"Beer bottles are very easy to open, you can just unscrew the crown caps"

people have a laid-back attitude



"I have the feeling that Australians are less emotionally reserved"

"Australians get annoyed when buses break down but they don't stress to fix it immediately"

"I don't think I have experienced such hospitality as I do here in other places"

Icons created by Rémy Médard, Roman J. Sokolov, Luis Prado from the Neuron Project



Ella Jones

"I don't like the public transport in Melbourne. Trams often break down and I actually have no clue how the new ticketing system works. But I don't bother anymore."

Ella is a 31 years old researcher at Monash University, Australia. As about 90% of Australians she lives in a city, more precisely in Melbourne, Abbotsford. Abbotsford is a nice neighbourhood only a little away from Melbourne's Central Business District. She would love to live closer to the centre because she likes the trendy designed buildings there but with her current salary and the high living costs she can't afford to live in the centre at the moment.

Ella was born and raised in Melbourne and she never left Australia except for traveling. She studied in Sydney but came back to Melbourne because she appreciates the lesser high-rise architecture. Her parents also retire in Melbourne but she lives alone in a small studio. When she leaves her research department she often goes out to have dinner or drinks with friends in one of the many Asian restaurants close to her department. On the weekends she spends a lot of time in one of Melbourne's parks or at the Beach in St. Kilda.

Ella enjoys living in Melbourne although she is not happy with the public transport system: neither her nor her friends understand the new ticketing system completely. Likewise the Smartphone App, that the 65% smartphone owners in Australia can download for free, is no great support. Consequently she mostly commutes by bike. The fact that she has to wear a helmet by law does not bother her, she feels safer that way and she thinks it relieves her from deciding whether to wear a helmet or not. At work Ella doesn't hesitate to express her emotions. Furthermore she thinks it is important to minimize inequalities among people and that Australian made products should be favoured over imported products.





Jack Anderson

"The more south you go the more busy the people are. But up here everybody is pretty relaxed."

Jack was born as an only child in Cairns, where his parents still live. He is 25 years old and studies Civil Engineering at Queensland University of Technology in Brisbane. With 25 years he is part of Australia's approx. 40% majority of the 25-54 years old age group. He lives in a shared flat with two other Australian students and one exchange student from Germany. Their flat is situated in East Brisbane, a vibrant neighbourhood with a lot of international students and cheap bars.

Jack is responsible for subleasing the forth room regularly to international students as he and his flatmates enjoy meeting new people, although they rarely develop a deep friendship with exchange students. Jack often goes out to have drinks but tries to pay attention not to be in dept. His favourite bar is the Walnut Club. He likes that bar because of the distinctive interior design that gives him a feeling of being in Cuba. On the weekends he joins together with other locals to surf at Pinkenba, close to the centre of Brisbane. During the semester break he likes to travel, in particular to Bali or Fiji, and regularly uses his smartphone to look for travel information. Jack generally likes to use his smartphone to pass time away, as almost 70% of Australian smartphone owners do.

Jack likes to identify himself with the Australian surfer community and usually wears board shorts in his leisure time whereas he disapproves eye-catching status symbols. After his studies he wants to earn a lot of money and would not hesitate to reduce his leisure activities.



Photo "Ella Jones" © David Schermer, Photo "Jack Anderson" © Michael Kukululis

Persona Development

Seven Questions to Knowing Your Audience



Insert a representative picture or illustration of an audience member in this rectangle. It helps to put a face on the audience.

1 What are they like?

Demographics and psychographics are a great start, but connecting with your audience means understanding them on a personal level. Take a walk in their shoes and describe what their life looks like each day.

2 Why are they here?

What do they think they're going to get out of this presentation? Why did they come to hear you? Are they willing participants or mandatory attendees? This is also a bit of a situation analysis.

3 What keeps them up at night?

Everyone has a fear, a pain point, a thorn in the side. Let your audience know you empathize—and offer a solution.

4 How can you solve their problem?

What's in it for the audience? How are you going to make their lives better?

5 What do you want them to do?

Answer the question "so what?"—and make sure there's clear action for your audience to take.

6 How can you best reach them?

People vary in how they receive information. This can include the set up of the room to the availability of materials after the presentation. Give the audience what they want, how they want it.

7 How might they resist?

What will keep them from adopting your message and carrying out your call to action?

Why Personas Fail

They were created, but not used

No buy-in from leadership

Personas were created by UX people and imposed on others

People don't know what personas are or why they're useful

Personas don't work.
We've created them
before and nobody even
used them.



Where did these
personas even come
from?!



Team activity

As a group, develop **2 diverse personas** for your project:

What are the main users that you are designing for?

What characteristics do they share?

How are they different from each other?

Group these attributes to broadly define roles

Turn the roles into “real” personas

Use the handouts!

With another group...

Take turns explaining your personas to the other group.

Critique the personas:

Are the personas diverse and representative of the user population?

Is there an adequate level of detail?

Do you feel like you have a good understanding of the users?

Do the personas adequately represent “market segments”?

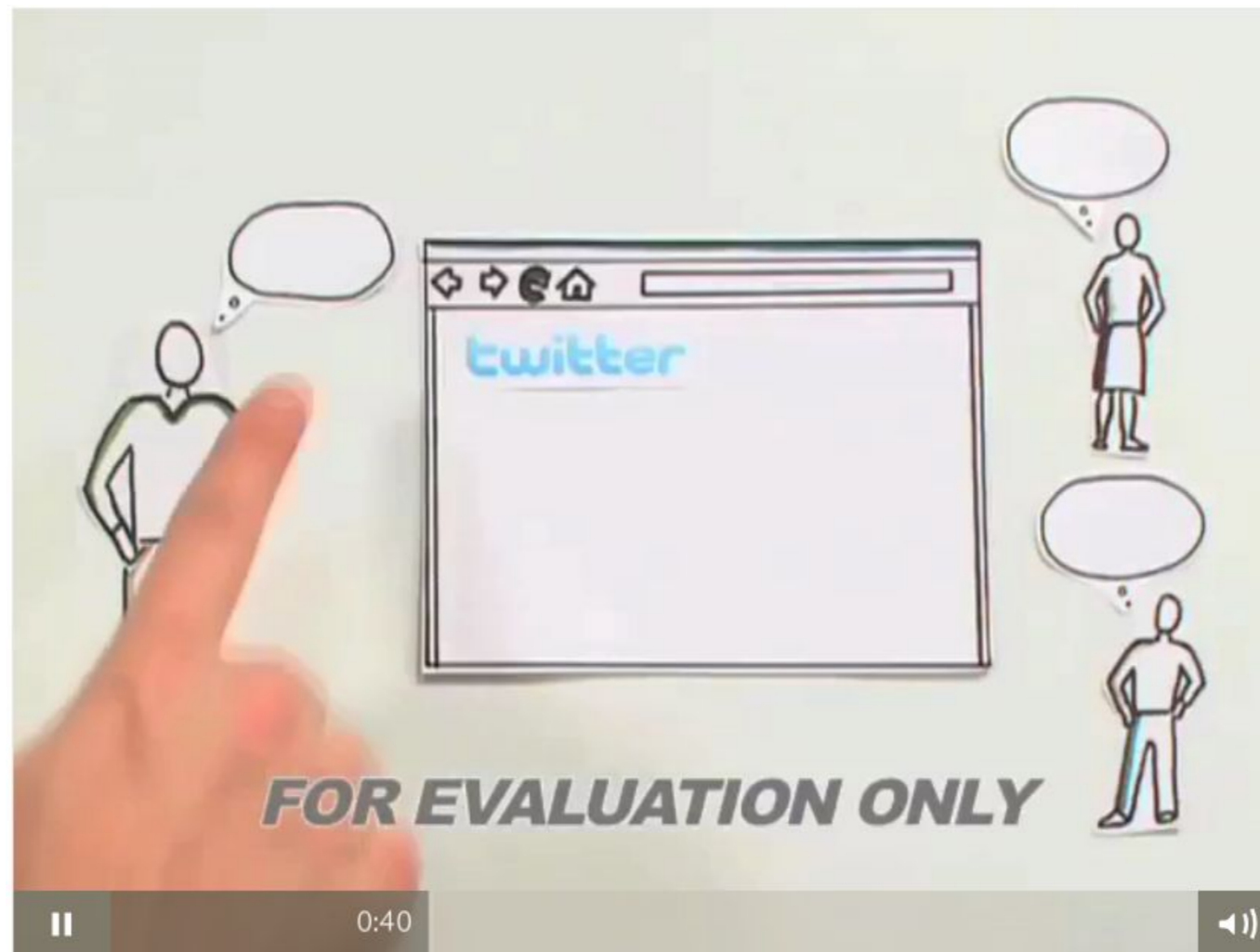
Keep them: they will come in handy throughout the next few assignments!

Storyboarding

Why do we need stories in design?

Why do we need stories in design?

How would you explain your favorite social media tool to someone living in 1995? E.g., yelp, twitter, snapchat,...



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

Three Ways of Telling Stories

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 sketches showing how a user might progress through a task in a system

Visual storytelling with rough sketches/cartoons

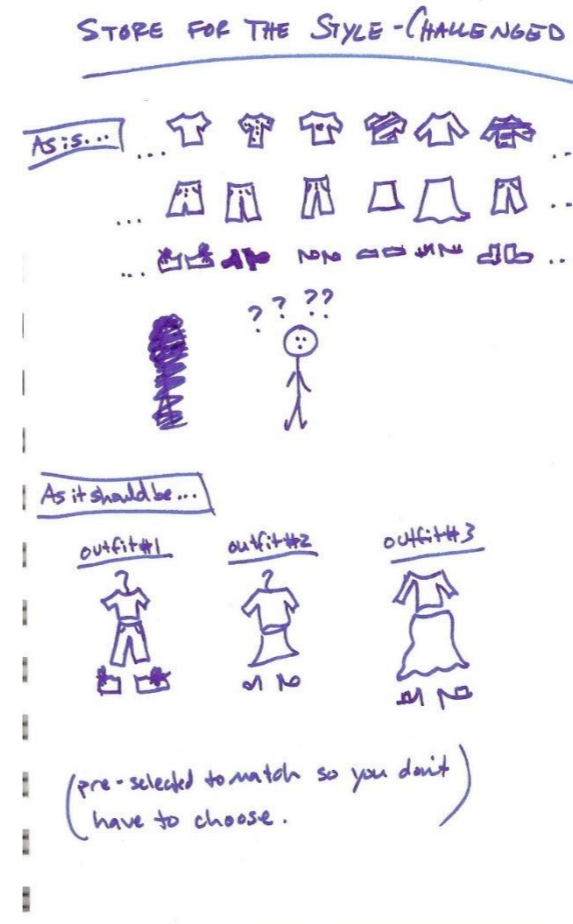
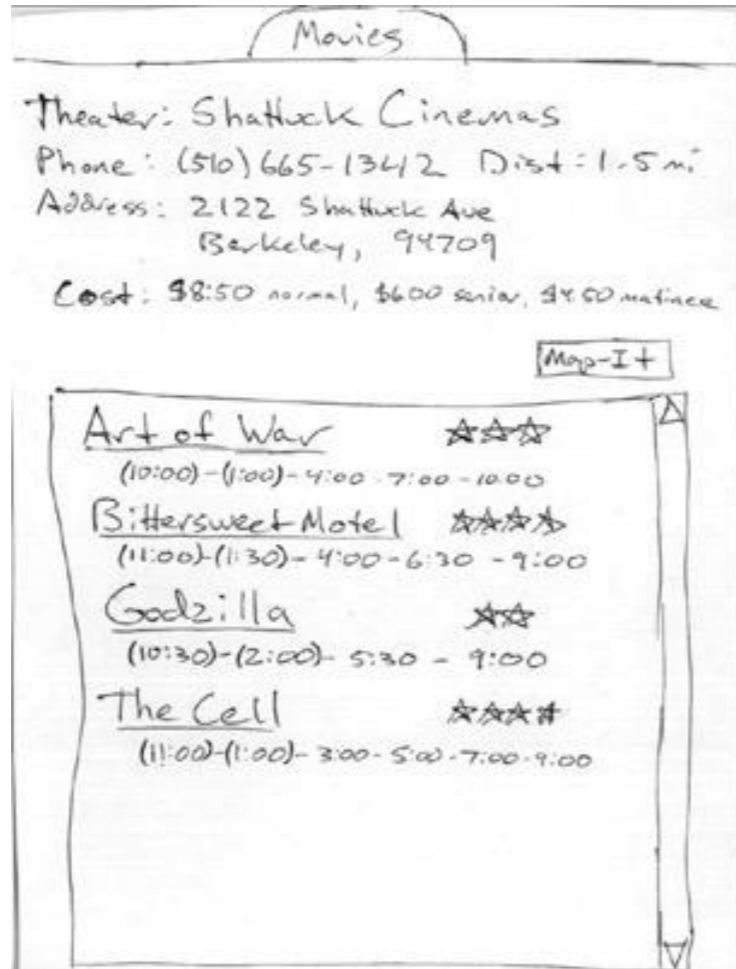
Analogy: Comics, Picture books

Video Storyboards

Richer visual storytelling

Analogy: Movies/TV

Sketching



Storyboard



Another one

**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...**


Another one

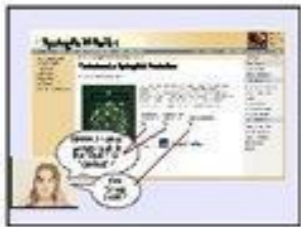
1  Slide 1


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

Observations/Issues

- Finding the a button straightforward, but...
- Flow description to user's task of finding the date
- Pricing of dates with work and dates are selected
- Bugs and browser issues create big user frustration with no resolution

Why Storyboards? (If you have Scenarios)

As a visual representation, storyboards help thinking deeply about...

- Specific environments where the system is used

- Physical constraints (size of system, space where it's used...)

- Relationships among multiple people

Illustrating Time

Storyboards come from film and animation

Give a “script” of important events

leave out the details

concentrate on the important interactions

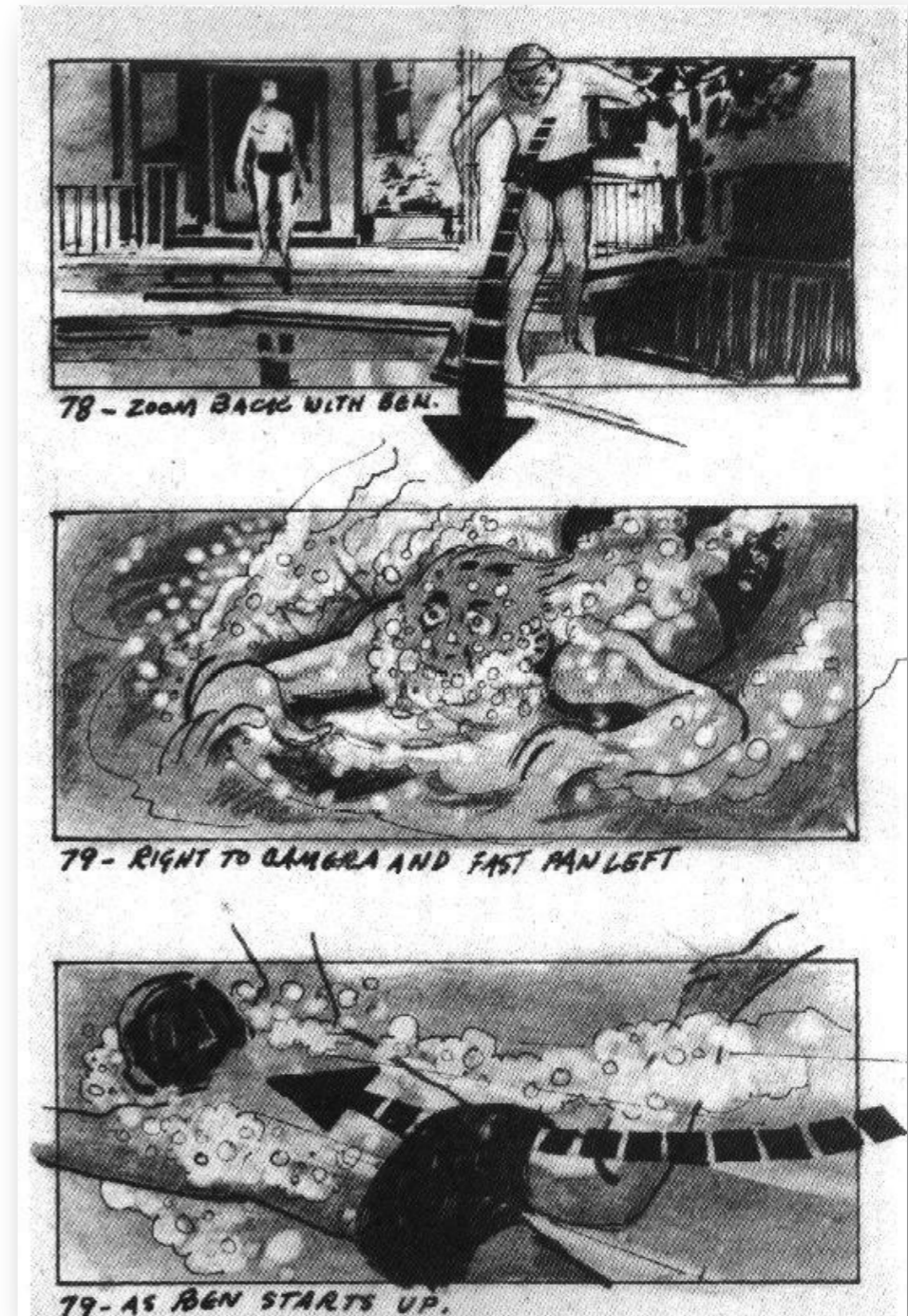


Allowing Exploration

Much faster and less expensive to produce

Can therefore 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

Can illustrate key requirements and leave open less important details of design



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 user 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

"Maybe stories are data with a soul!" - Brene Brown

Stories Provide Context

Characters

- Who is involved

Setting

- Environment

Sequence

- What task is illustrated

- What leads a person to use a design

- What steps are involved

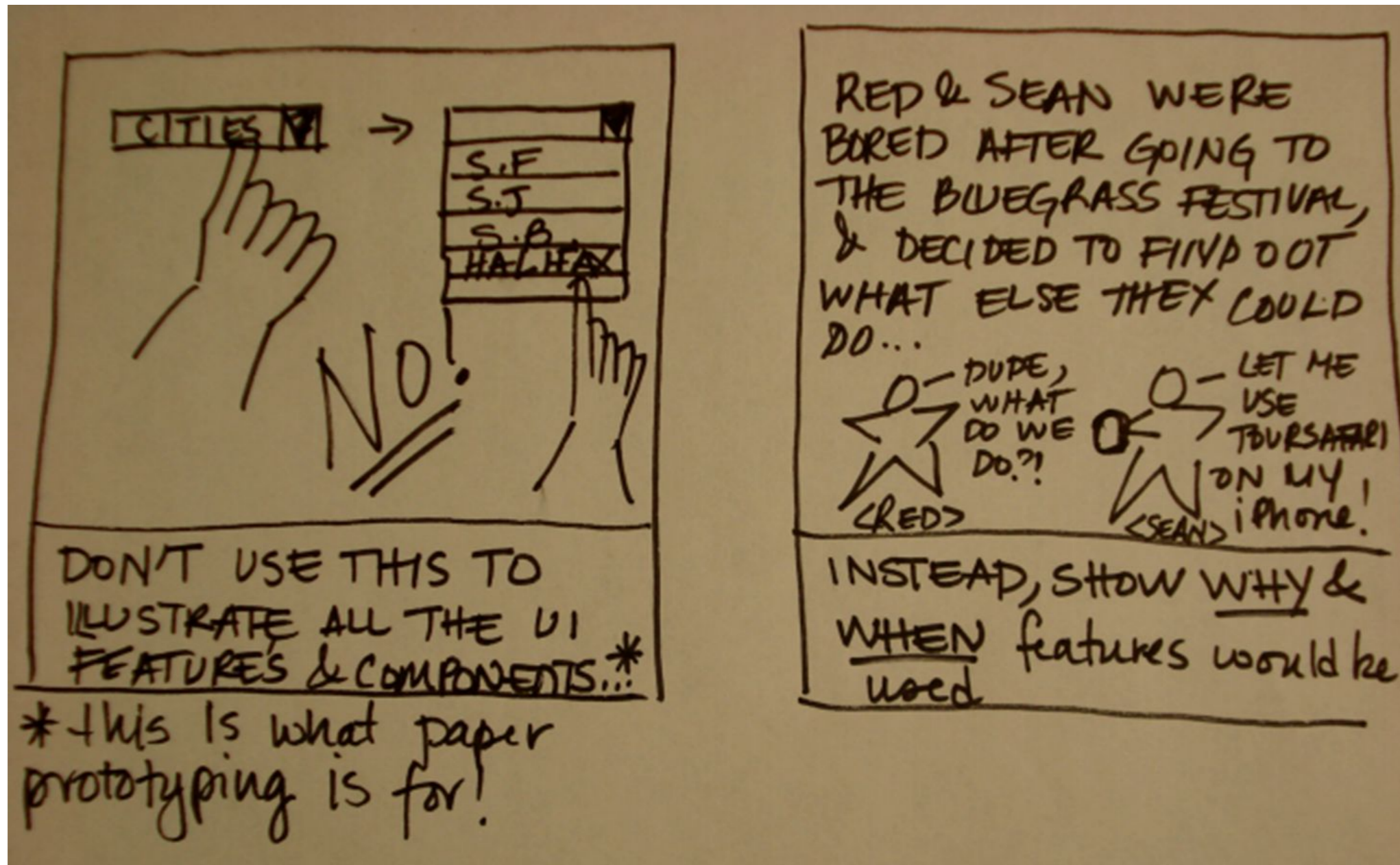
Satisfaction

- What is the motivation

- What is the end result

- What need is satisfied

Amal's Guide to Storyboarding



Storytelling

Good stories

- Understand audience
- Provide context of use
- Are well-motivated
- Memorable
- Evokes a reaction
- Evokes empathy
- Illustrate experience
- Convey emotions
- Short and to-the-point

Bad stories

- Do not account for audience
- Boring or un-engaging
- Fantastical or unrealistic
- Wrong story for purpose
- Too long to hold attention

Elements of a Storyboard

Visual storytelling

5 visual elements

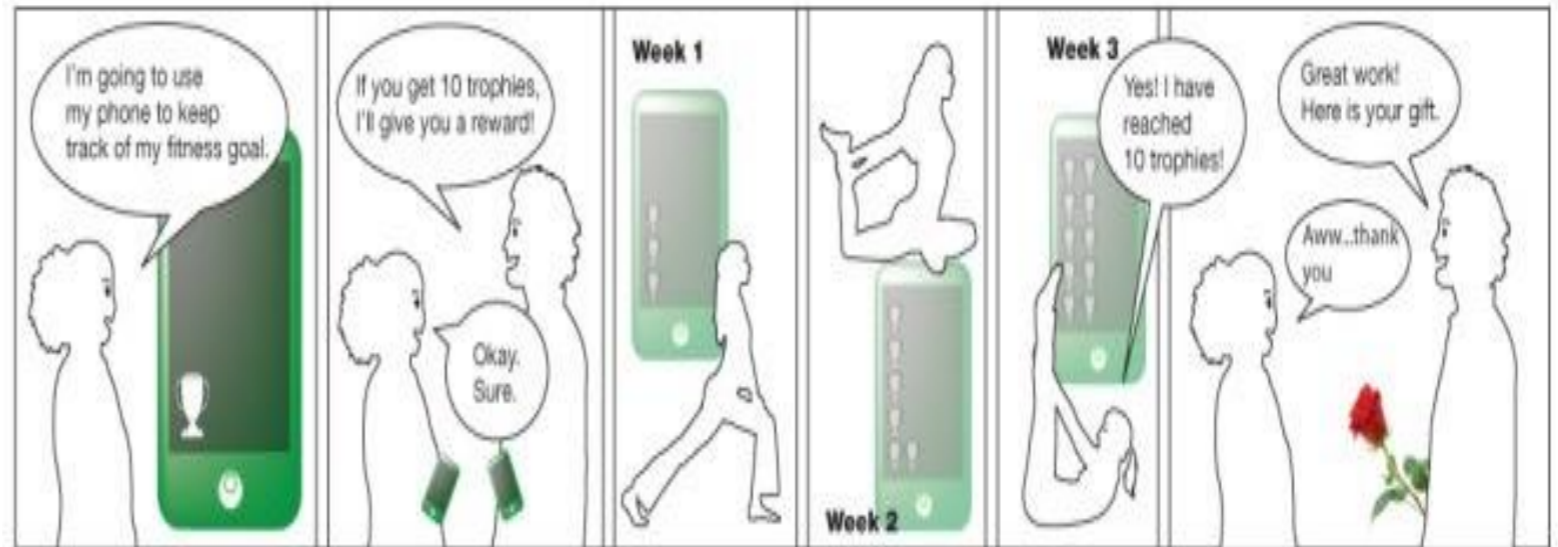
Level of detail

Inclusion of text

Inclusion of people
and emotions

Number of frames

Portrayal of time



1. How Much Detail?

Too much detail can lose universality



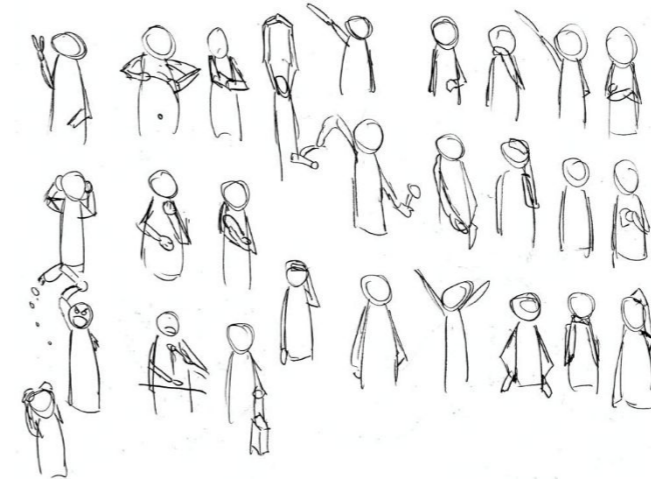
Scott McCloud

1. How Much Detail?

How to sketch people?



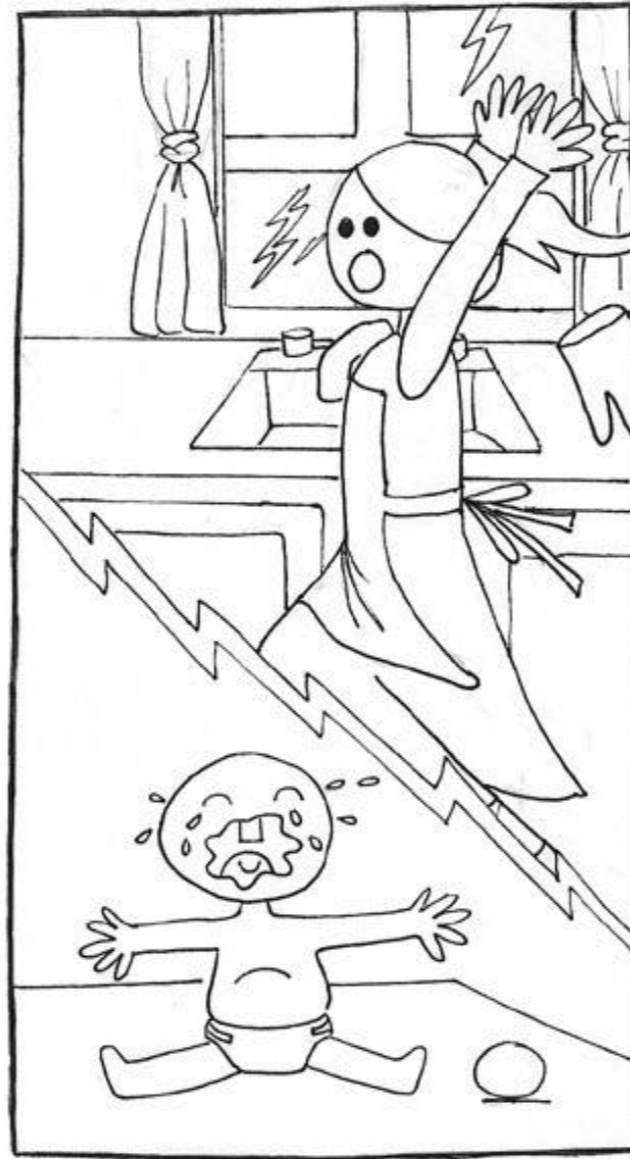
Star people
by Bill Verplank



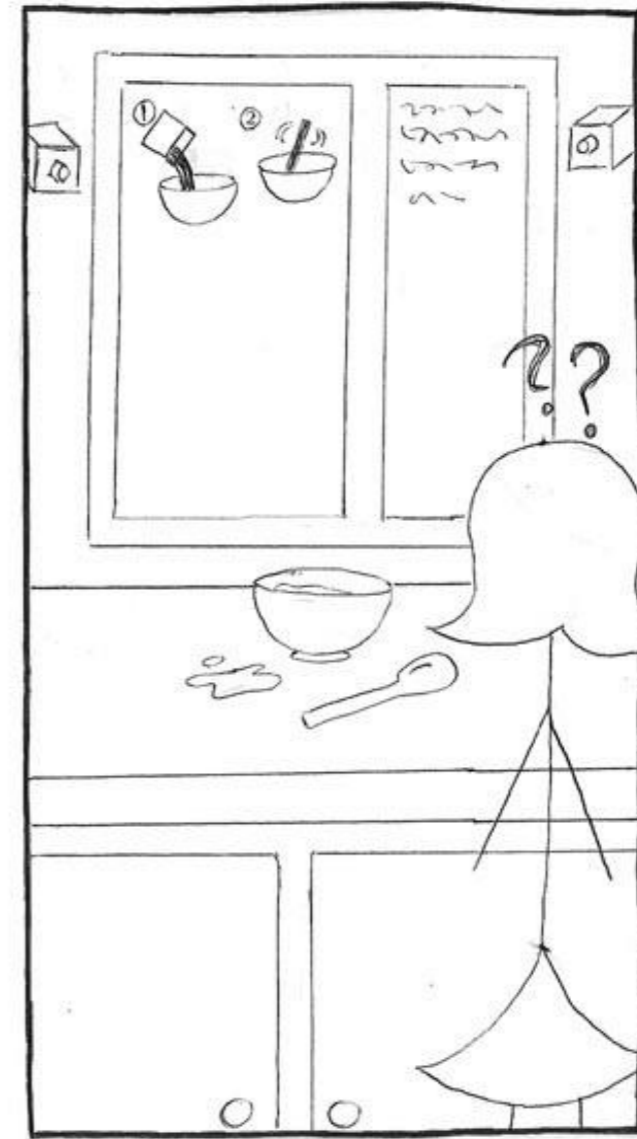
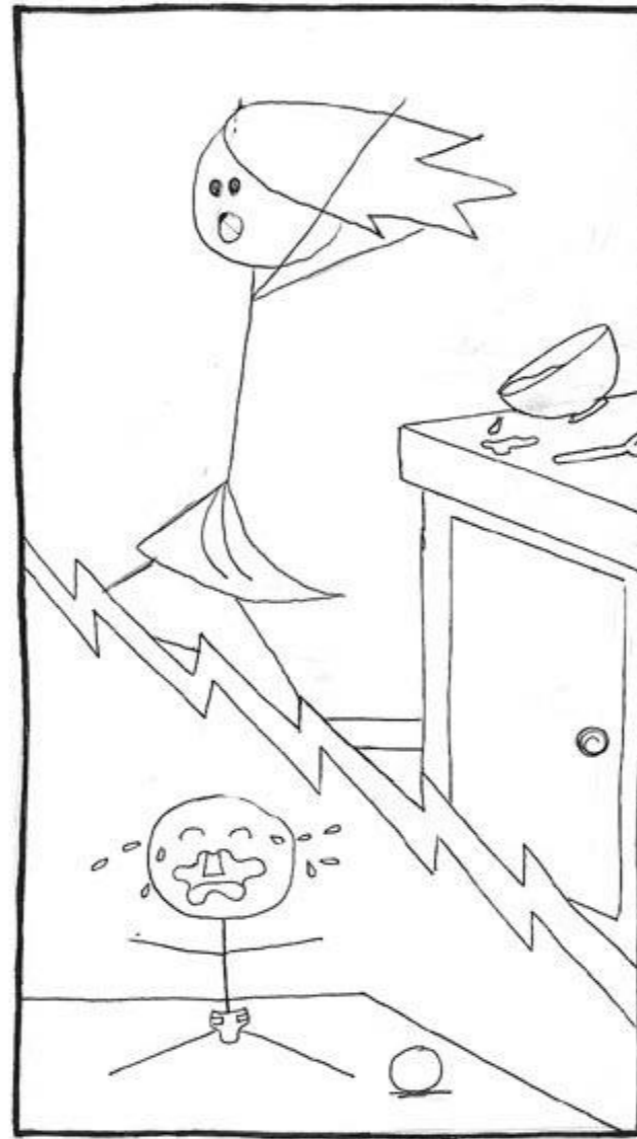
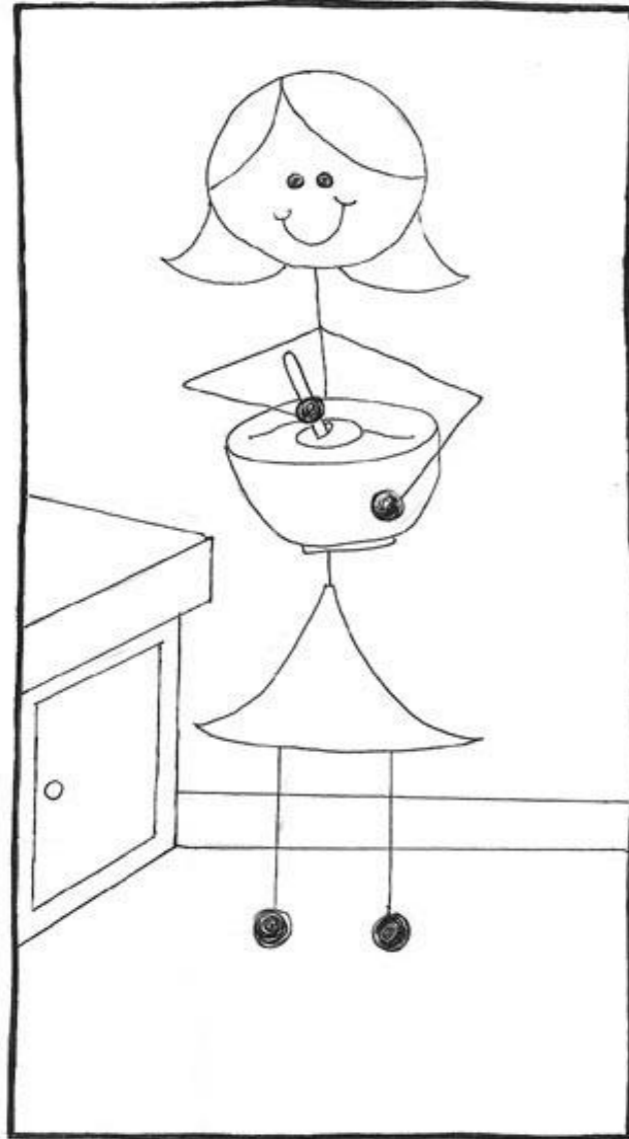
(c) 2009 SACHA CHUA



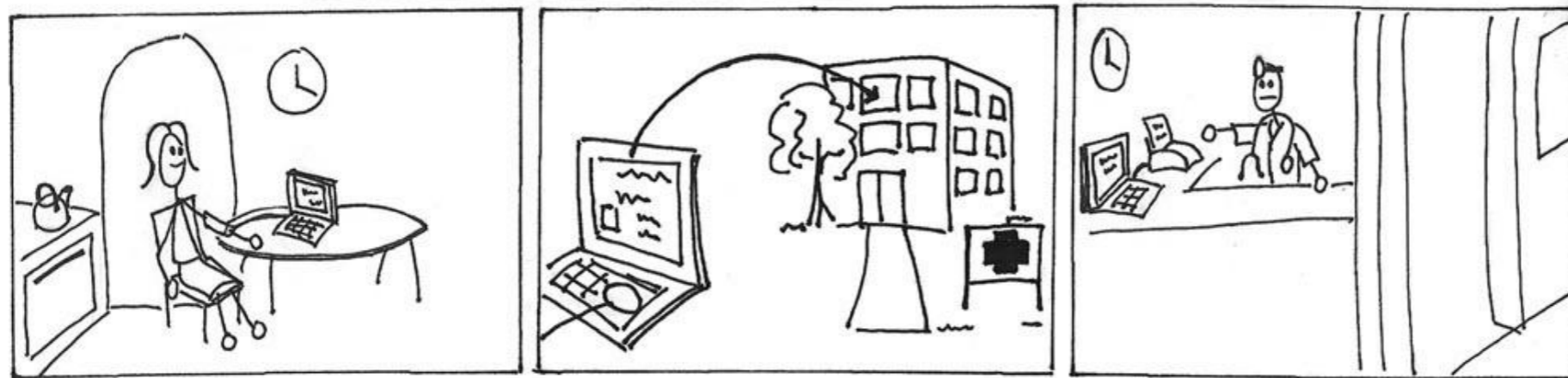
1. How Much Detail?



1. How Much Detail?

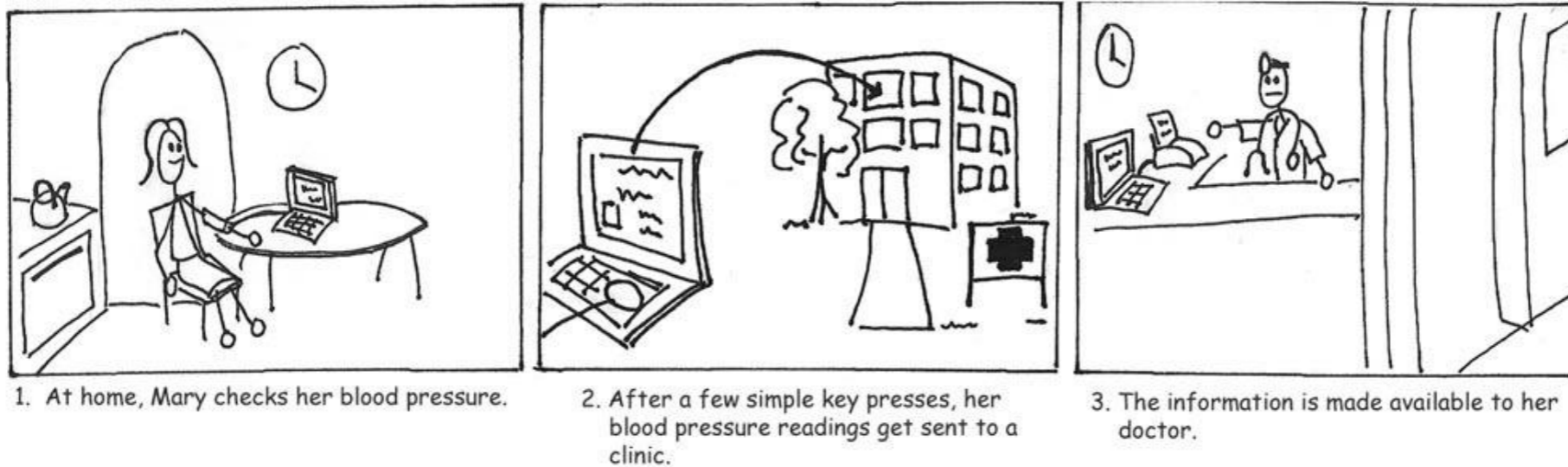


2. Use of Text



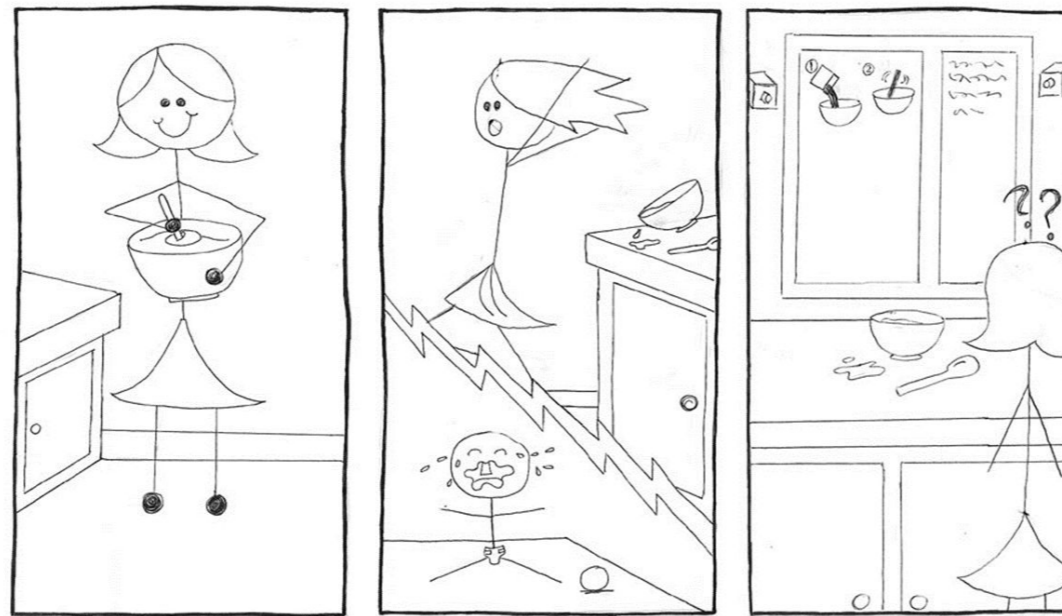
2. Use of Text

It is often necessary, but keep it short



3. Include People and Emotions

Include people experiencing the design and their reactions to it (good or bad)



The point of a storyboard is to convey the experience of using the system

4. How Many Frames?

4-6 frames is ideal for end-users

- Less work to illustrate

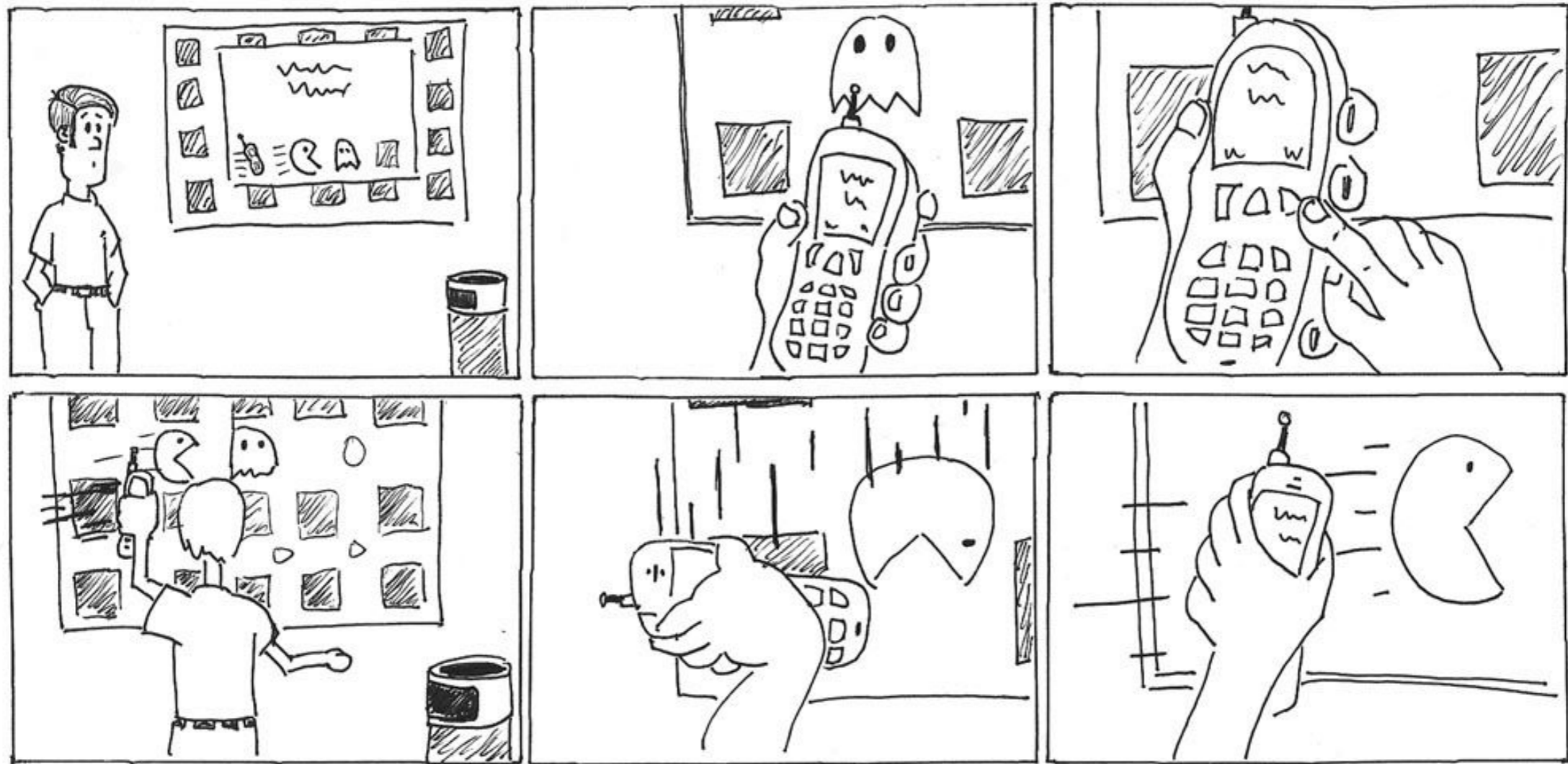
- Must be able to succinctly tell story

More is not always better

- May lose focus of story

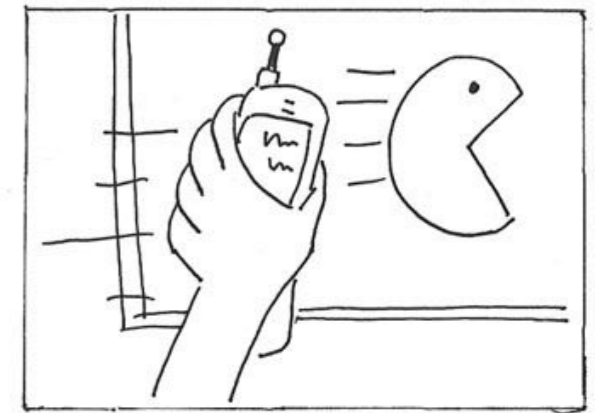
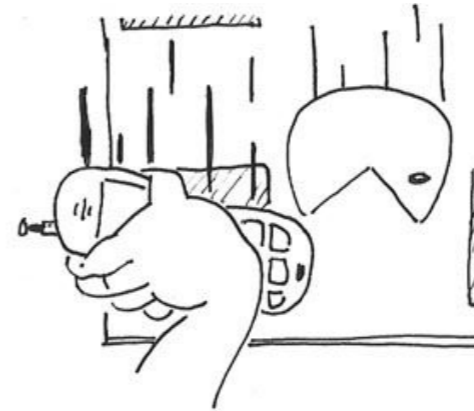
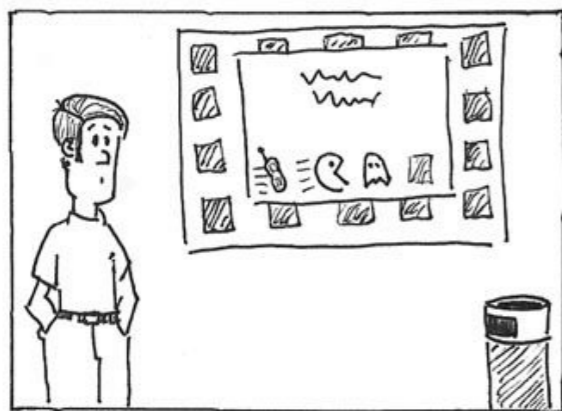
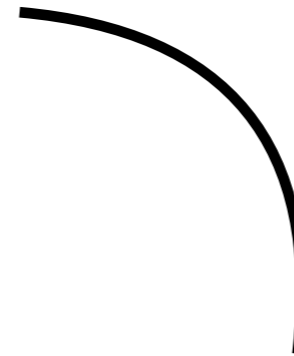
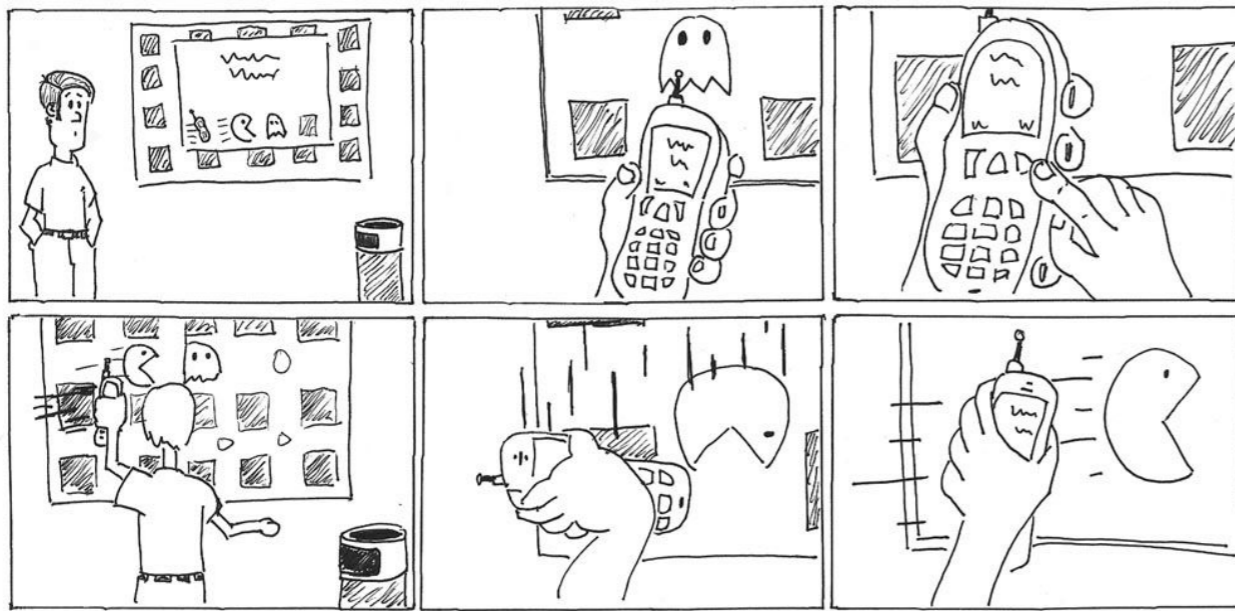
- May lose attention

4. How Many Frames?



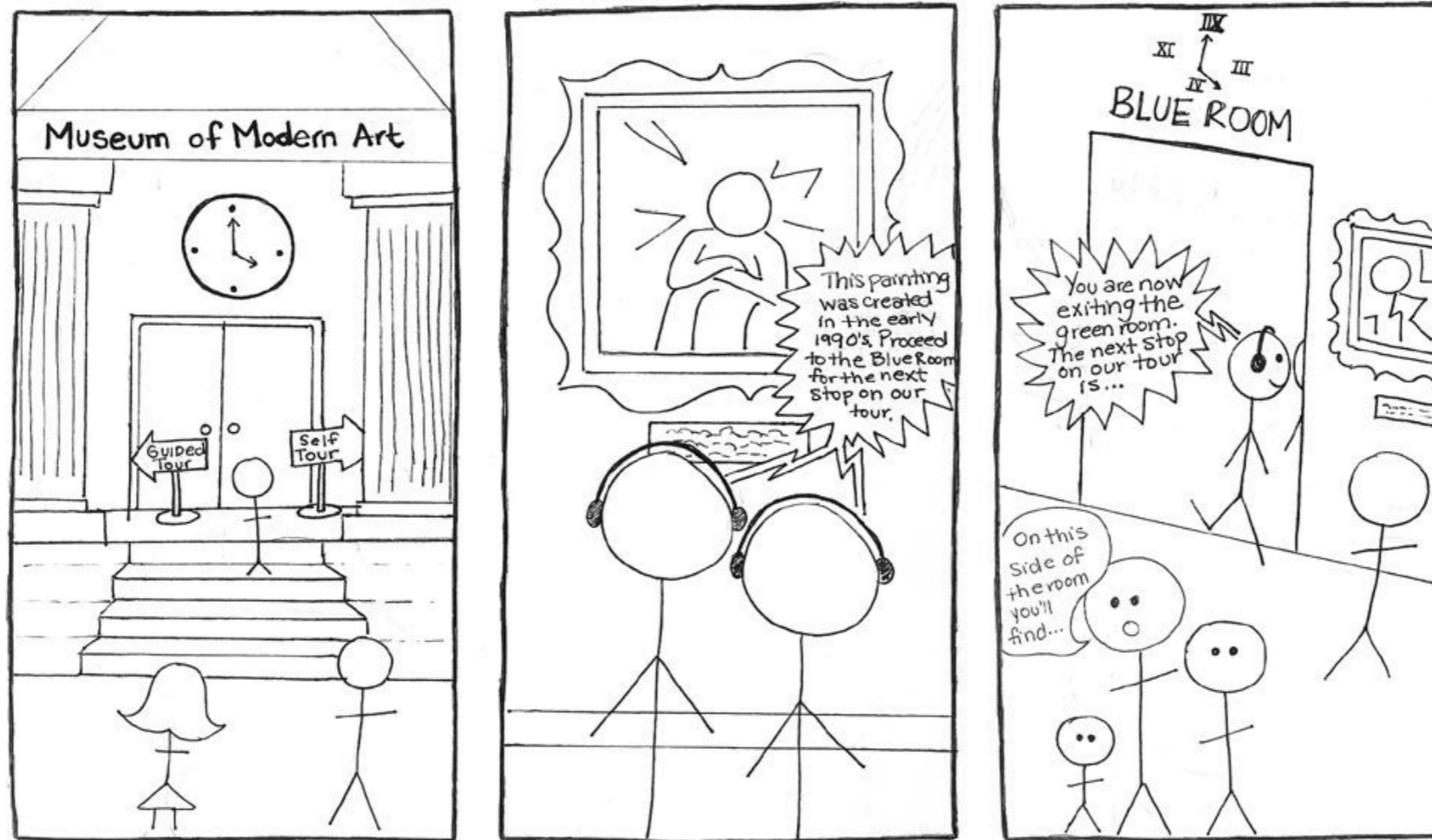
4. How Many Frames?

Remove unnecessary frames



5. Passage of Time

Only use of necessary to understand



Team activity

Again, using your project as a basis:

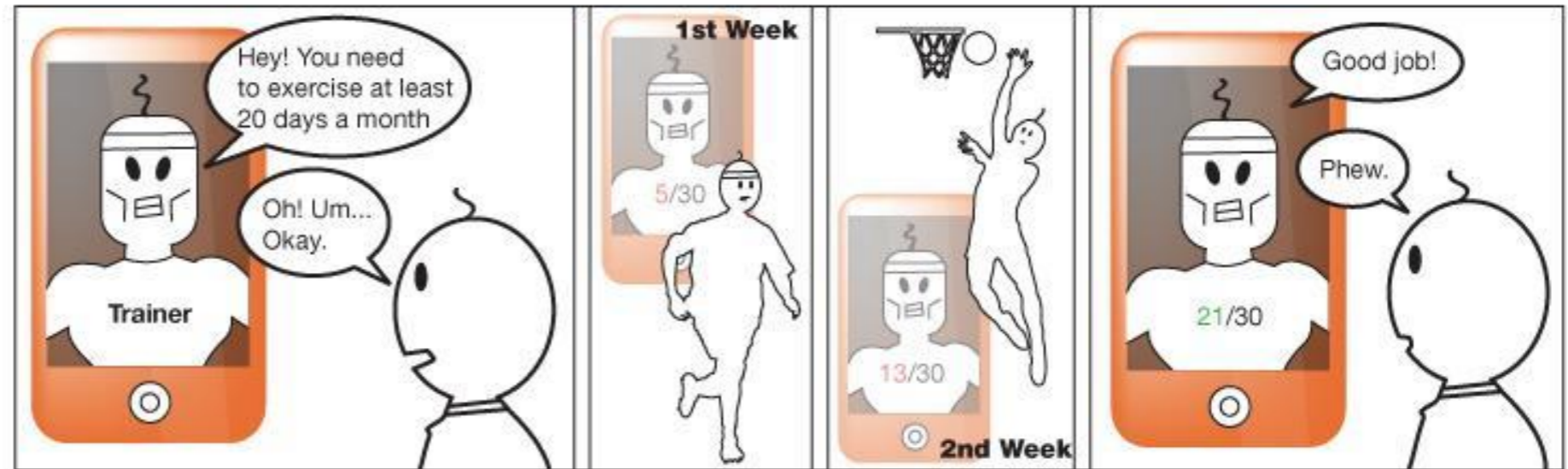
Create one storyboard that puts together...
one previously defined **persona**,
and one of the **tasks** you plan to support.

When you finish, get feedback from another team.

More Examples and Tricks in Storyboarding

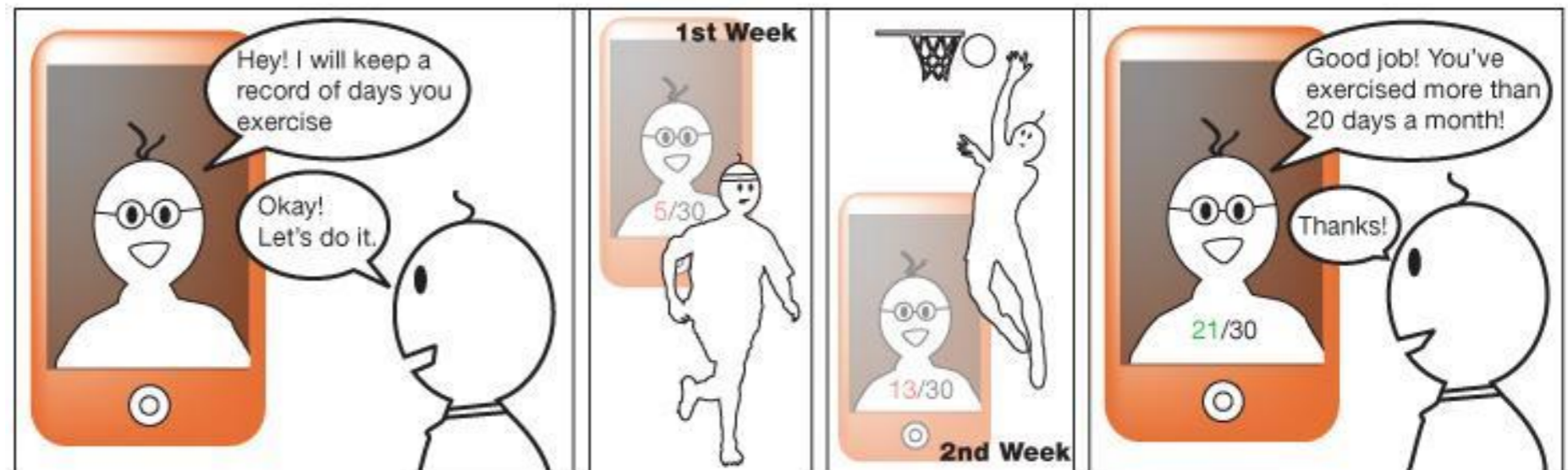
Storyboards for Comparing Ideas

Authoritative



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

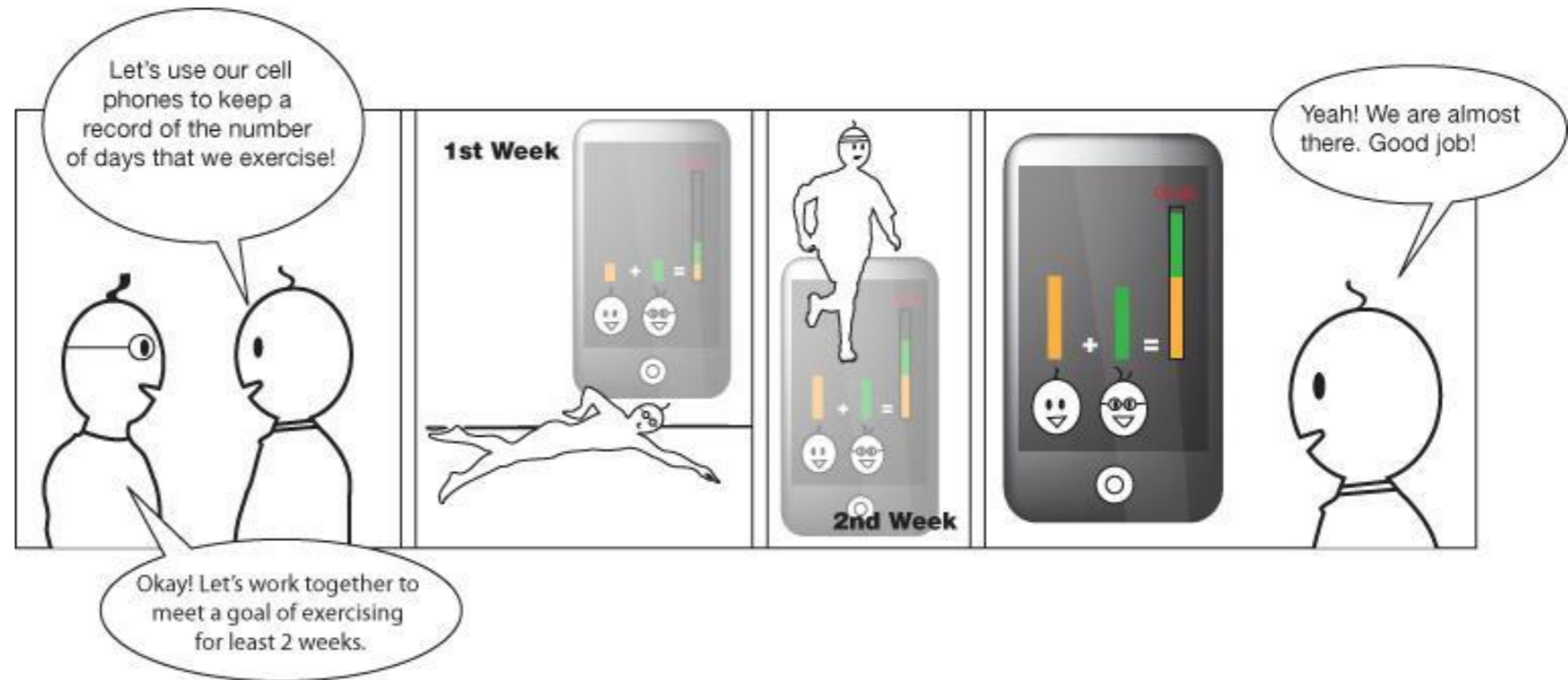
Supportive



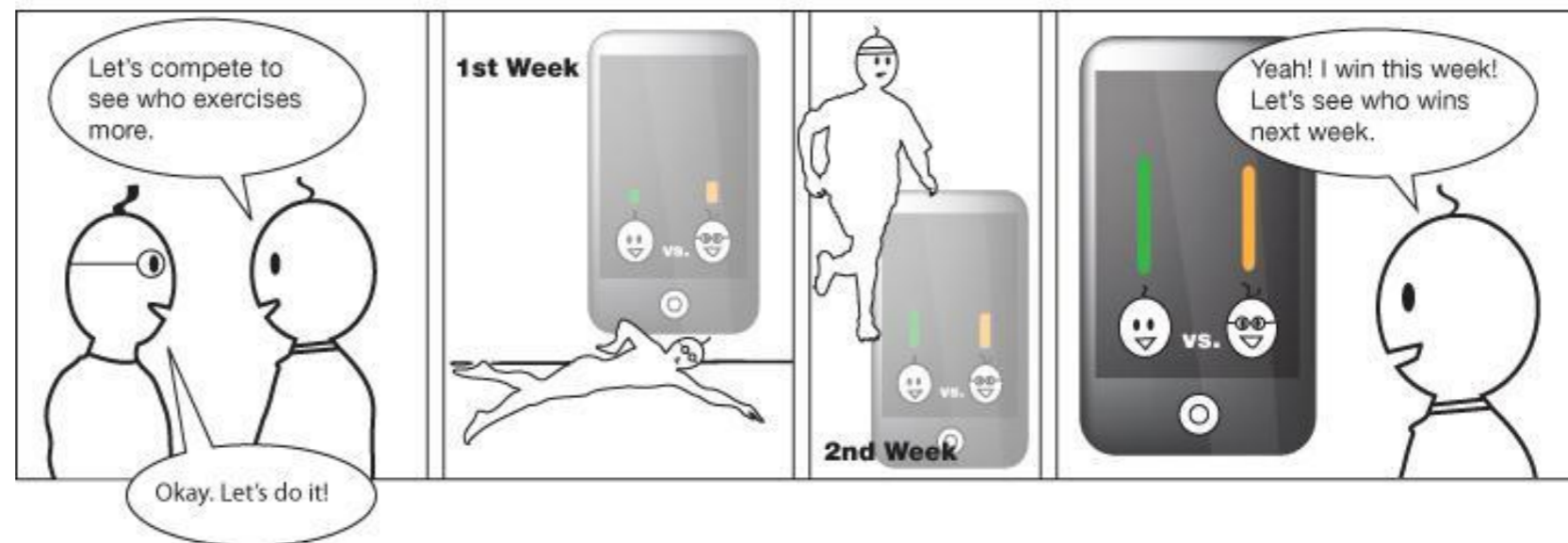
Cell phone is used to keep track of one's fitness goal.

Storyboards for Comparing Ideas

Cooperative

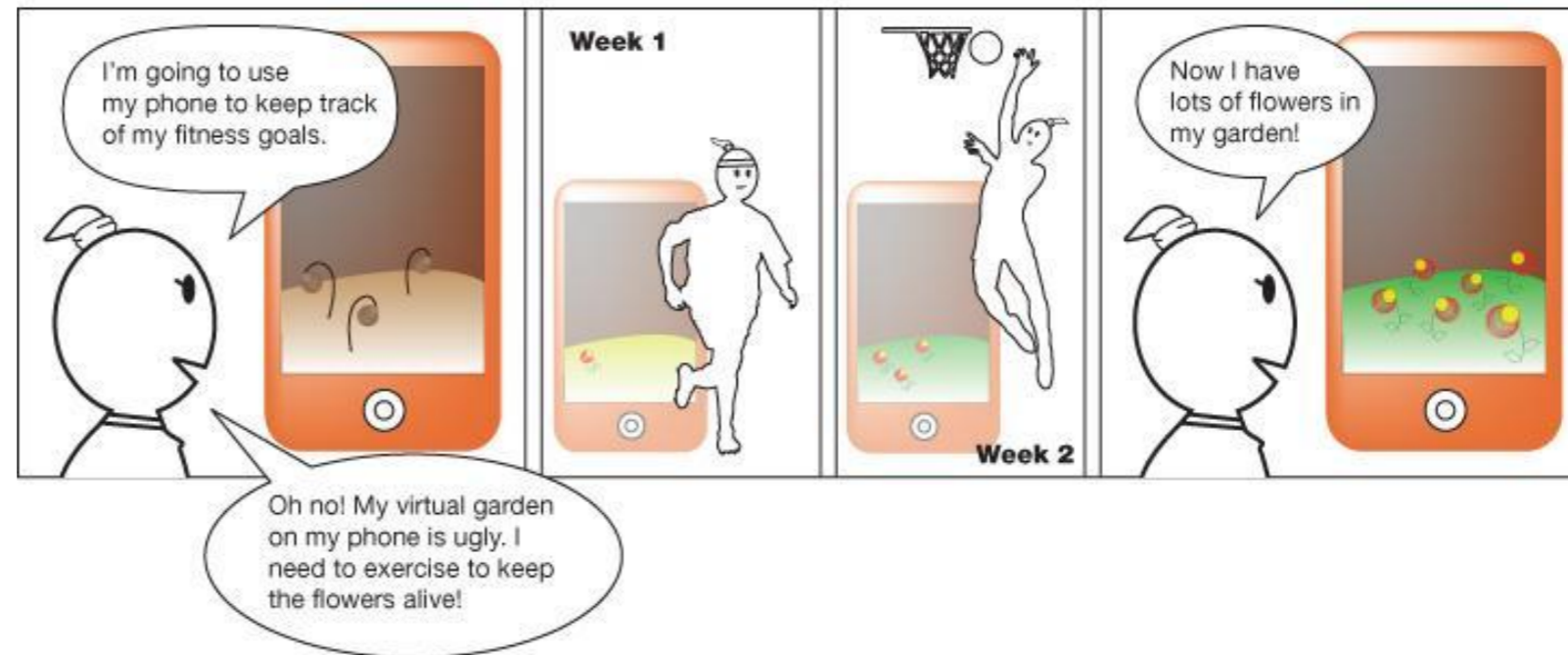


Competitive

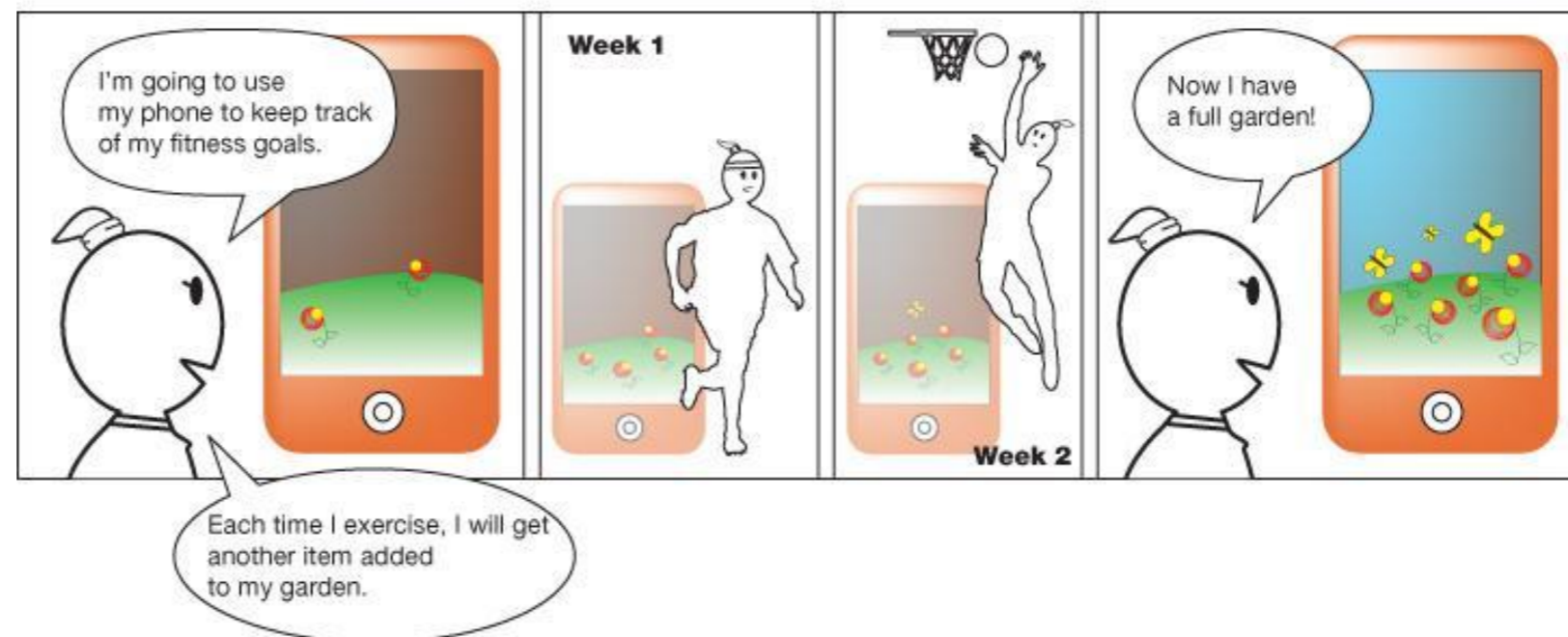


Storyboards for Comparing Ideas

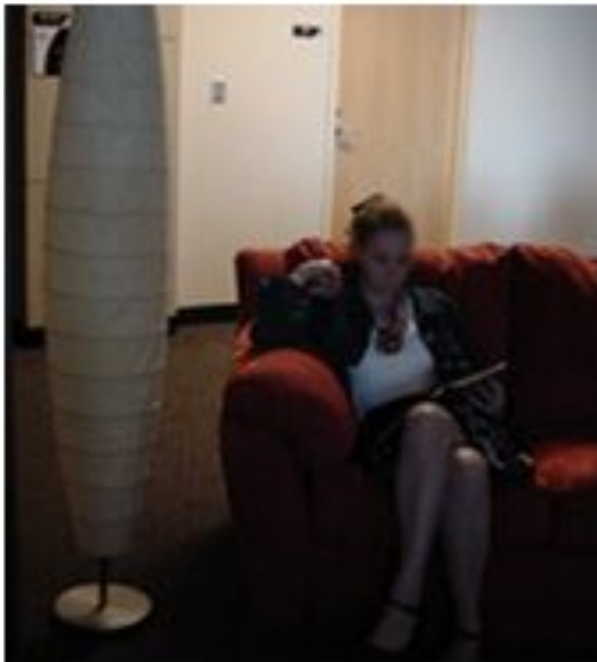
Negative Reinforcement



Positive Reinforcement



Use Pictures (only if really necessary)



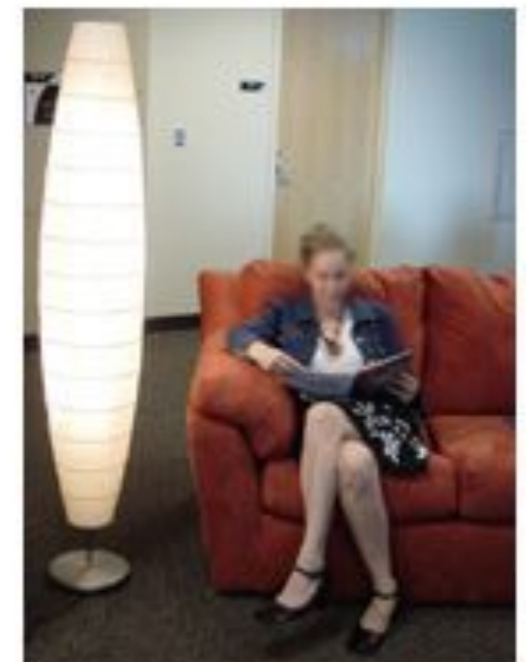
IT IS SO DARK JANE CAN
HARDLY READ HER BOOK



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

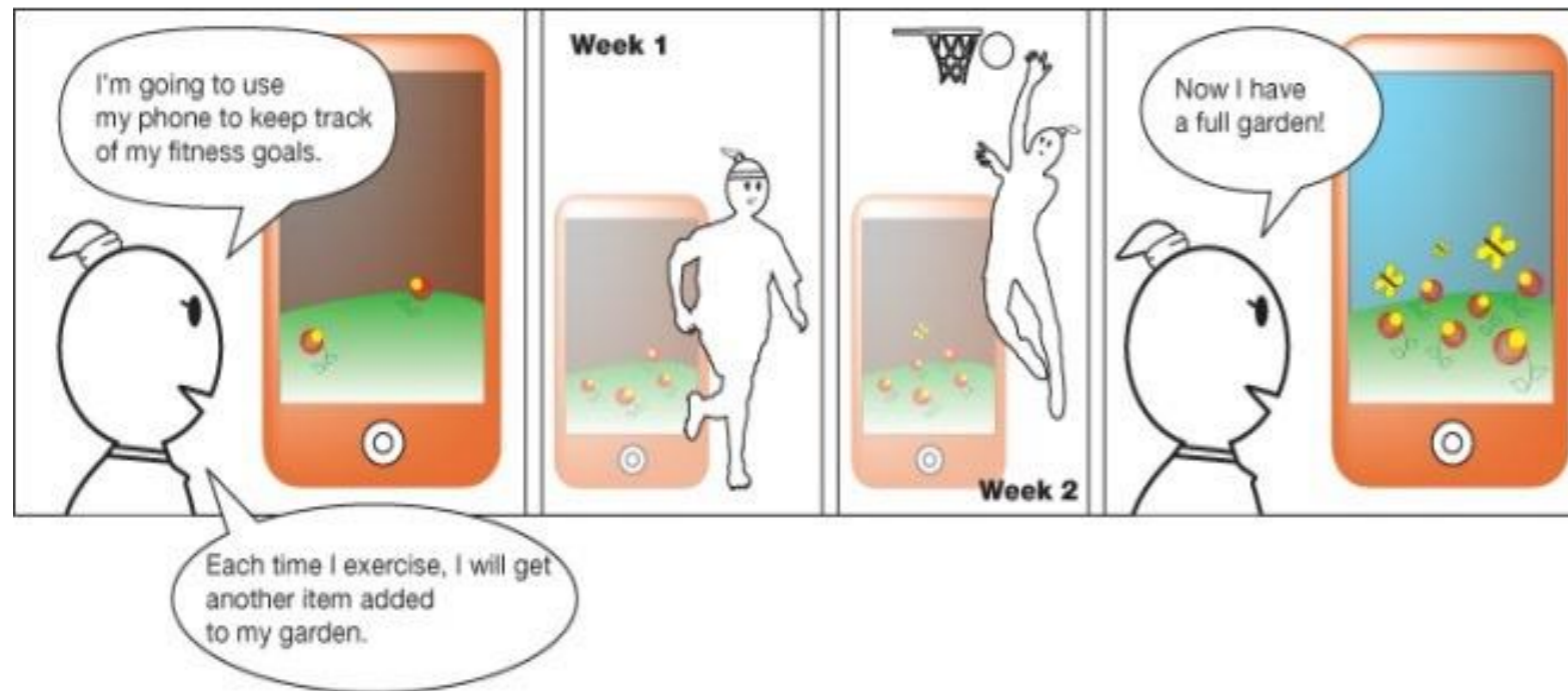


THE LIGHTS TURN ON!



FINALLY, SHE CAN
READ HAPPILY.

Existing Images from Other Sources

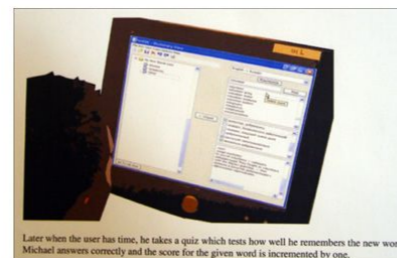
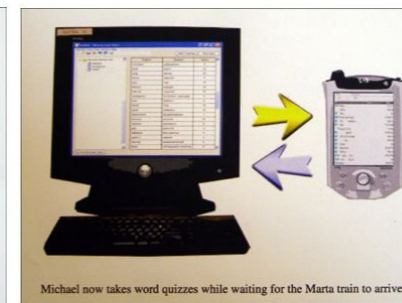
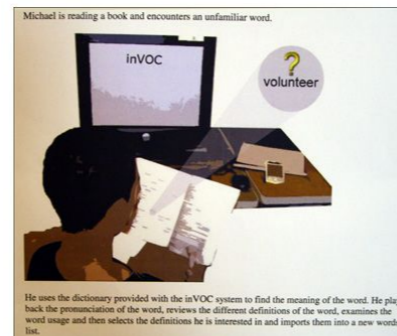


<http://designcomics.org/>

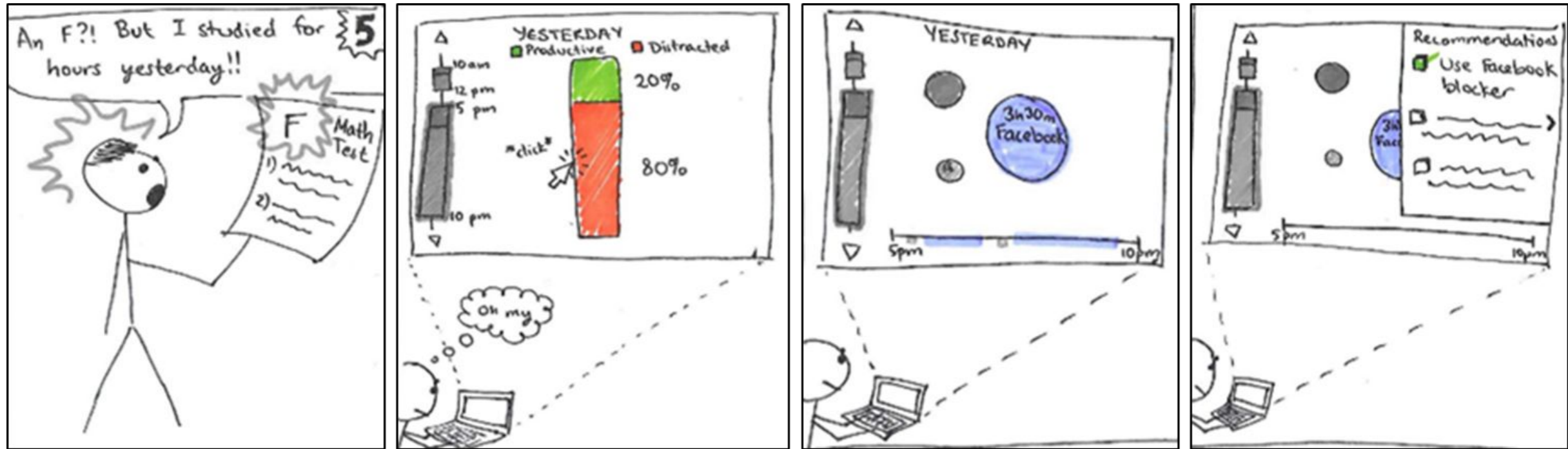
<http://www.pdclipart.org/>

Blur Out Unnecessary Detail

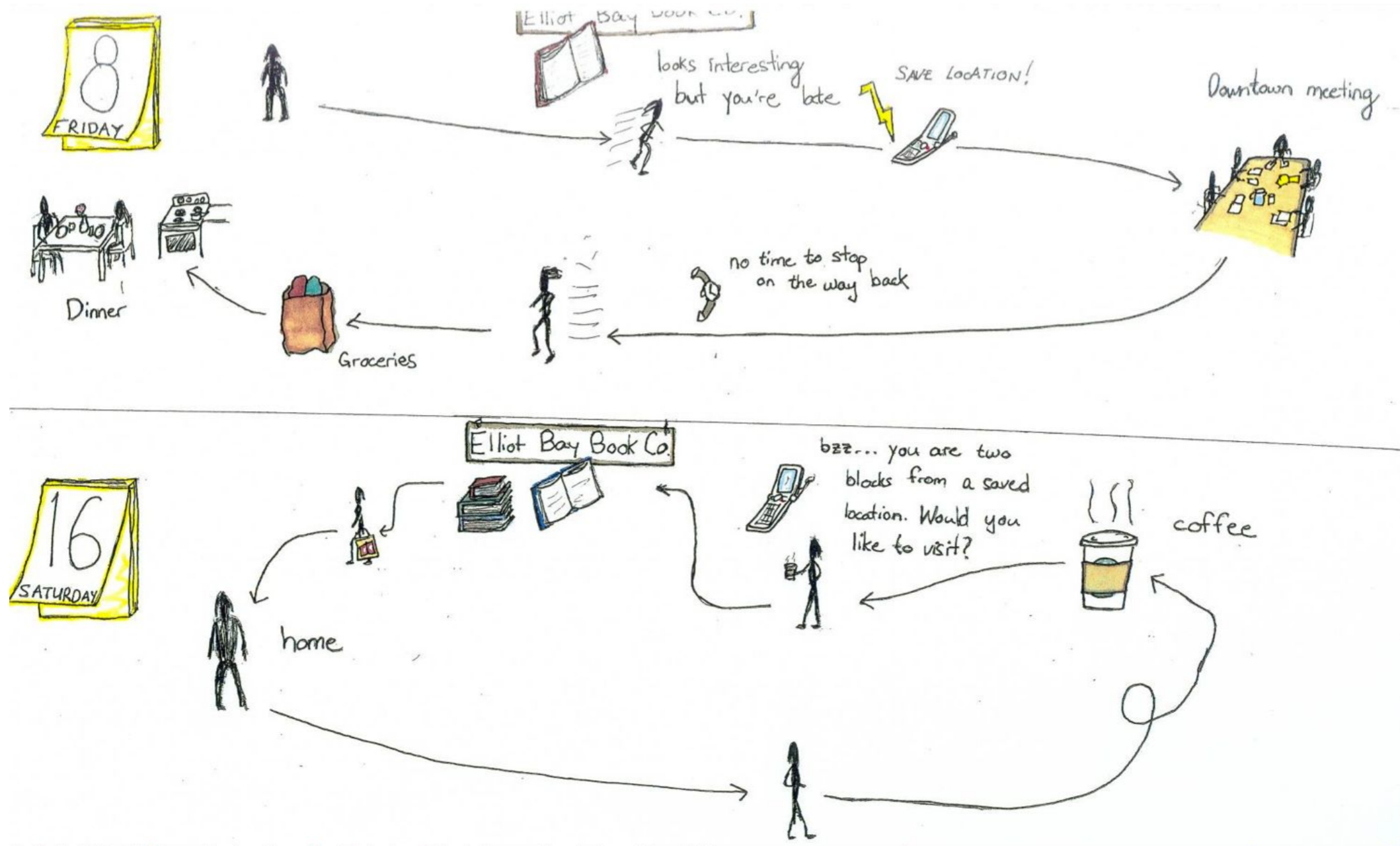
Using image editing software to simplify photos into sketches



Selective Use of Color



Selective Use of Color



Summary

Think about your audience

Think about your time constraints

Think about how much you want to tell

Think about options for presenting your story

And finally: Think about your users (see Personas, up next)

Ask me something!