

CSE 440: Introduction to HCI

User Interface Design, Prototyping, and Evaluation

Lecture 08:
Presentations,
Paper Prototyping,
Tasks in Testing
Tuesday / Thursday
12:00 to 1:20

James Fogarty
Kailey Chan
Dhruv Jain
Nigini Oliveira
Chris Seeds
Jihoon Suh

Project Status

Looking Forward

2g: Design Review (1x2) Due Tonight

“Getting the Right Design”

Report Due Monday 10/30

Presentation Due Wednesday 11/1

Other Assignments

Reading 3 Due Saturday 11/4

Reading 4 Due Saturday 11/11, Sooner is Better

Reading 5 Can Be Done Anytime, Sooner is Better

Presentations

Presentations Next Thursday / Friday

6 groups will present on Thursday
entire 9:30 and 10:30 sections
(no 9:30 or 10:30 sections on Friday)

Everybody attends Thursday

welcome in 12:30 and 1:30 sections on Friday

Have thoughtful questions for other groups

Be sure you prepare and rehearse

Team responsibility for the presentations

PPT(X) or PDF, embed fonts, happy to “check”

Today

Tips for Effective Presentations

Paper Prototyping

Testing

Ethics in Testing

Tasks in Testing

DisTrack

Refocus yourself

Graeme Britz	-	Project Manager
Max Suffel	-	Writer/User Researcher
Angela Suhardi	-	Writer/Designer
Jackie Chui	-	Writer/Designer
Bryan Djunaedi	-	Writer/Designer

Title
Image
Value Proposition



The recurring subscription management tool that let's you finally take control of your recurring services and payments.

Jen Kang • Vivian Yu • Si Liu • Brendan Lee



The recurring subscription management tool that let's you finally take control of your recurring services and payments.

Jen Kang • Vivian Yu • Si Liu • Brendan Lee

Finding

- **Reimbursement is a burden...**
 - More people, more difficult
- **Compiling shopping list**
 - mental note, notepad, or phone
- **Brand and price conscious**

Task

Typography
Consistency

- 1. Making list & budgeting**
- 2. Choosing a store & transportation**
- 3. Shopping**
- 4. Purchasing**
- 5. Storing groceries**
- 6. Managing \$\$\$ & requesting reimbursement**

Summary

Widows
Orphans
Process vs. Results

- Iteration is key
- Understand how users think
- Better design ideas came from more out-of-the-box thinking
- Discretionary spending is easy but discretionary spending tracking is hard
- Users crave positive motivation

Things to Do (Tasks)

1. Ability to record running statistics such as distance run, speed, number of runs, etc.
2. Share statistics with friends
3. Create running events and invite friends
4. Send mass notifications to friends for a spontaneous run
5. Find a SmartMatch (based on various criteria) to run with
6. Write and search for reviews on the route/experience

Overall Problem: Joint Pain & Activity

- **Target Audience: Athletes**
 - Health conscious
 - Disciplined
- **Problem: Overexertion and aggravation of injury among athletes**

Running with Friends

Erica Putsche, Heidi So, Luke
Chang, Linsen Wu

Contextual Inquiry - Insights

Johnson (20, undergraduate, CSE 006 Lab)

- Perception ≠ Observation
- Distracted by people talking and noise
- More focused at CSE Labs than at home

Steve (25, graduate, Mercer Court)

- Motivated by seeing people working
- Distracted by people and social media
- Takes breaks often

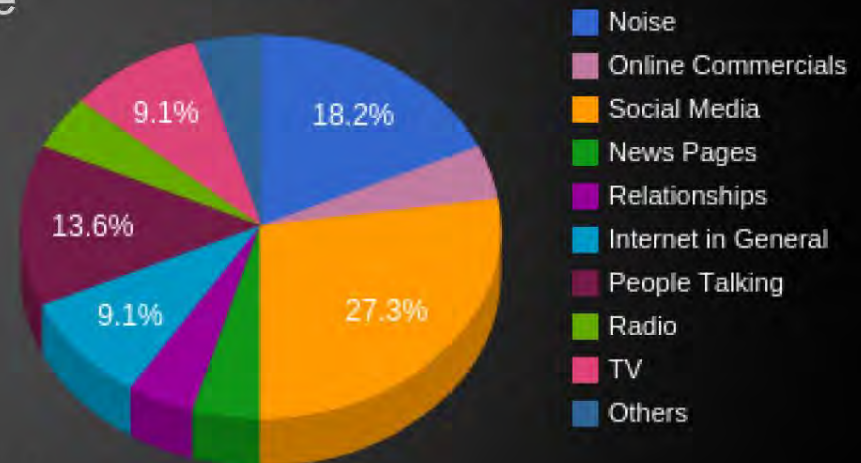
George (25, graduate, Odegaard Library)

- Turns notifications off while studying

Group (4 undergraduates, Yunnie Bubble Tea)

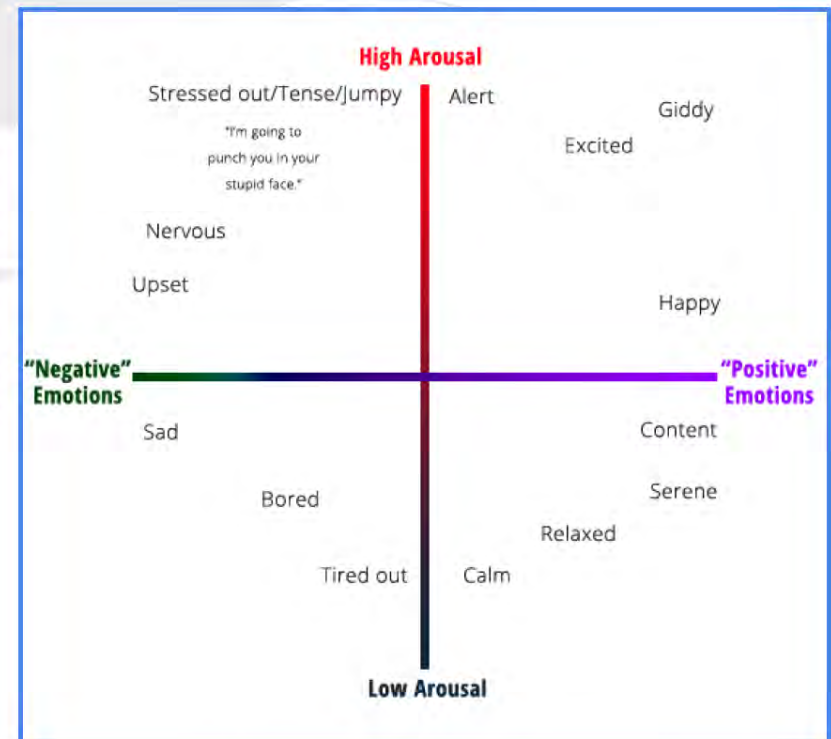
- Distracted by each other and apps
- Use headphones (music) to focus

Distraction Sources



Our three inquiries showed us:

1. People valued the insights acquired from a mood journal.
2. People thought journaling was a hassle.
3. People were interested in what triggers their mood
4. People want to share information with a mental health professional



Design 1: Running separately

May add some motivation but does not provide the full experience of running with a companion

Design 2: Coordinating running events in advance

Tasks can be accomplished using Facebook events or other similar tools

Design 3: Spontaneous Running

Tasks are unique and they also address the concerns raised in our contextual inquiries. Our chosen design also provides us with an interesting opportunity to explore personal informatics

Summary

Too Much Text
“Process” Points Distract

- Iteration is key
- Understand how users think
- Better design ideas came from more out-of-the-box thinking
- Discretionary spending is easy but discretionary spending tracking is hard
- Users crave positive motivation

Having Too Much Text

If you can read it

you probably will

we probably will

Be conversational, engaged

even when not talking

Notes are fine

but do not read them

Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor

Consider
lorem ipsum
placeholders

Parent Contextual Inquiry

Participants:

- Two parents whose children formerly had IEPs
- One parent with two children that currently have IEPs
- One guardian of a student with an IEP

The Process:

- “The lingo and paperwork are confusing, they come with 17 people and you are there by yourself.”

Communication:

- “right now I come in doing all the communications to get information”

Tracking



Overall Problem: Joint Pain & Activity

- **Target Audience: Athletes**
 - Health conscious
 - Disciplined
- **Problem: Overexertion and aggravation of injury among athletes**

Contextual Inquiry

- Dancers
 - Use of entire body
 - Diverse Injuries
- Observation
 - Warmup
 - Preventative Habits



Pictures
are Good

Contextual Inquiry

4 Locations

- Odegaard Library
- CSE Undergraduate Labs
- Mercer Court
- Yunnie Bubble Tea (Ave)



3+1 Approaches

- Observation + Interview (3x)
- Interview-only (2x)
- In-group Interview (1x4)
- + Online Survey (16x)



Contextual Inquiry

Pictures
are Good

- People do not want to be interrupted or distracted
- Most people do not have a liquid intake plan
- People often reach for soda, coffee, or other beverages when they feel thirsty



Pictures
are Good

NounProject



Contextual Inquiry

Professional
(20-40s)



Family



Undergrad
Student



In-Line References Versus Bibliography Slide

15% of Americans between the ages of 20 and 69 experience hearing loss that may have been caused by **noise at work or during leisure activities.**

Motivation of Participants



Very noisy work environment

Some control over exposure levels



Moderately noisy work environment

Lacks control of his noise exposure



Dartmouth student who is exposed to **noisy social environments** multiple days per week

Has control over exposure levels

Focus on the
Right Thing

Contextual Inquiries



Suzzallo Library



Husky Union Building



Paccar Hall

One person still uses food journaling consistently and has a positive experience.
One person stopped food journaling because she reached her goal and had a nutritionist.
The third person loves taking pictures of her food and just seeing what she's been eating.
Had them take us through their process during mealtime, motivations, difficult, benefits

Watch the
Selling

We can help

Tasks

- Record mood reflections
- Discover triggers and warning signs
- Discover wellness strategies
- Planning for health
- Quick mood check-ins
- Aid your health professional

Tasks

1

Engage a
work session.

2

Record digital and
non-digital behavior.

3

Prompt for
taking breaks.

4

Reflect on recorded
data relative to
time and location.

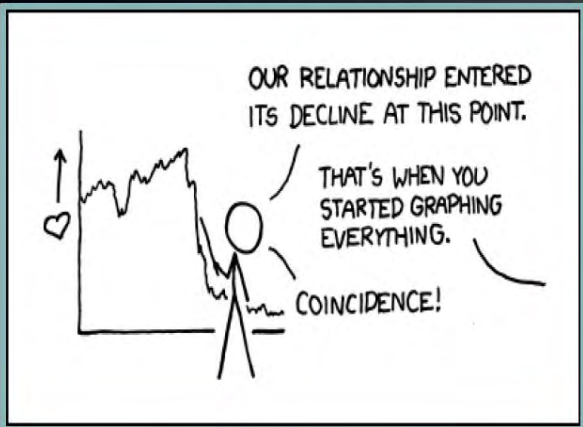
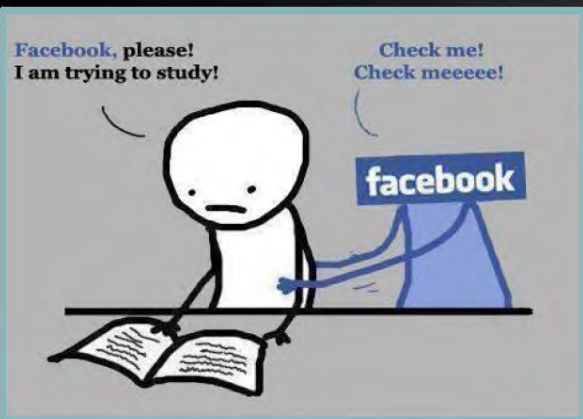
5

Find a productive
work place.

6

Find and implement
methods/strategies to
stay focused.

Tasks



Speaking of Distractions

Whether correct or not, many things distract

Plural possessive

a posteriori

Anything else that might be distracting

Too hilarious

Too close to being inappropriate

Original Tasks

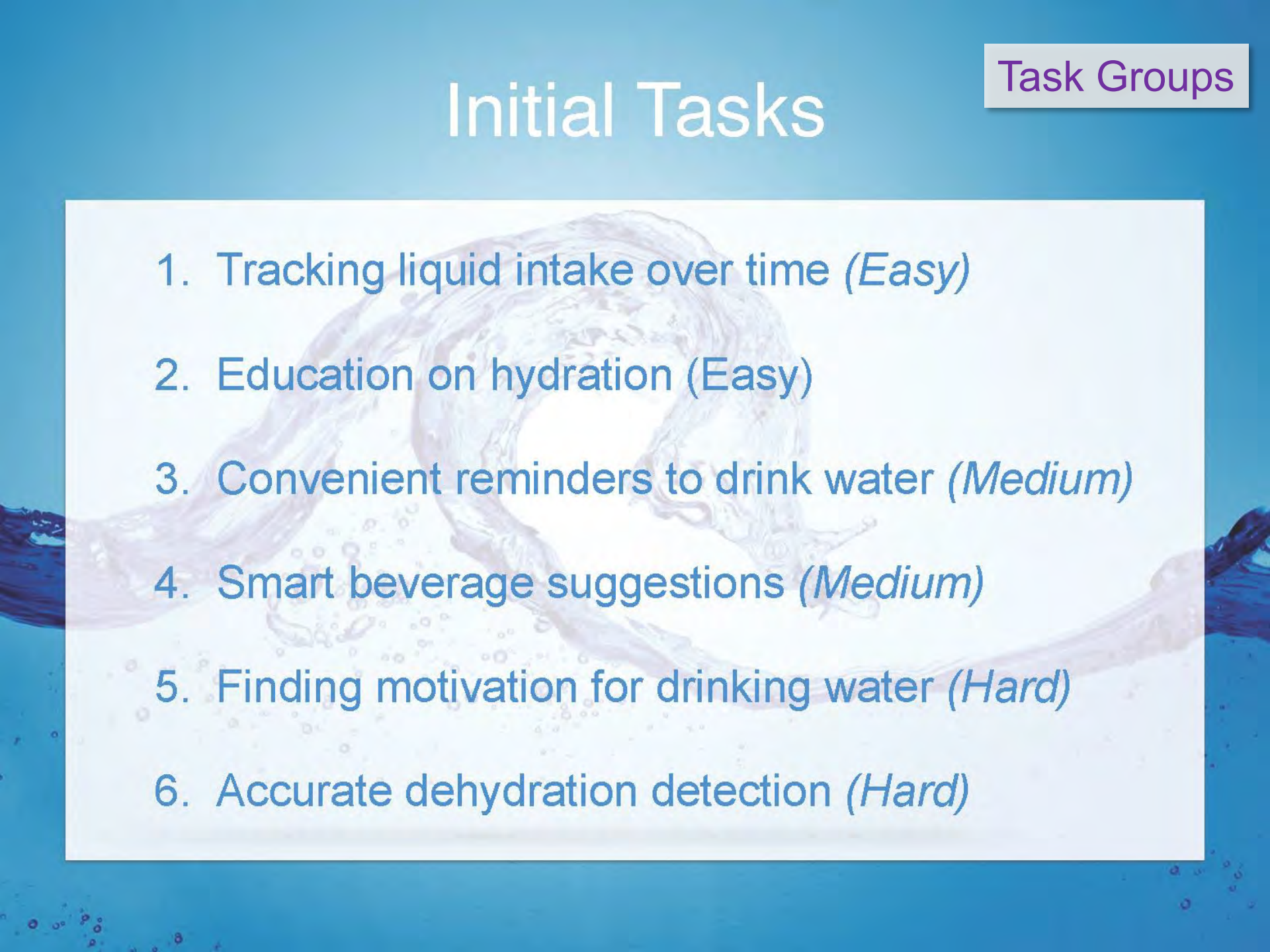
Current Tasks:

- Aggregate and collect all IEP information for continuity and stakeholder accessibility.
- Encourage communication between stakeholders.
- Connect with other parents who have children with similar disabilities.

New Tasks:

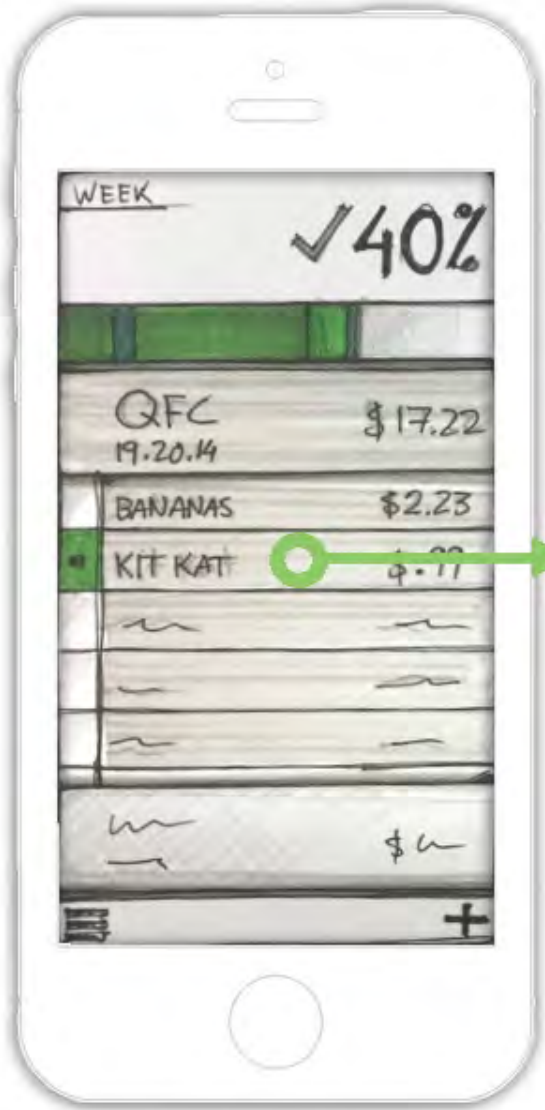
- Access mini lessons to support the developmental master of IEP tasks.
- Motivational rewards system to encourage students to be active in their IEP.
- IEP videos for parents to understand how to best advocate for their child.

Initial Tasks

- 
- A dynamic splash of water in shades of blue and white, with many small droplets and bubbles, serves as the background for the slide.
1. Tracking liquid intake over time (*Easy*)
 2. Education on hydration (*Easy*)
 3. Convenient reminders to drink water (*Medium*)
 4. Smart beverage suggestions (*Medium*)
 5. Finding motivation for drinking water (*Hard*)
 6. Accurate dehydration detection (*Hard*)

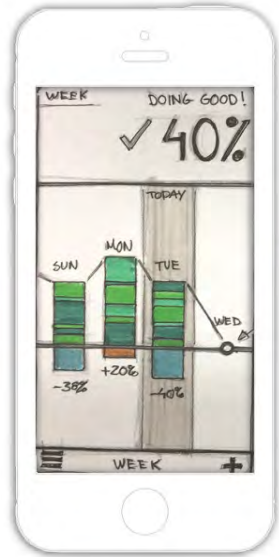


Adjust budget between different categories.



Designate spending as discretionary.

Verb as Task



Review spending **progress** compared to goals.



Account for **future** spending.



Prevent **unwanted** habitual spending.



Check if a potential purchase **fits the budget**.

Consistency
of Emphasis

Many people make **general**
budgeting goals.

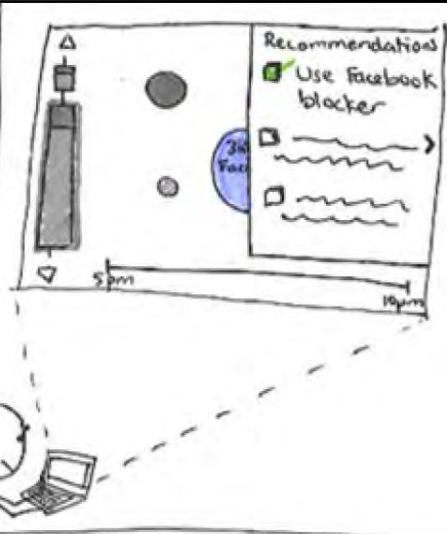
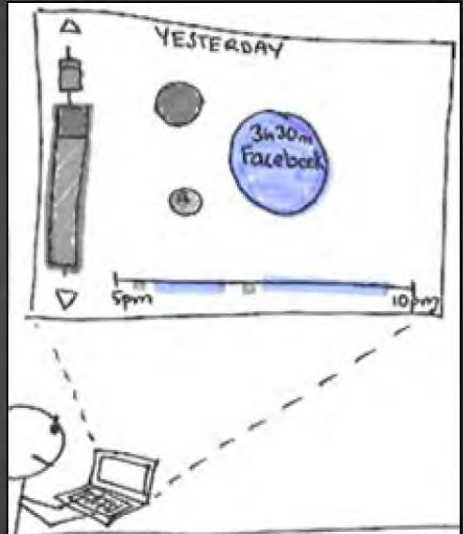
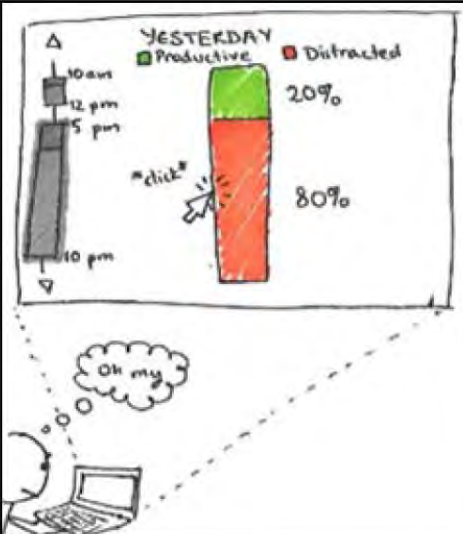
Large items are monitored.

Small items cumulative impact
not considered.

Challenging setting up budgets.

Complicated input leads to **less use.**

Task: Reflect on recorded data relative to time and location



Task: Find and implement methods/strategies
to reduce distractions and increase focus



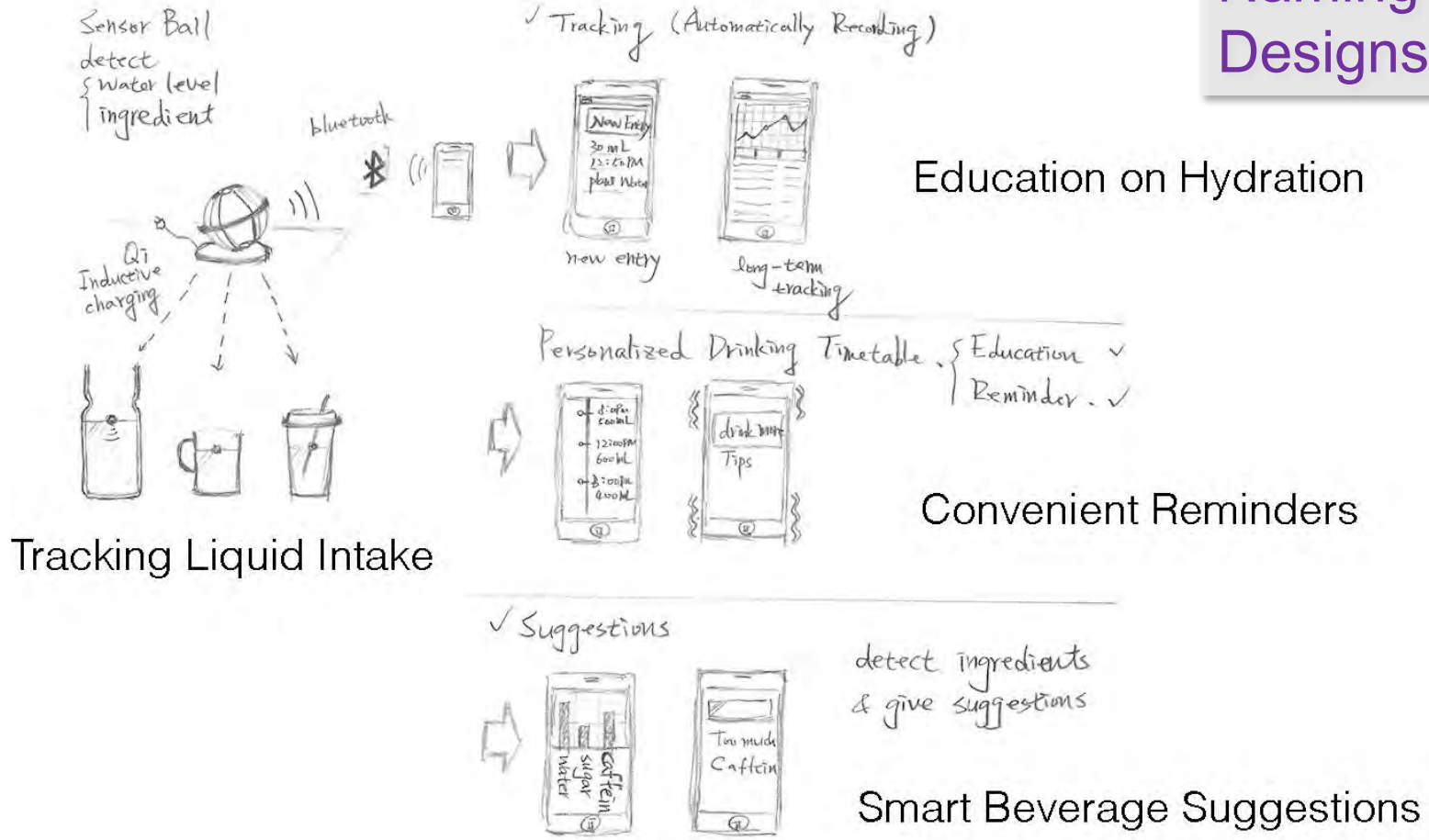
Design 1

Naming Designs

Pre-shopping



Naming Designs



Design 1

Sensor Ball with Mobile App

Naming Designs versus Slide Title Hierarchy of Information

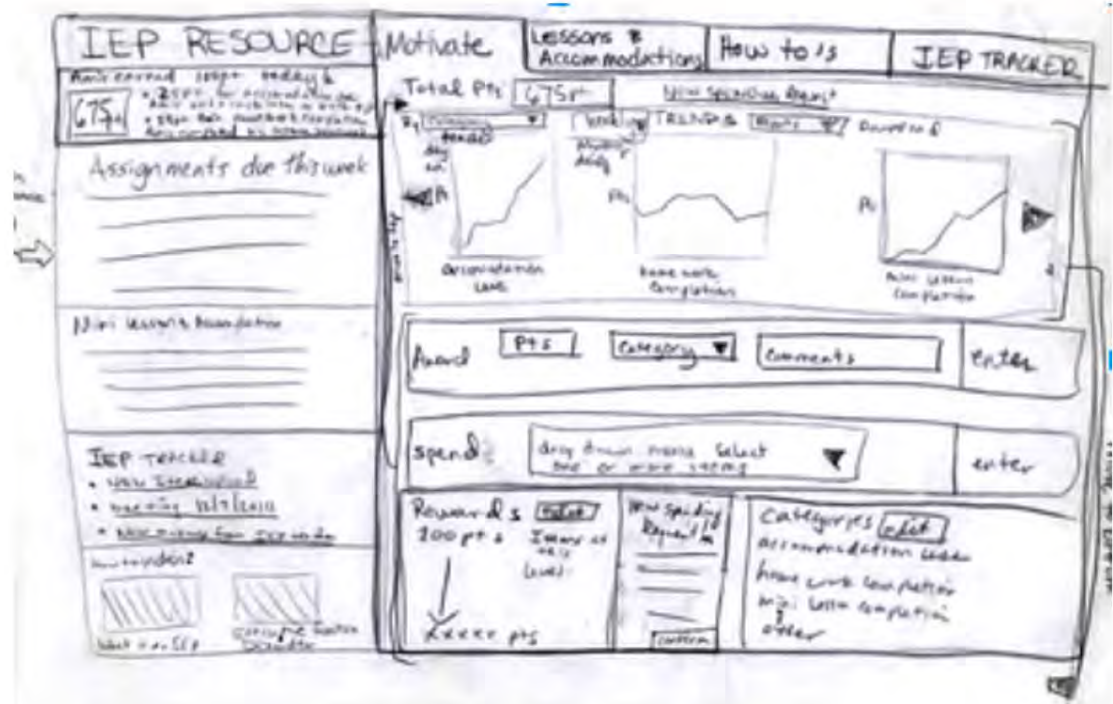
Sketch 3

Main Focus:

- Student Motivation

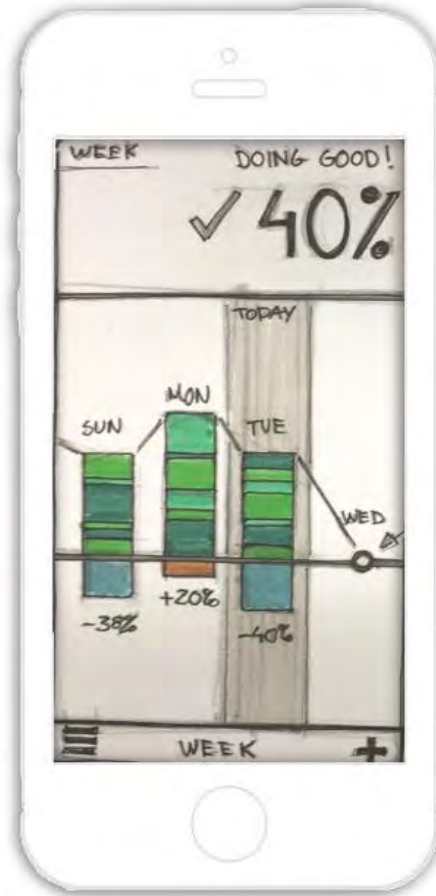
Key Features:

- Mini lessons accessible for the student and parent to work on
- Points awarded for completion of task on the website
- Spending points for various rewards

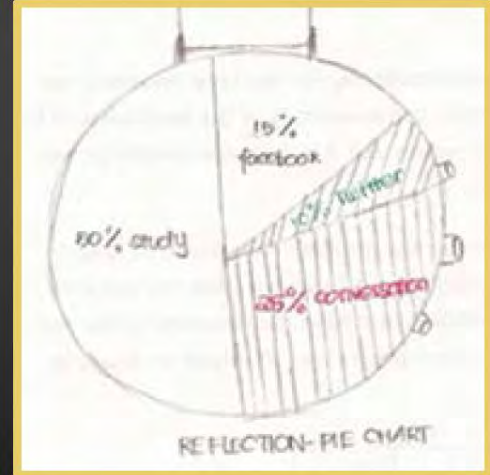
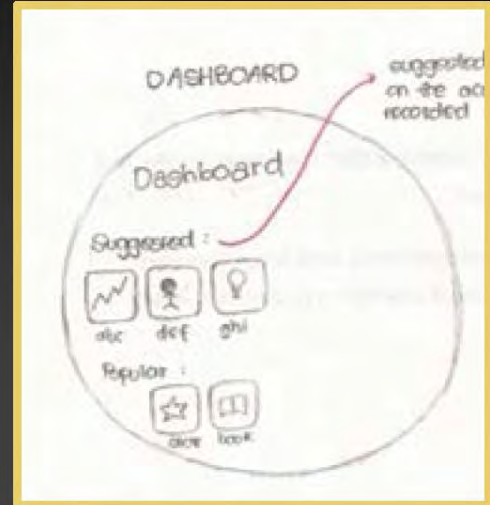
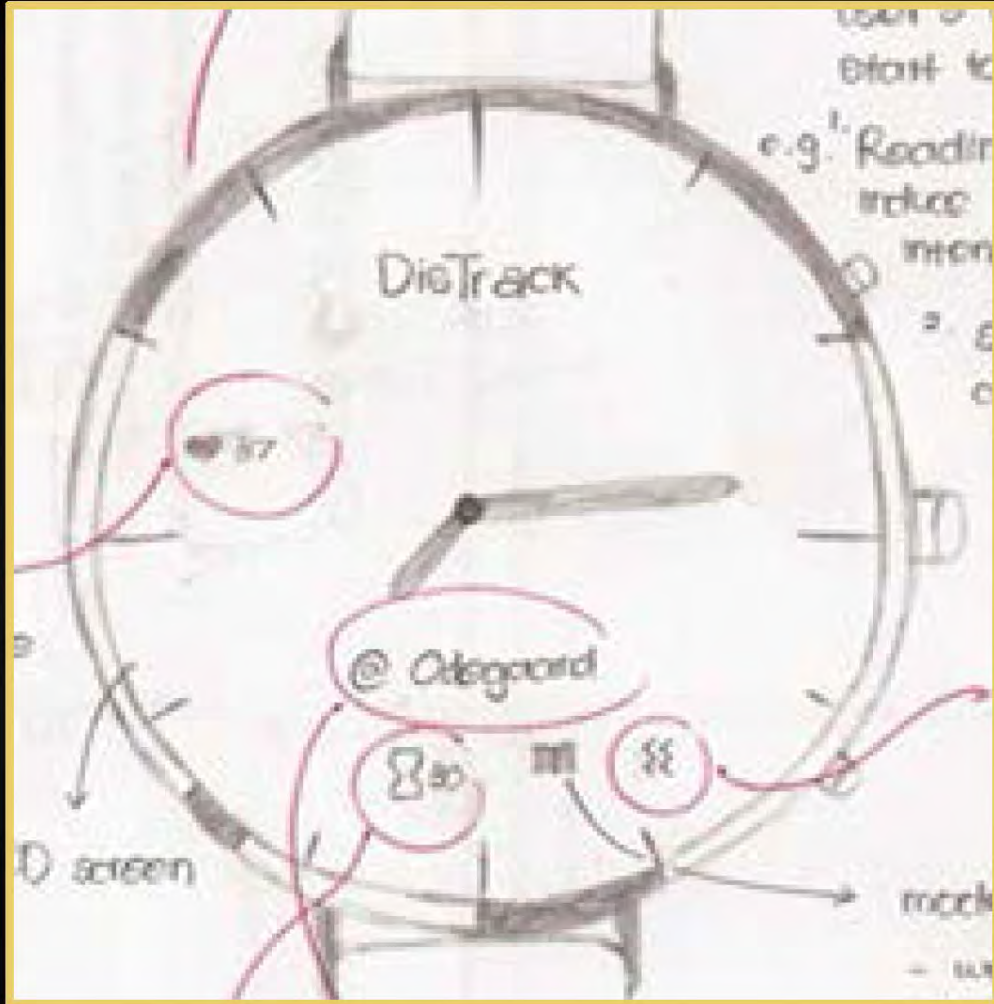


Design 1

Legibility
of Sketches



Design 3

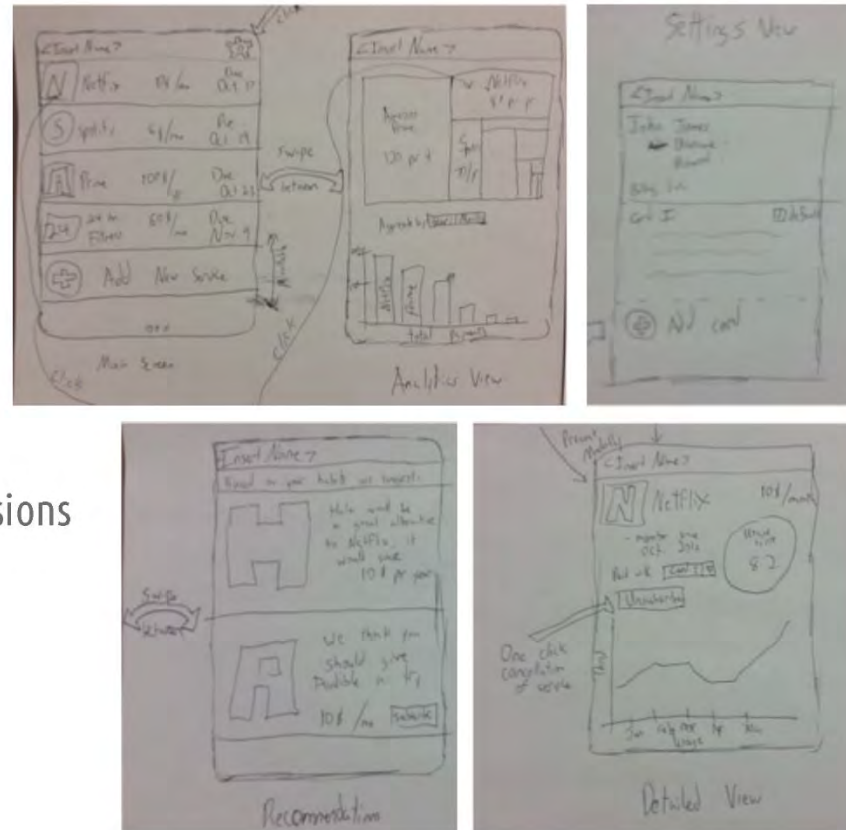


Low Contrast Images Low Contrast Text

Updated Sketch

Two Tasks

- Recurring subscription management
- Insight and informed decisions



Tasks

Distracting
Background

Categorize Time Spent

What qualifies as work or play?

Set Goals For Each Category

How much time should you spend on each activity?

Share Schedule and Free Time

Who should be notified?
Who is free right now?

Decide What To Do While Waiting

What can get accomplished within that time?

Adapt Correctly To Schedule Changes

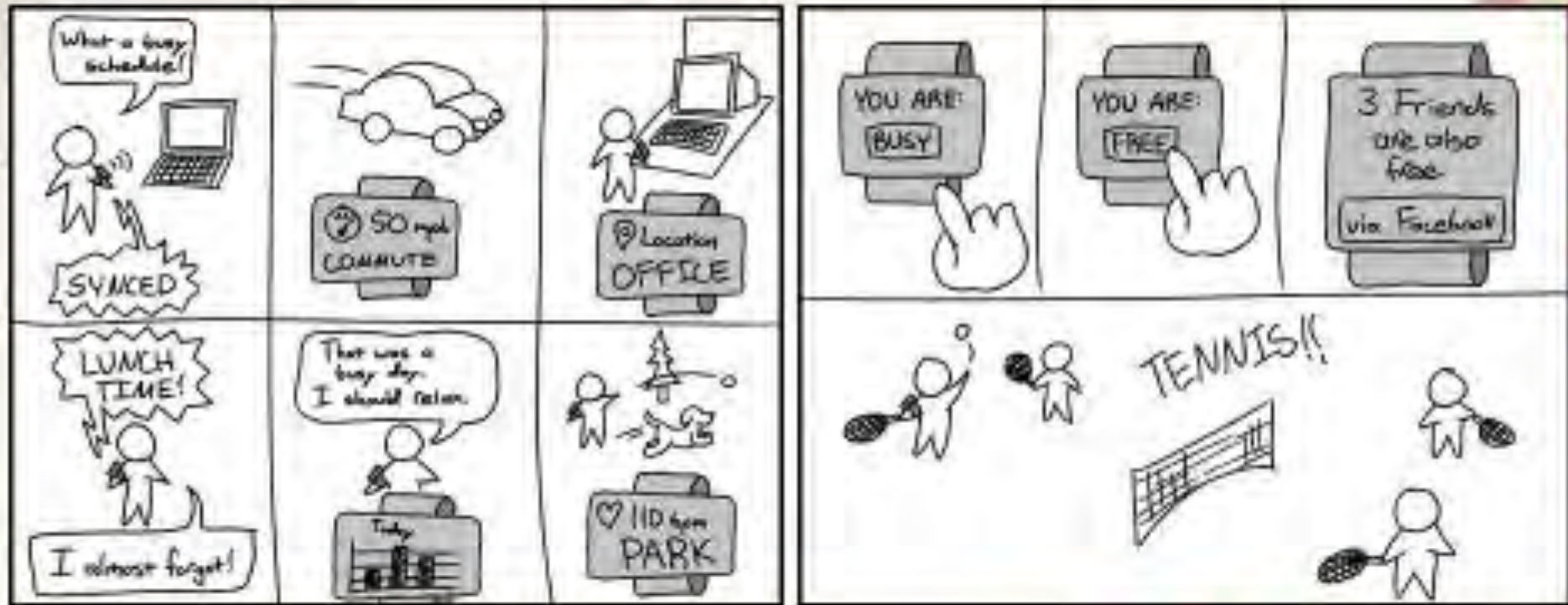
What can be pushed back and what has a solid deadline?

Get Reminders for Flexible Tasks

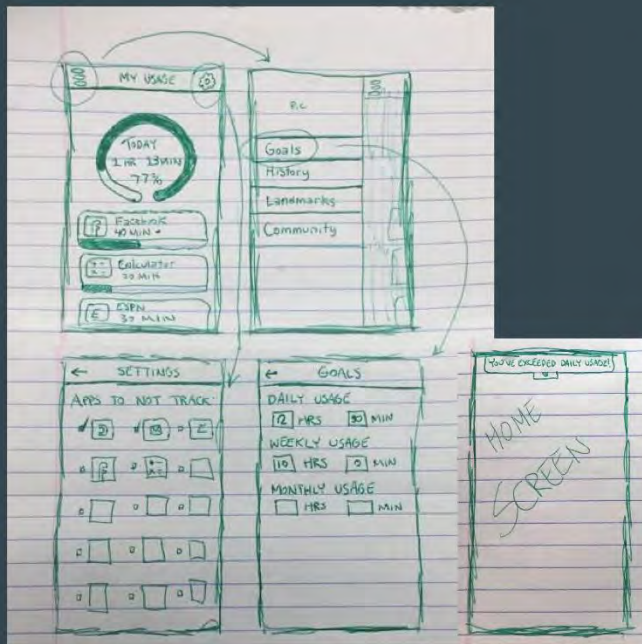
When is the best time for lunch?

Storyboards

Star People!
Hard to Follow
on a Single Slide

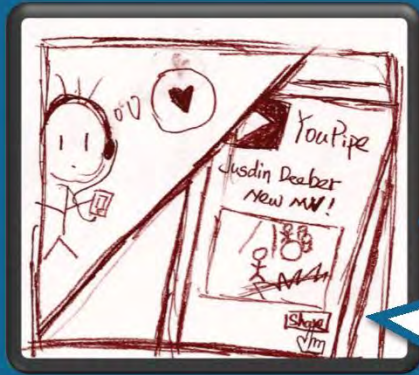


Selected Design



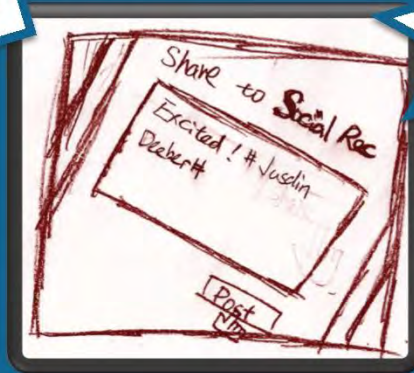
- Simplest overall design of the three
- Most aesthetically pleasing due to effective organization and spacing
- Easy way to set goals without any outside pressure on what you choose
- Firmly addresses the most important user need of tracking overall usage

Storyboard 2:



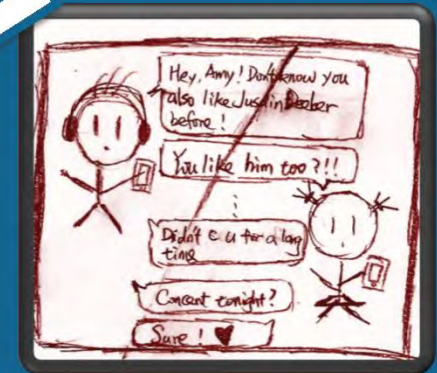
1. David likes the new song released recently, so he shares it on the SR app

2. When he posts it, he adds tags and defines the group of people he wants it to be seen

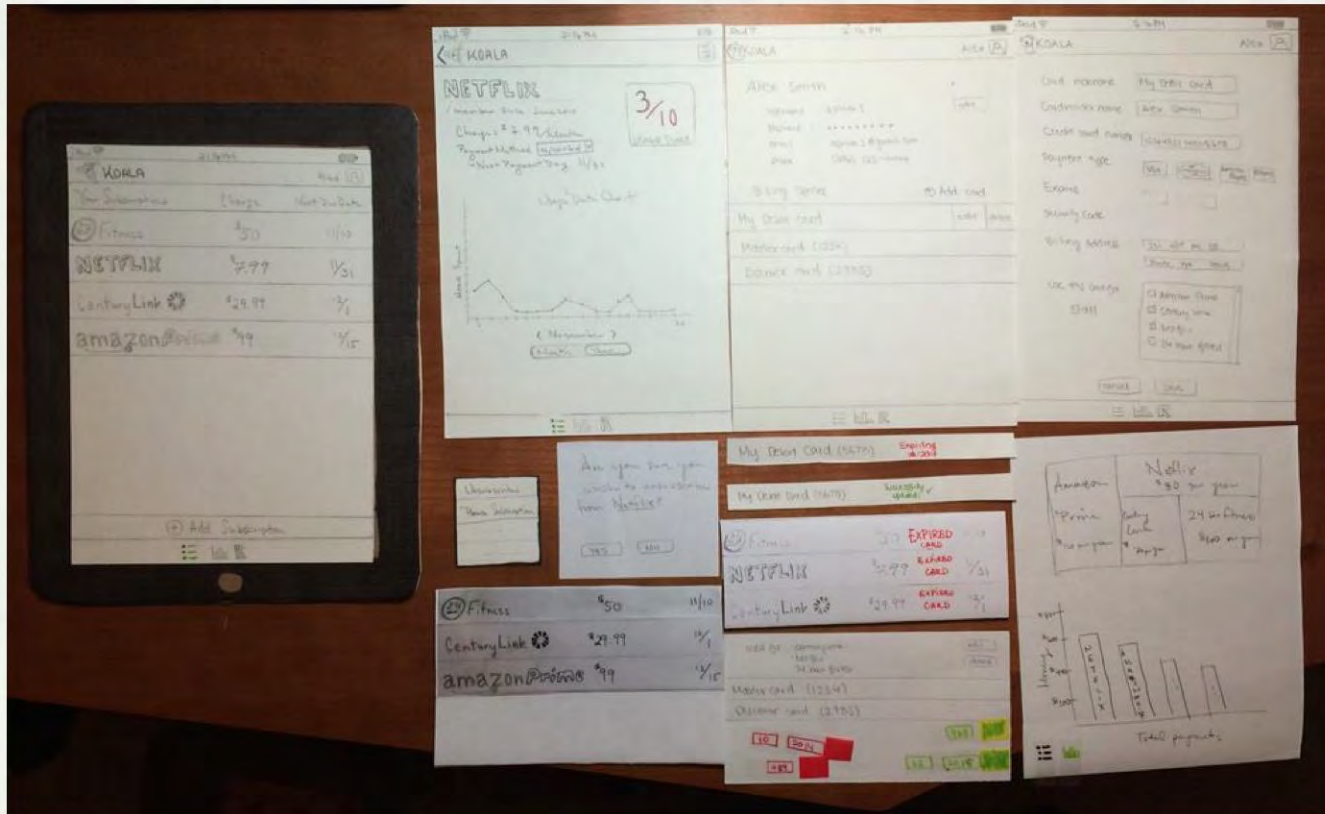


3. Daniel then gets a message showing that David likes the music

4. Daniel then messages David about his idea of the song



Initial Paper Prototype



Initial Paper Prototype

Task 1: Finding a SmartMatch

Criteria


Level	<input type="checkbox"/>
Avg Dist	<input type="checkbox"/>
Avg Time	<input type="checkbox"/>
Route Pref	<input type="checkbox"/>

Criteria

Level	<input checked="" type="checkbox"/>
Avg Dist	<input type="checkbox"/>
Avg Time	<input type="checkbox"/>
Route Pref	<input type="checkbox"/>

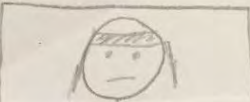
* Finding Match

Frank



About: Happy guy who runs casually
Level: Novice
Rating: ★★★★★

Jenn



No more matches found!!

Rating: ★★☆☆

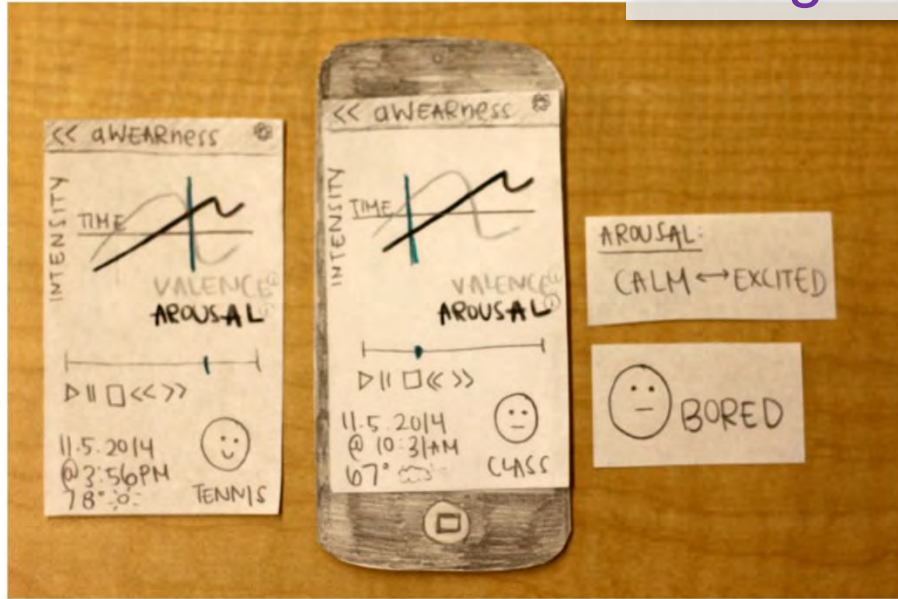
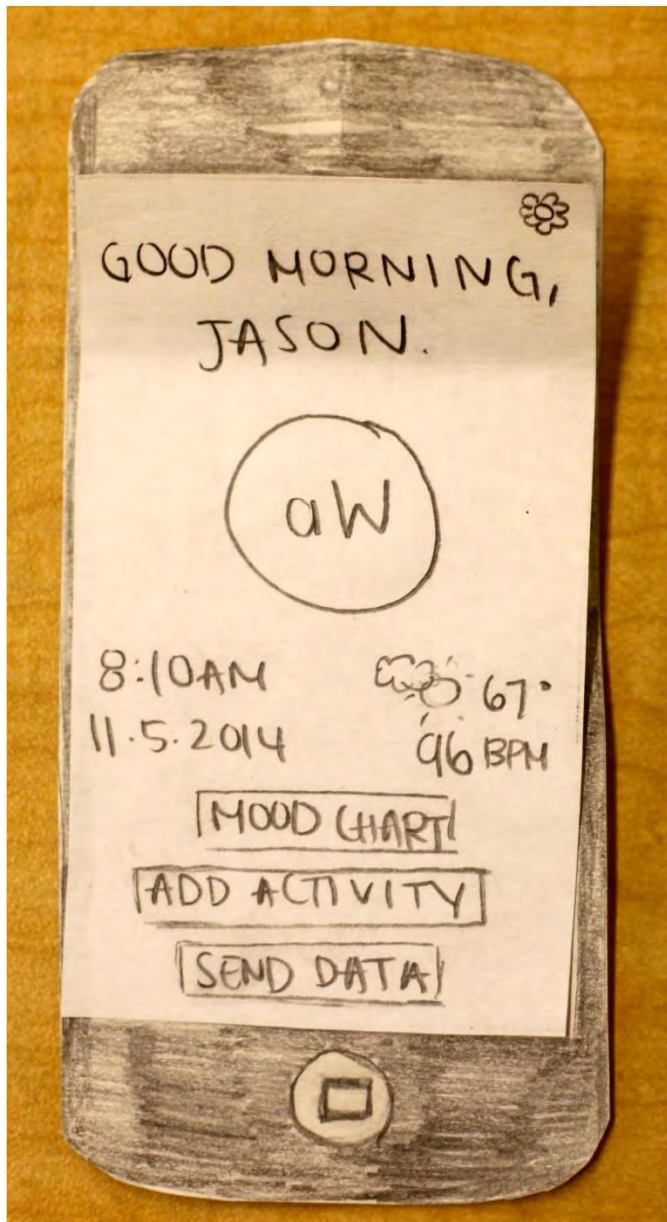
Testing - Results

Artificially
Increase
Contrast

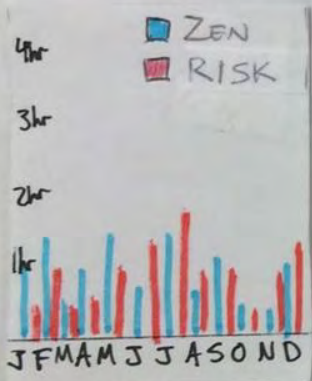
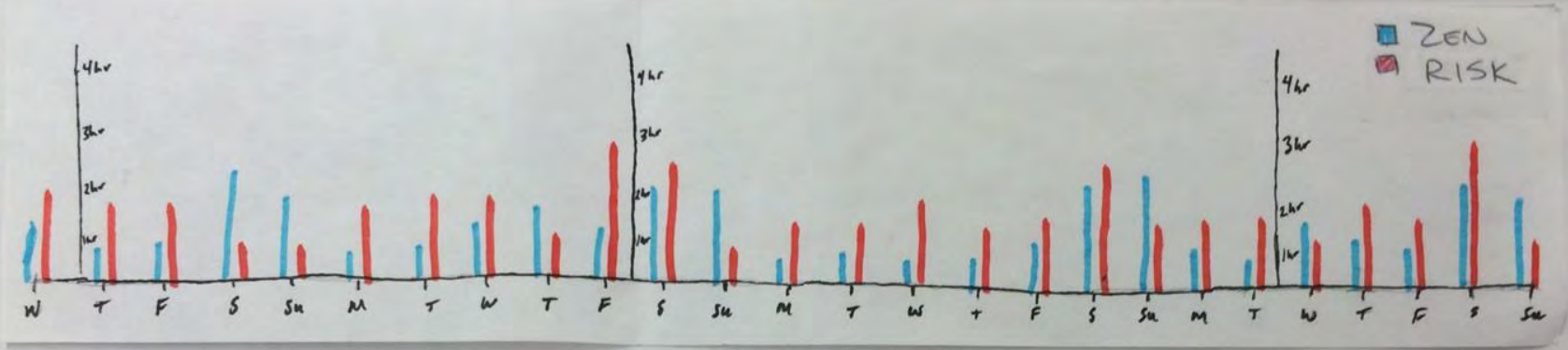
- **Heuristic Evaluation**
 - High Severity Issues
 - Example: “Go Shopping” mode was useless
- **User Testing**
 - High and Medium Severity Issues
 - Example: Takes too long to get to “Add Item”
- **Design Mockup Critique**
 - Low Severity and Aesthetic Issues
 - Example: Home screen too cluttered



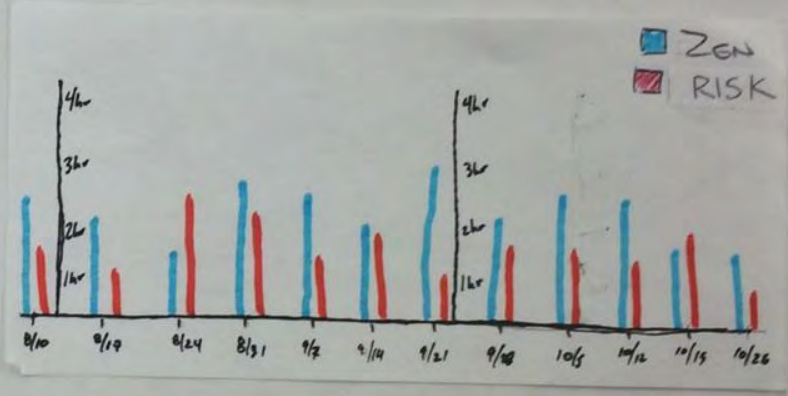
Background



Background




DAY	WEEK	MONTH	YEAR
<p>-30 MIN</p> <p>-225 MIN</p> <p>-15 MIN</p> <p>-75 MIN</p> <p>12 AM</p>			
<p>SOUND HISTORY ANALYSIS SETTINGS</p>			



Final Paper Prototype

IEP-Connect Classroom

Many Screens
on One Slide

K.F. > Goals | Accommodations | 

All Students > K.F.


In Progress

Write Paragraph Under 7m

Make Eye Contact

IEP Goal: Student will maintain eye contact appropriately during conversation

• •


K.F. > Goals | Accommodations | 

All Students > K.F.

In Progress

Write Paragraph Under 7m

C	.	/	%
0	1	2	3
4	5	6	7
8	9	Enter	

K.F. > Goals | Accommodations | 


All Students > K.F.

Previously Tracked

Write Paragraph m

Score on Math Test %

• •

K.F. > Goals | Accommodations | 

All Students > K.F.

Previously Tracked

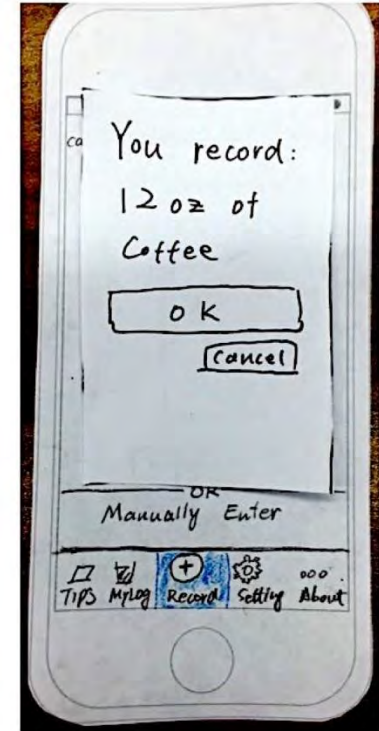
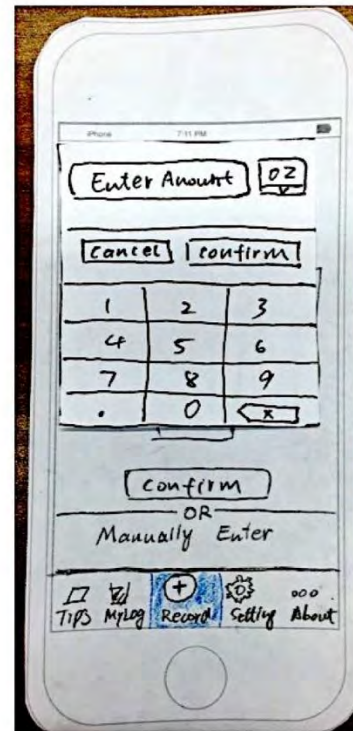
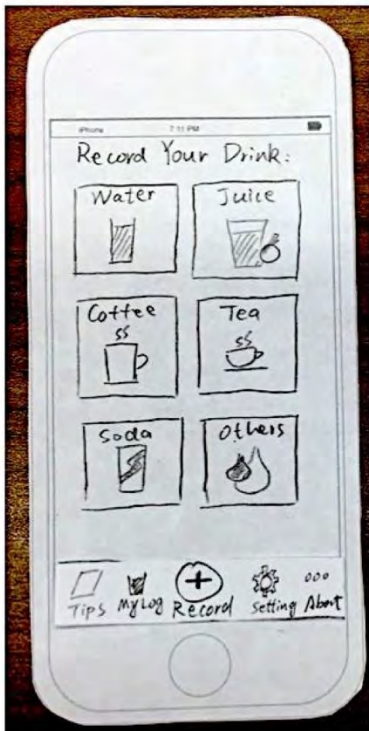
Score on Math Test %

• •

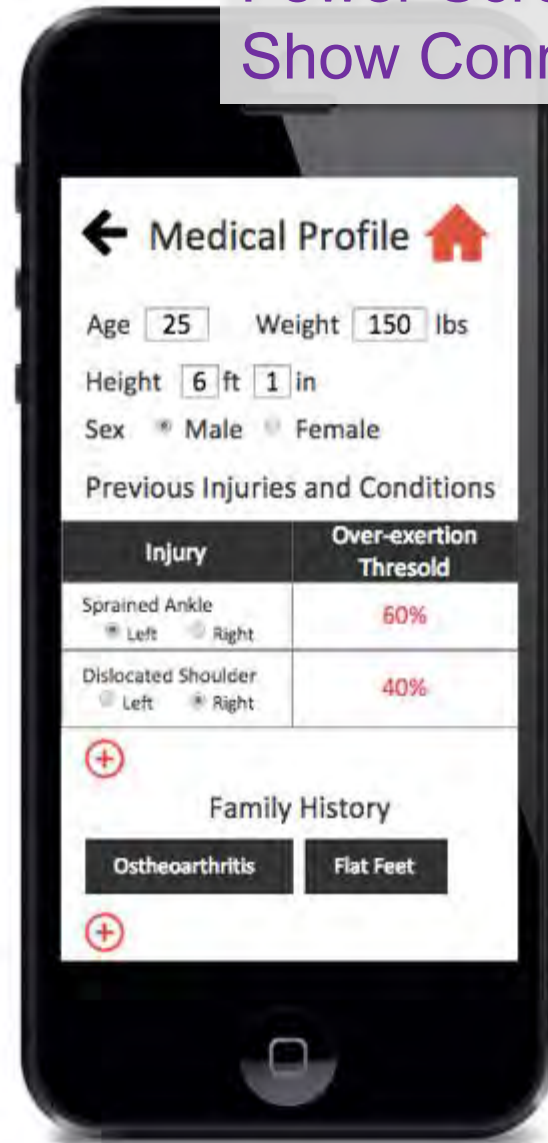
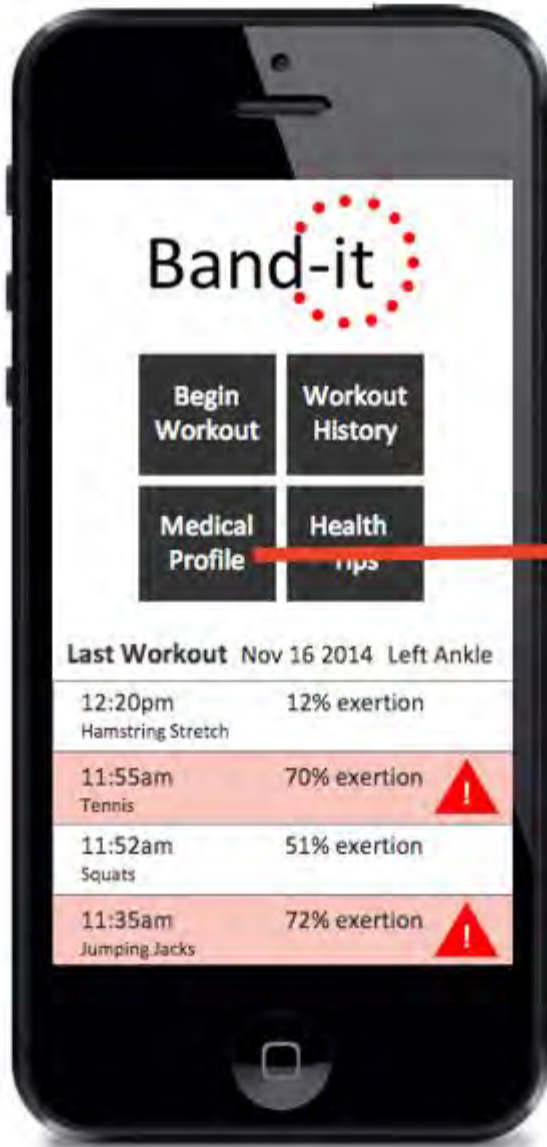
Final Paper Prototype

Task2 - Record Water Intake

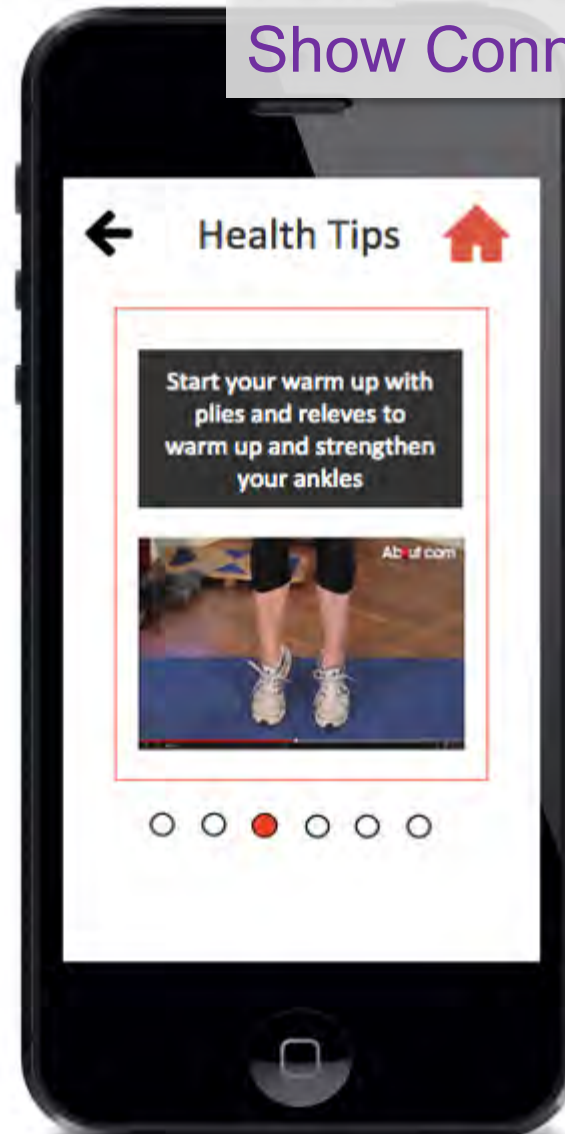
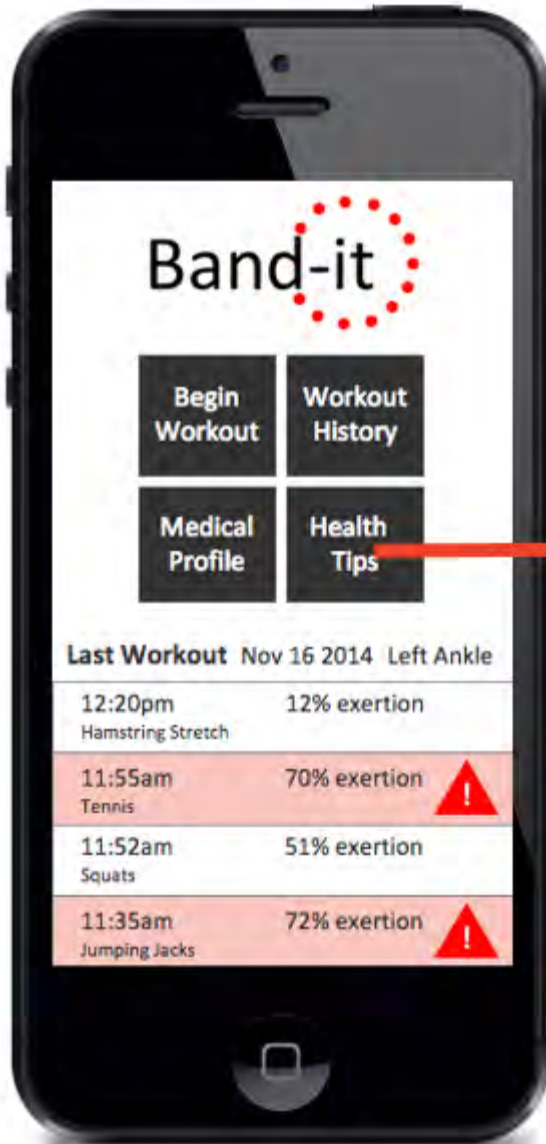
Many Screens on One Slide





Fewer Screens,
Show Connections



Fewer Screens,
Show Connections



IMPROVED DESIGN

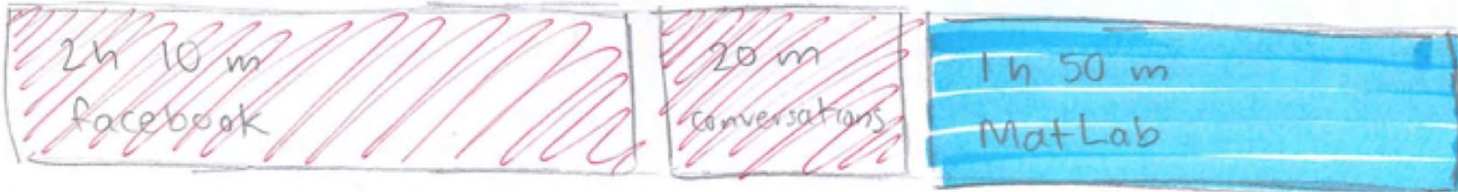
Sunday, November 2nd, 2014  

Overall Sessions

 Distracted  Productive

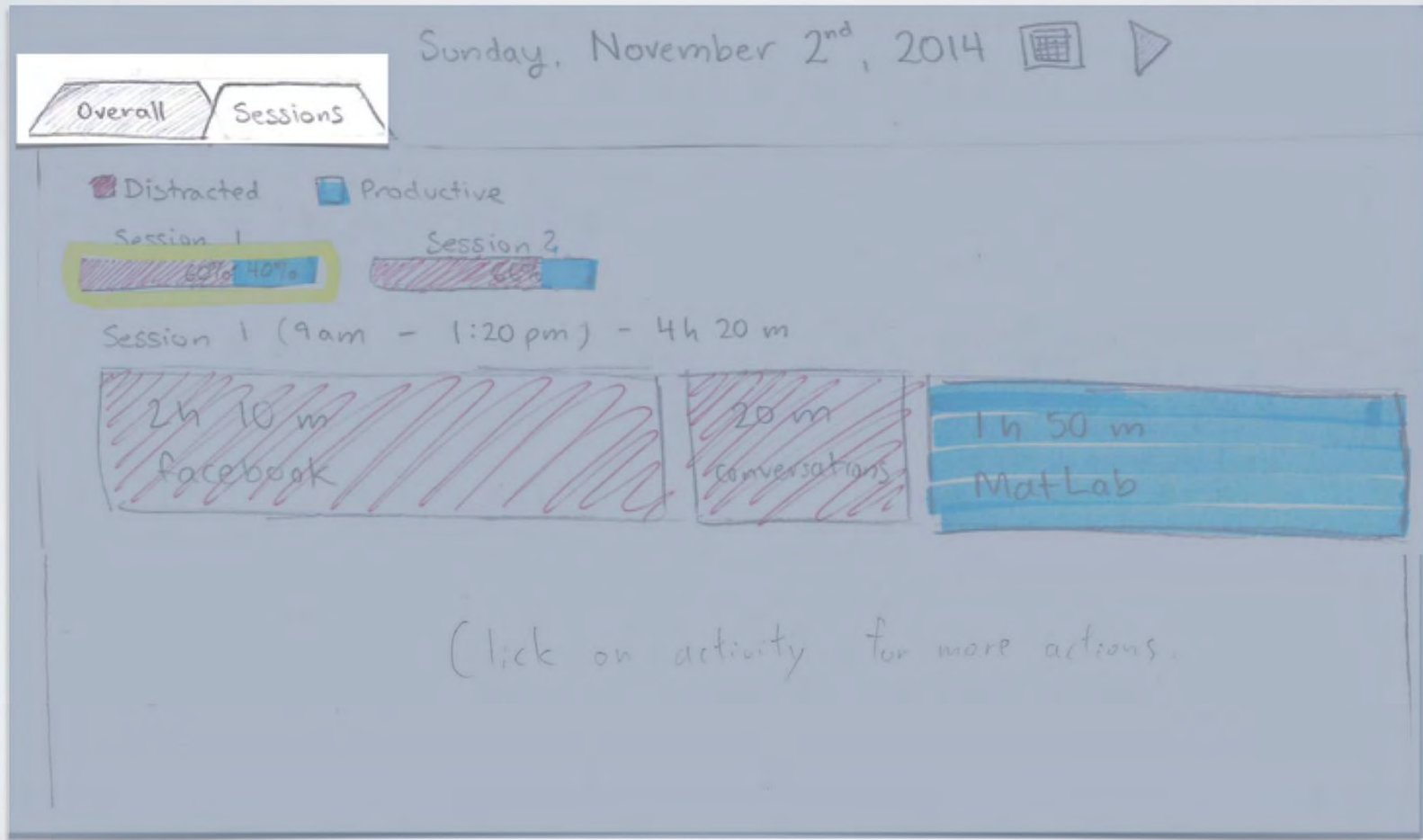


Session 1 (9am - 1:20 pm) - 4h 20 m

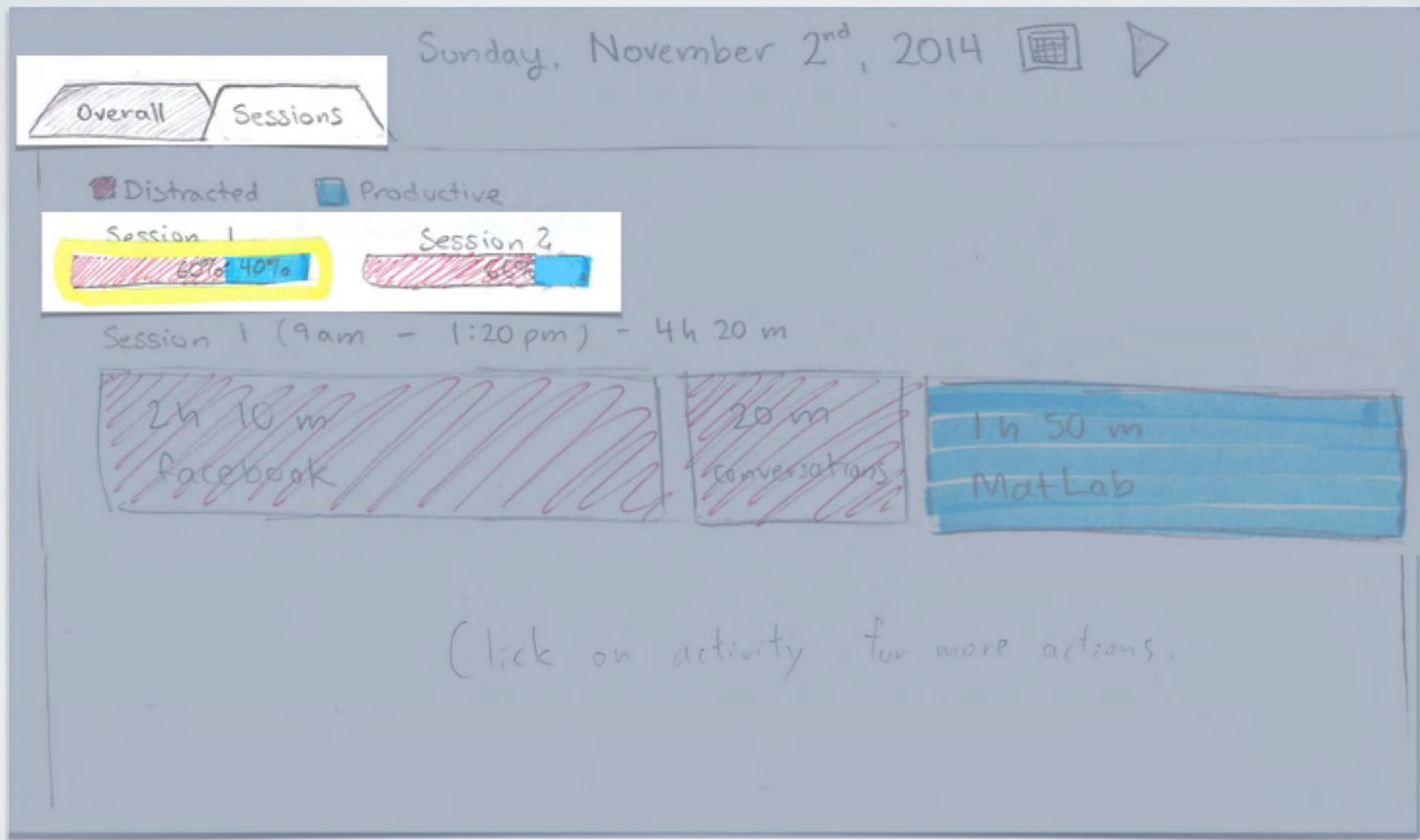


(click on activity for more actions.)

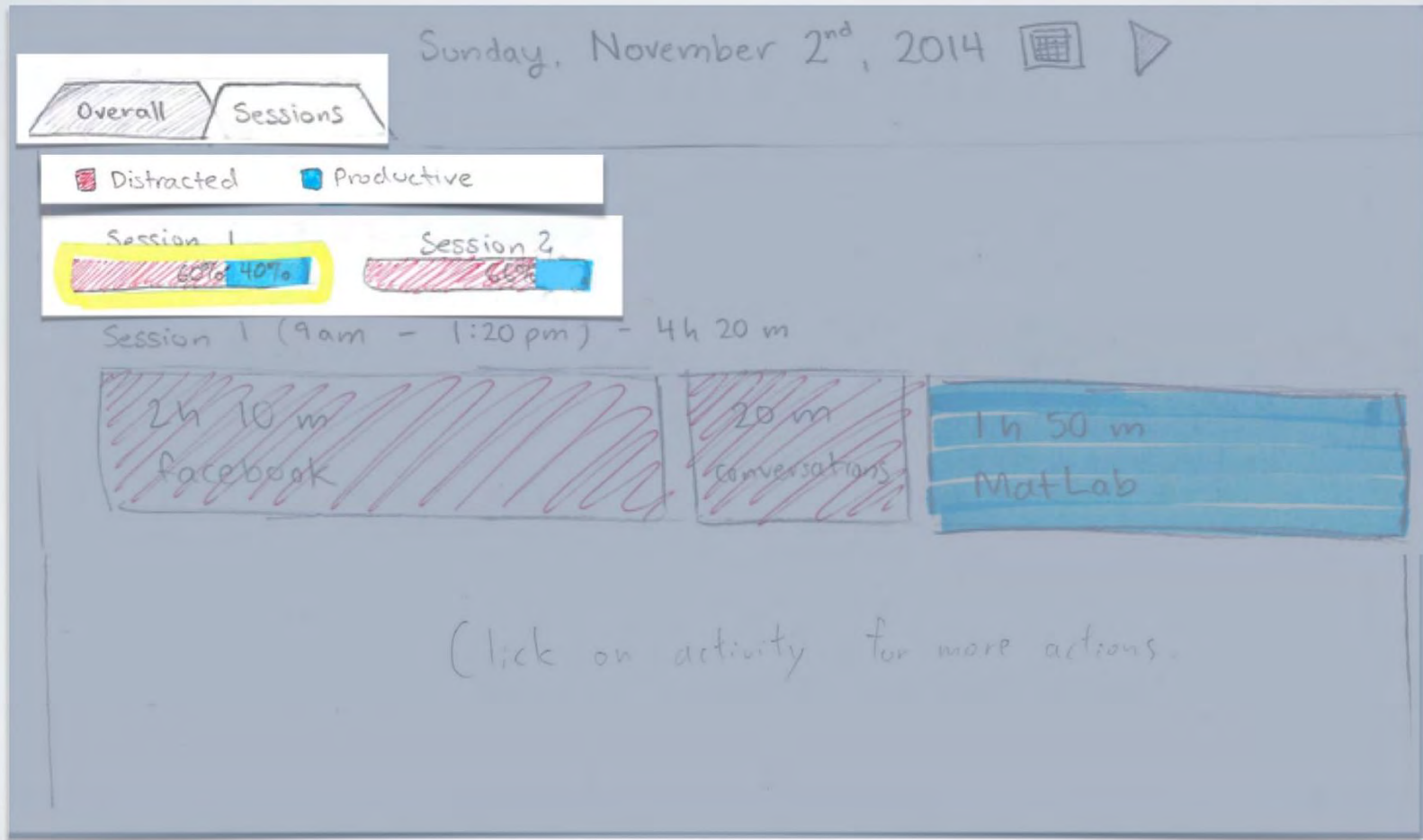
IMPROVED DESIGN





IMPROVED DESIGN



IMPROVED DESIGN



IMPROVED DESIGN

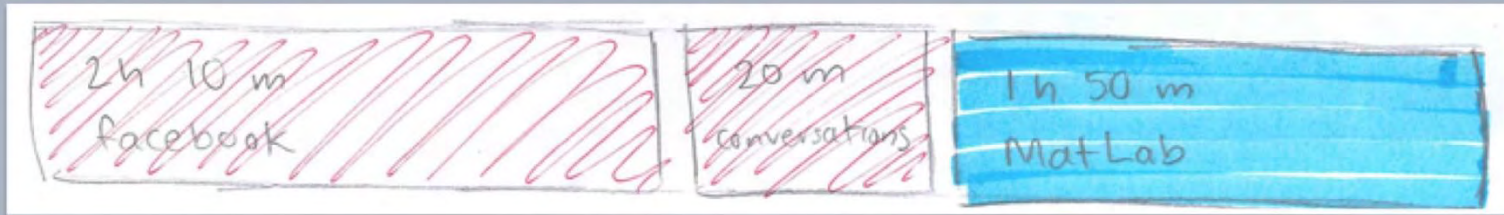
Sunday, November 2nd, 2014  

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Session 1 (9am - 1:20 pm) - 4h 20 m



(click on activity for more actions.)

IMPROVED DESIGN

Sunday, November 2nd, 2014

Overall

Sessions

 Distracted  Productive

Session 1

60% 40%

Session 2

65%

Session 1 (9am - 1:20 pm) - 4h 20 m

2h 10 m
facebook

20 m
conversations

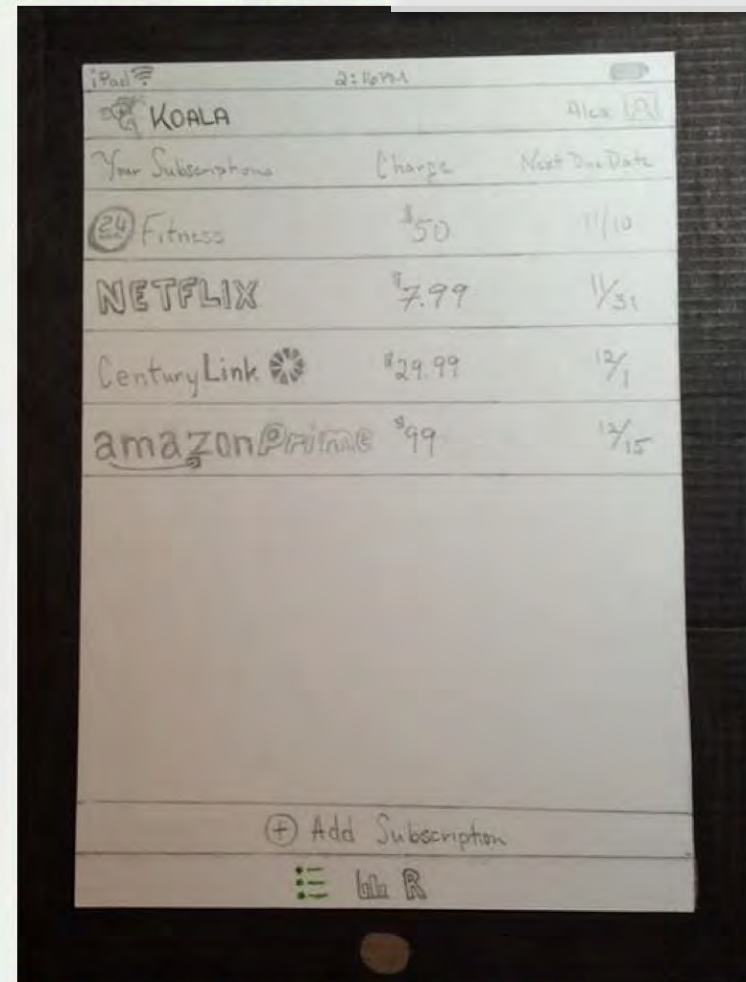
1h 50 m
MatLab

Click on activity for more actions.

Initial Paper Prototype

Task 1: Is Netflix worth it?

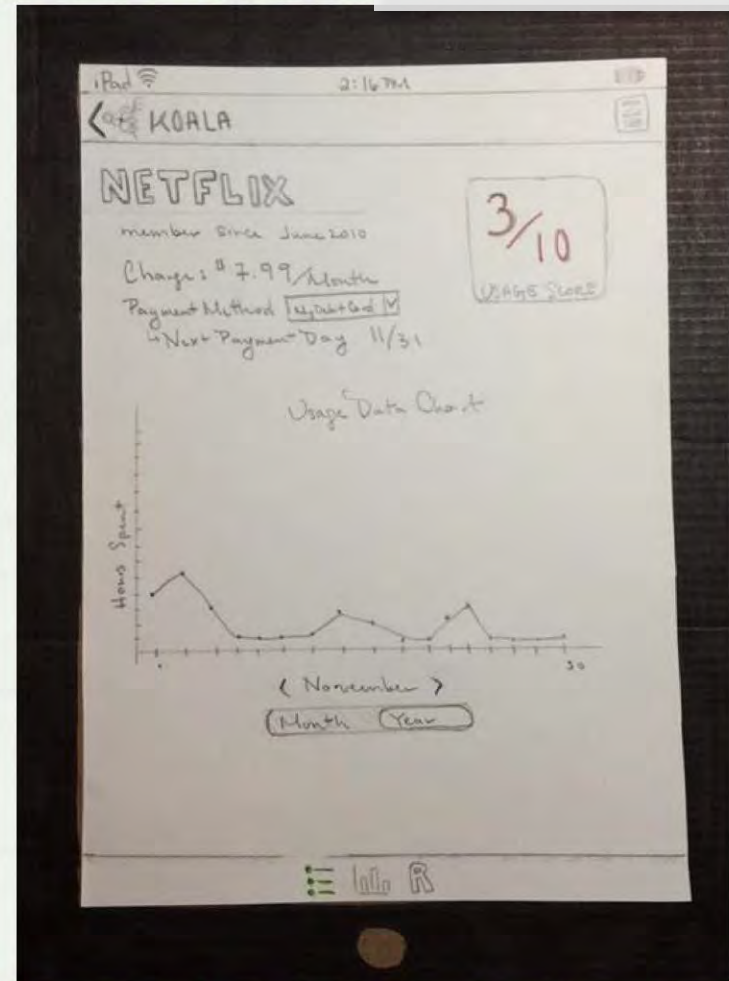
1. **View the Koala homepage**
2. Navigate to Netflix Detailed View
3. View your Usage Score for Netflix
4. Go to Settings
5. Click "Unsubscribe"
6. Return to homepage



Initial Paper Prototype

Task 1: Is Netflix worth it?

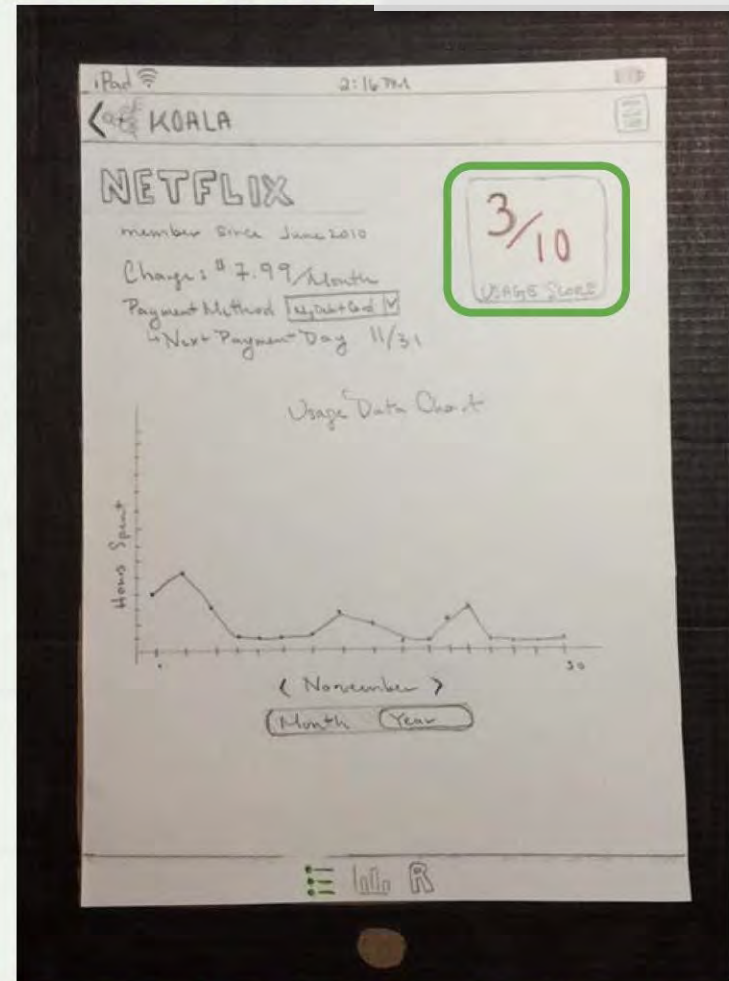
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Initial Paper Prototype

Task 1: Is Netflix worth it?

1. View the Koala homepage.
2. Navigate to Netflix Detailed View
3. View your Usage Score for Netflix
- 4. Go to Settings**
5. Click "Unsubscribe"
6. Return to homepage



Initial Paper Prototype

Task 1: Is Netflix worth it?

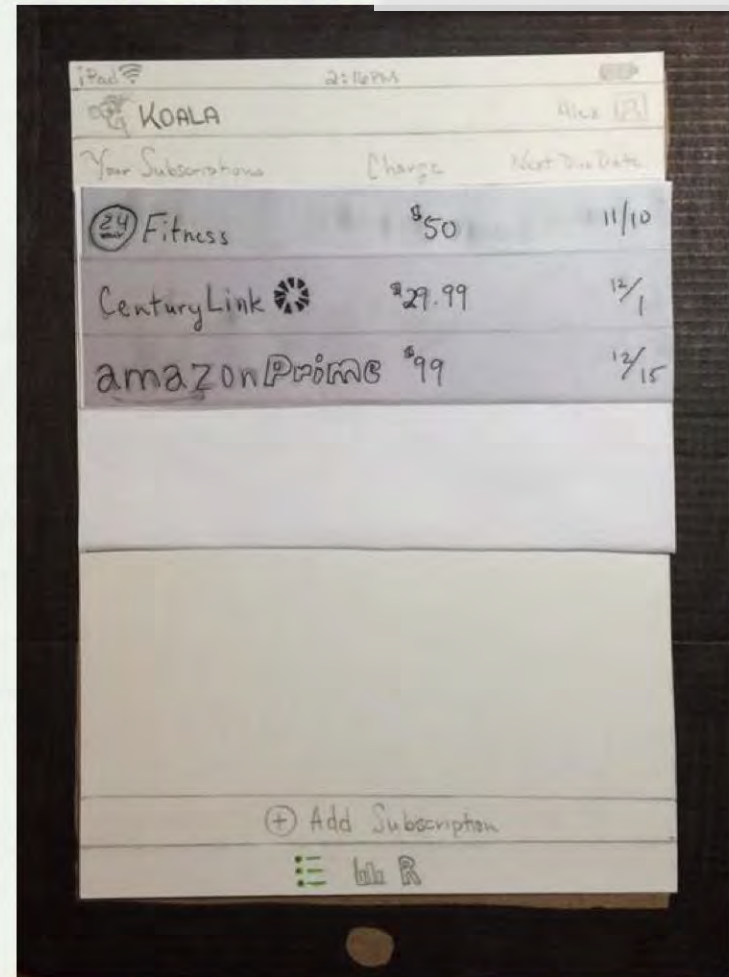
1. View the Koala homepage.
2. Navigate to Netflix Detailed View
3. View your Usage Score for Netflix
4. Go to Settings
- 5. Click "Unsubscribe"**
6. Return to homepage



Initial Paper Prototype

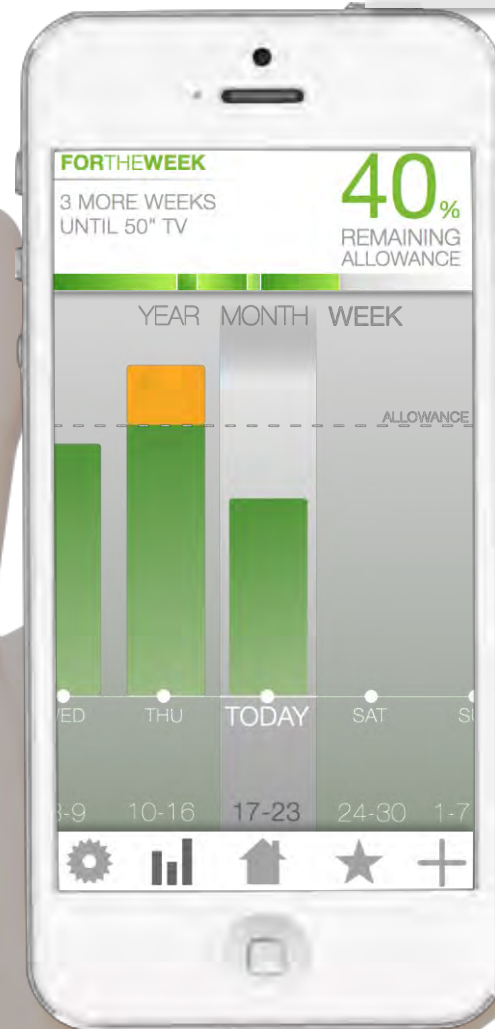
Task 1: *Is Netflix worth it?*

1. View the Koala homepage.
2. Navigate to Netflix Detailed View
3. View your Usage Score for Netflix
4. Go to Settings
5. Click "Unsubscribe"
- 6. Return to homepage**



VIEWPROGRESS

Interface
Animation



PROBLEM

Gratuitous
Animation

~~LUNCH - \$5.49~~

COFFEE - \$3.49

MOVIES - \$11.20

~~COFFEE - \$3.89~~

~~ICE CREAM - \$4.42~~

DINNER - \$7.79

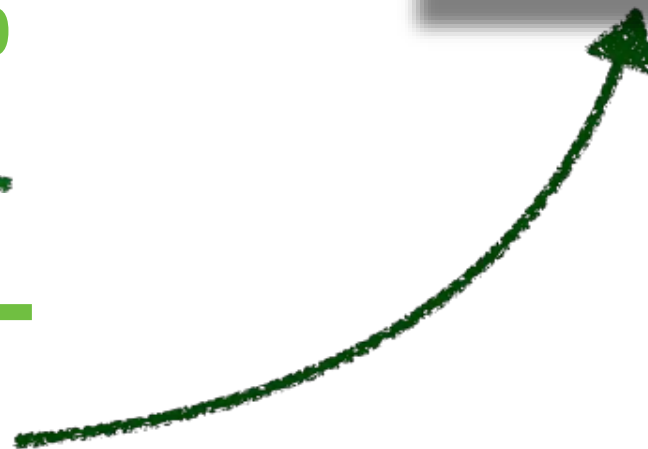
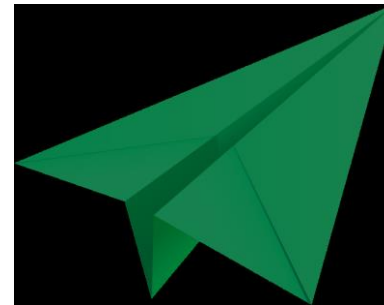
~~COFFEE - \$4.89~~

BOWLING - \$10.20

~~KIT KAT - \$0.99~~

~~BRUNCH - \$11.42~~

BEER - \$4.00



Problem

Check the
Projector

A lack of awareness about the long-term
implications of noise exposure

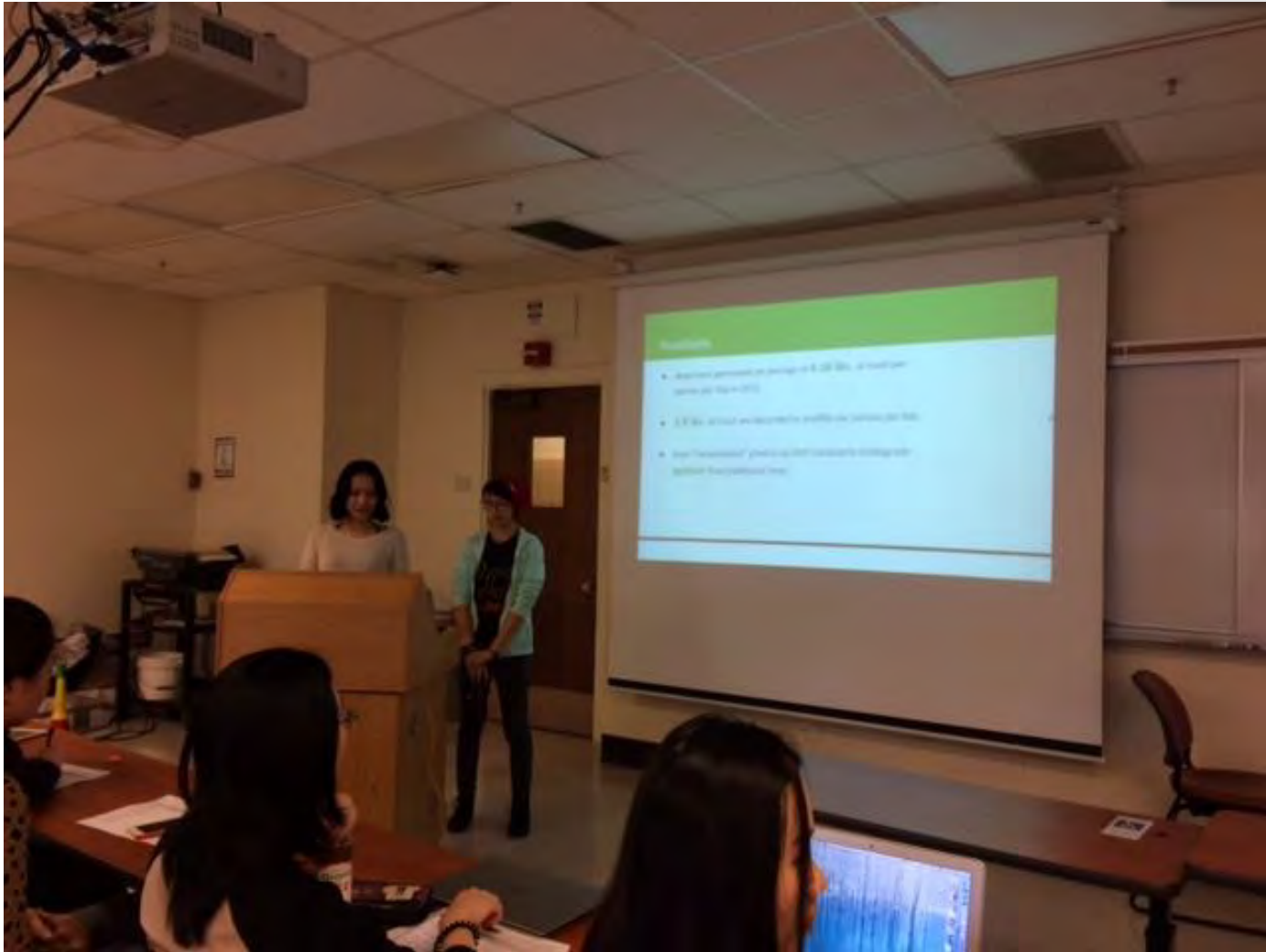
Finishing
Slide

KACHING



Delivery

Jessica
and Jess



Timing

“An 8 minute time limit will be strictly enforced”

7:40

10:00

8:30

10ish

8:45

10:15

9:00

11:00

9:00

11:45

9:45

13:00

You have 7 minutes
We do not have this overflow

Today

Tips for Effective Presentations

Paper Prototyping

Testing

Ethics in Testing

Tasks in Testing

Objectives

Be able to:

In the language of sketching and prototyping, describe the purpose paper prototyping and the broader goal of low-fidelity prototyping

Describe stages of a usability test, discuss strategies and potential pitfalls in each stage

Is My Design Good?

This is not a meaningful question

It can and will be answered with “Yes”

At least consider asking:

“What are three good things about this design?”

“What are three bad things about this design?”

But really the answer is “it depends”

Remember that designs are used for tasks

We should ask this in the context of tasks

Fidelity in Prototyping

High Fidelity

Prototypes look like the final product

Low Fidelity

Designer sketches with many details missing

We have discussed the value of staying lightweight in sketching, but this also applies to prototyping



High-Fidelity Prototypes Warp

Time and creativity

- Require precision (e.g., must choose a font)

- Specifying details takes time

- Can lose track of the big picture

Perceptions of a person reviewing or testing

- Representation communicates “finished”

- Comments often focus on color, fonts, alignment

Low-Fidelity Prototypes

Traditional methods take too long

Sketches → Prototype → Evaluate → Iterate

Instead simulate the prototype

Sketches → Evaluate → Iterate

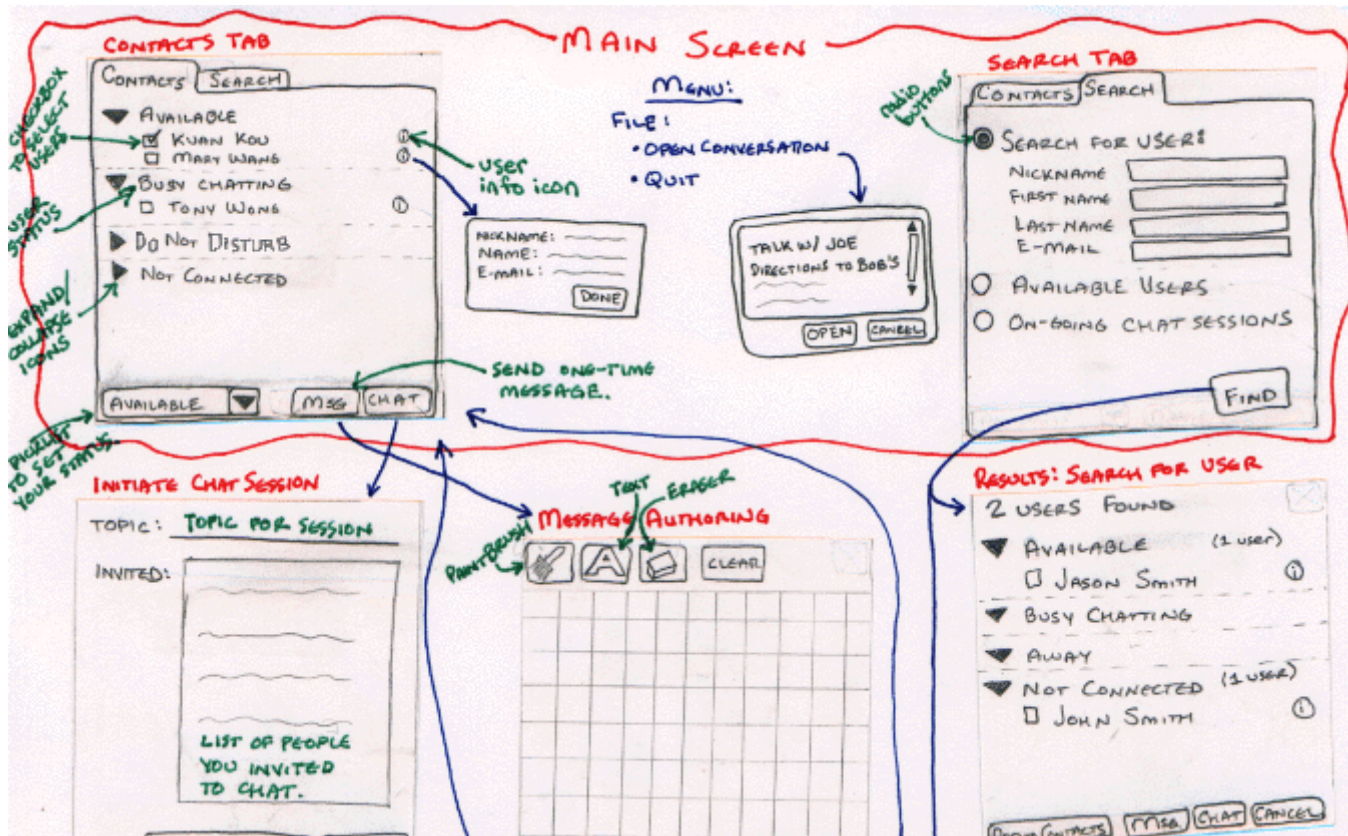
Sketches act as prototypes

A designer “plays computer”

Other design team members observe & record

Kindergarten implementation skills reduce barriers to participation in design and testing

Sketches



Basic Materials

Heavy, white paper

Index cards

Post-its

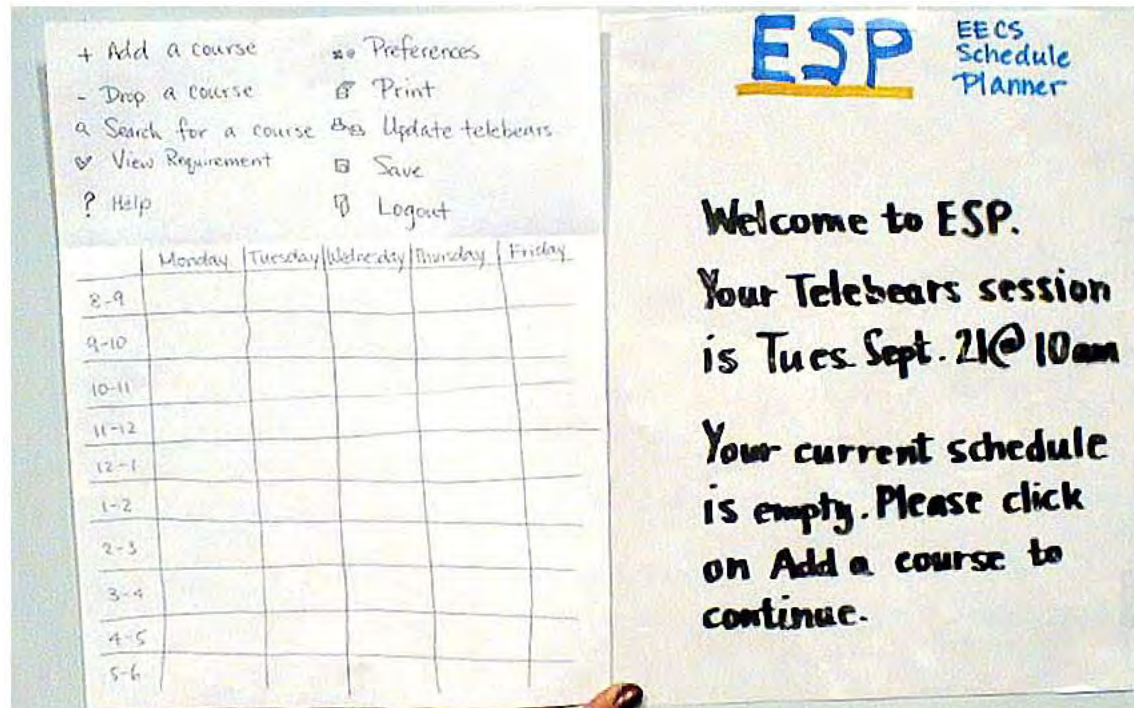
Tape, stick glue, correction tape

Pens and markers in many colors and sizes

Overhead transparencies

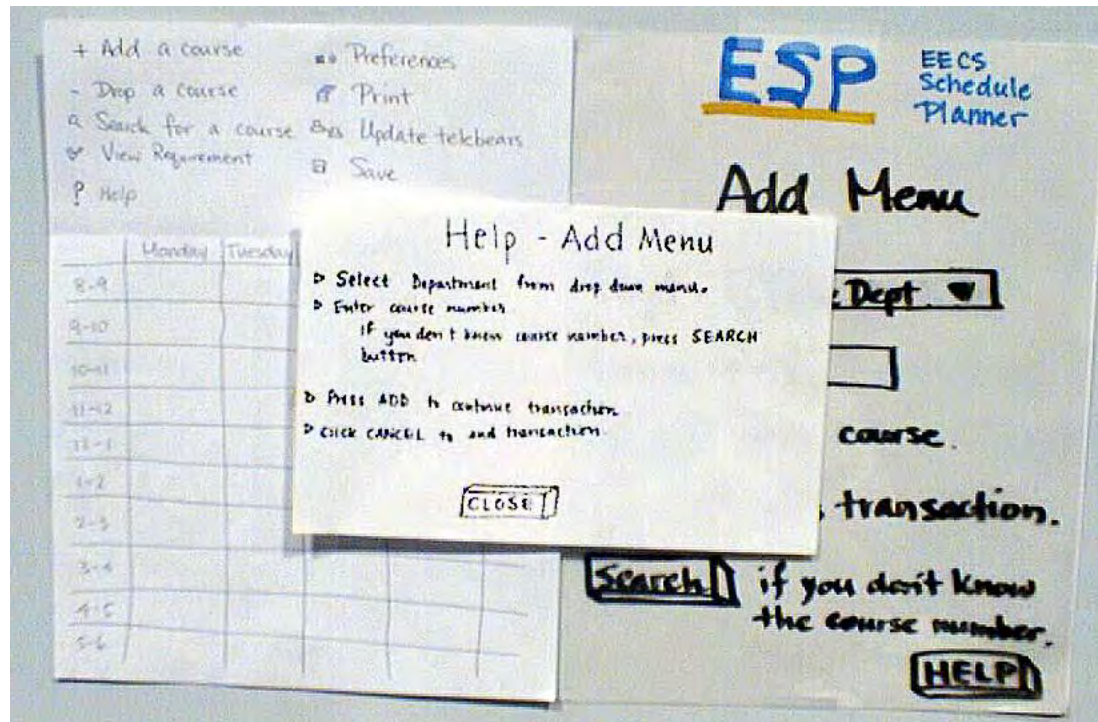
Scissors, X-Acto knife

Paper Prototype



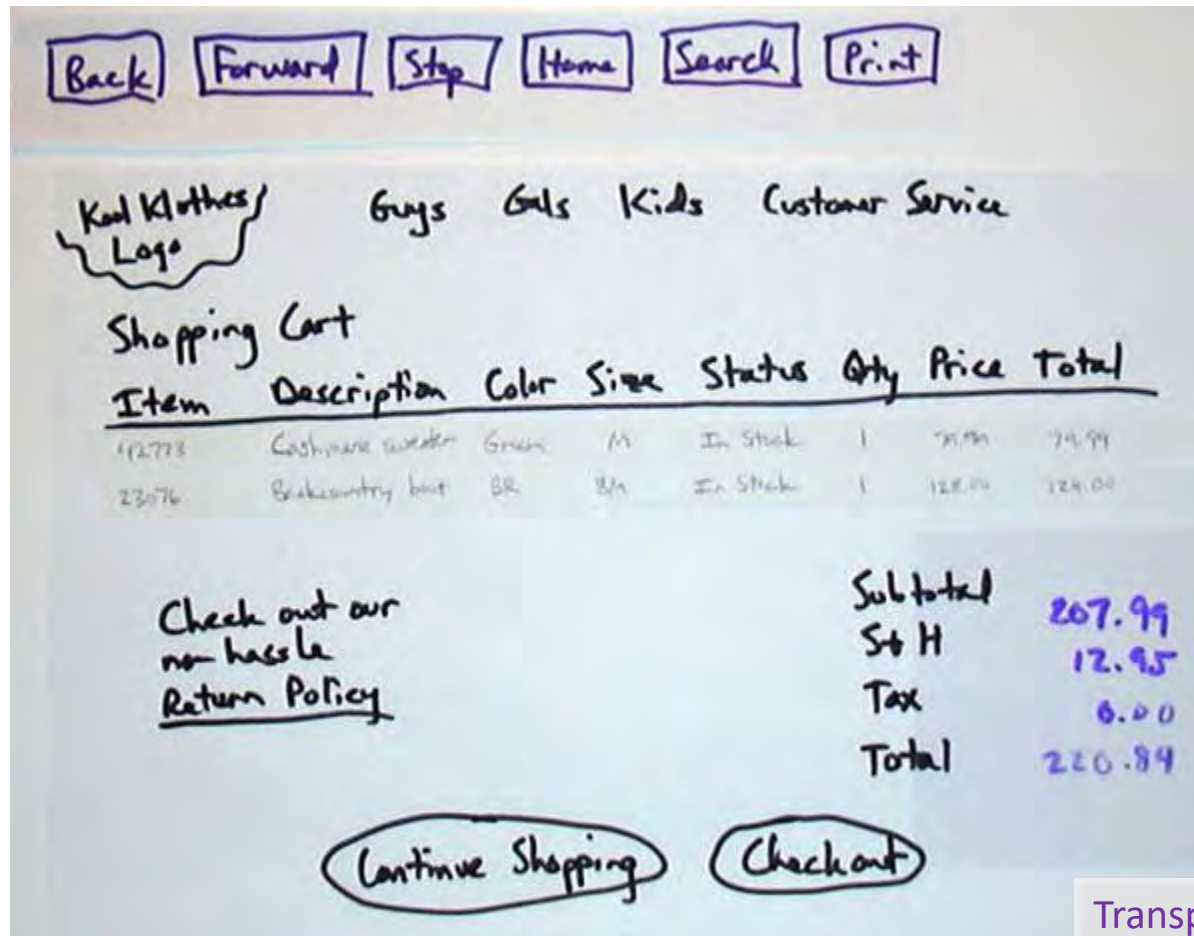
“Screen” faked with
pre-constructed pieces

Paper Prototype



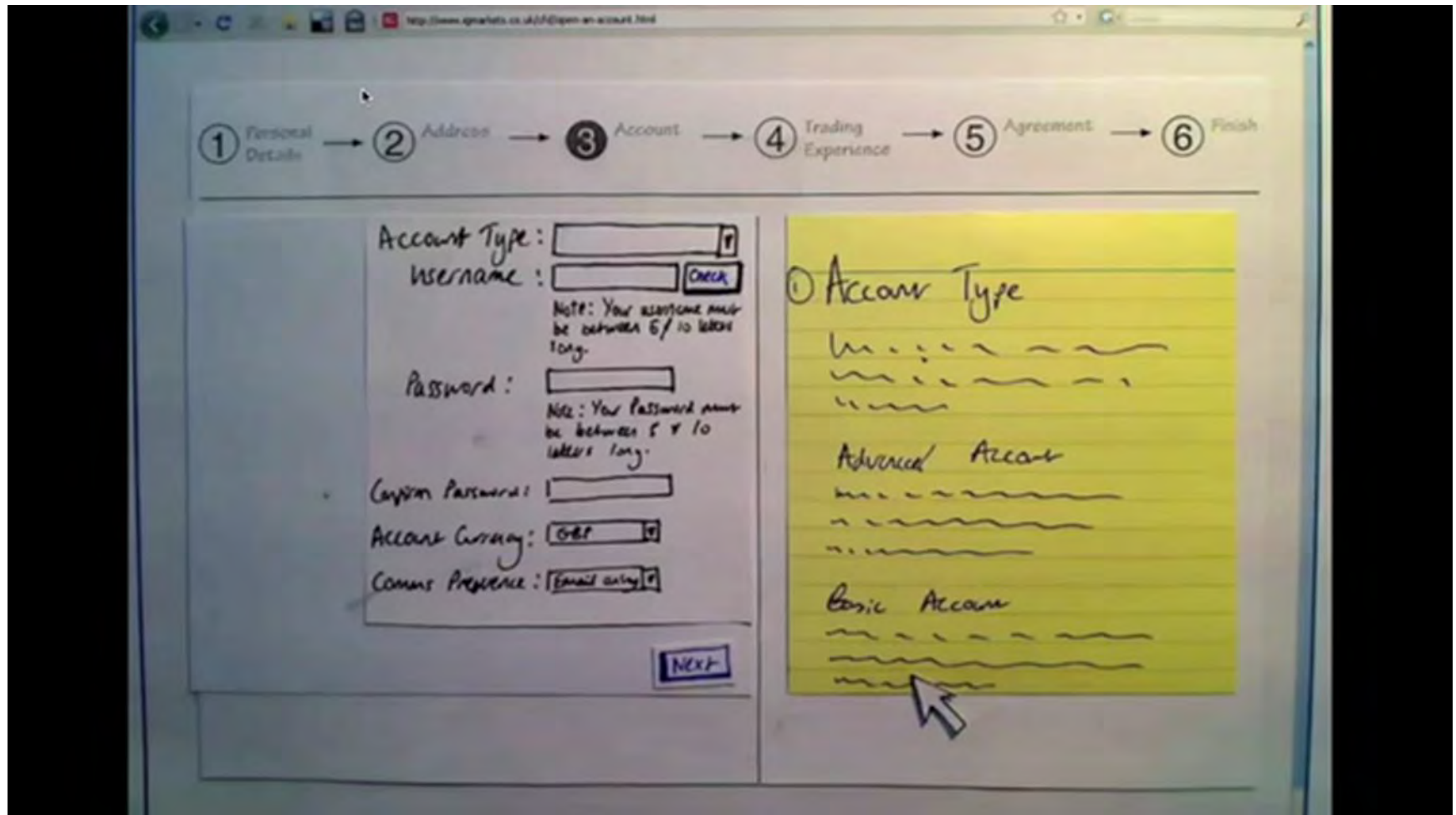
New pieces added in response to interaction

Paper Prototype

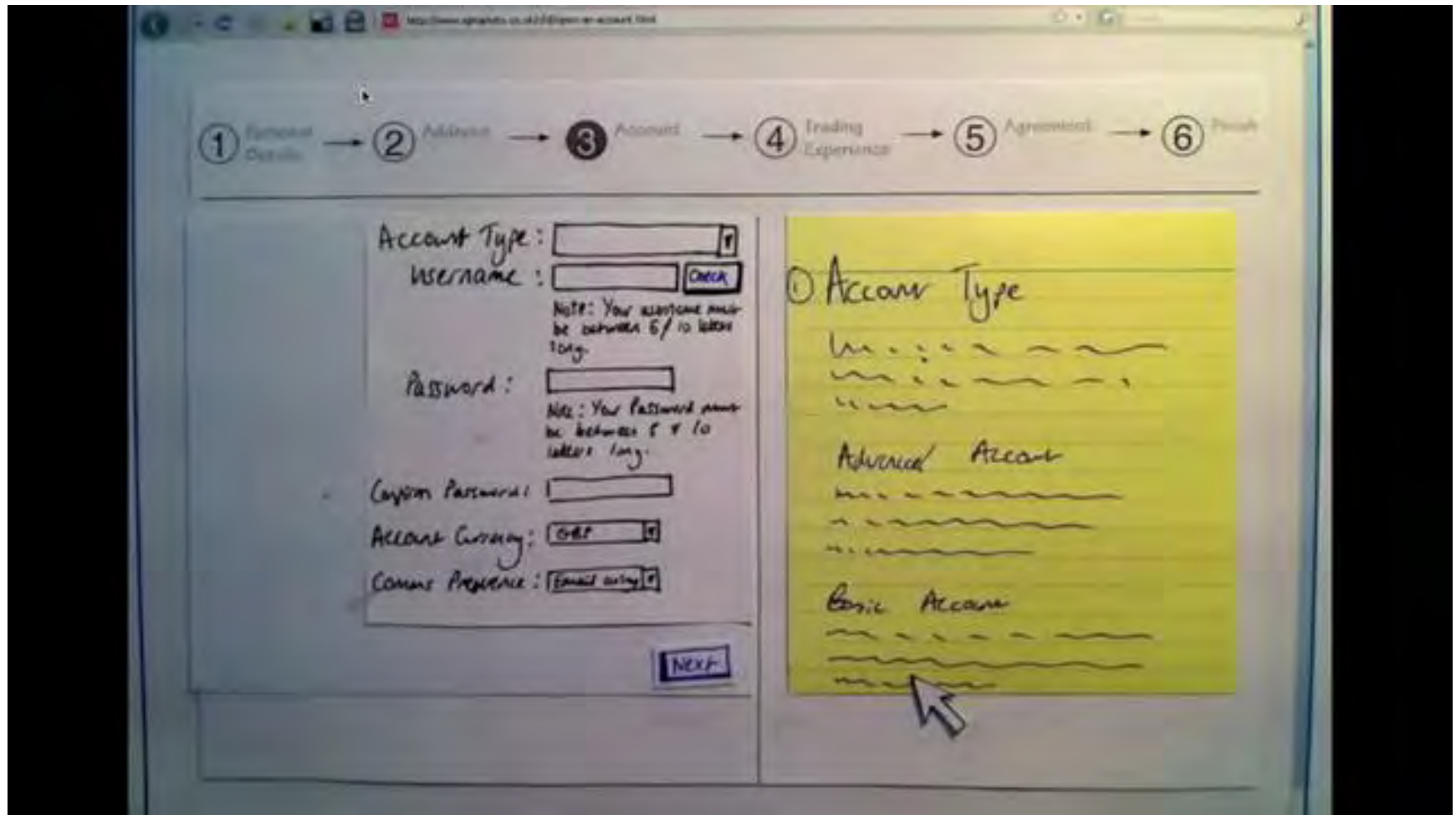


Transparencies allow flexible use of text

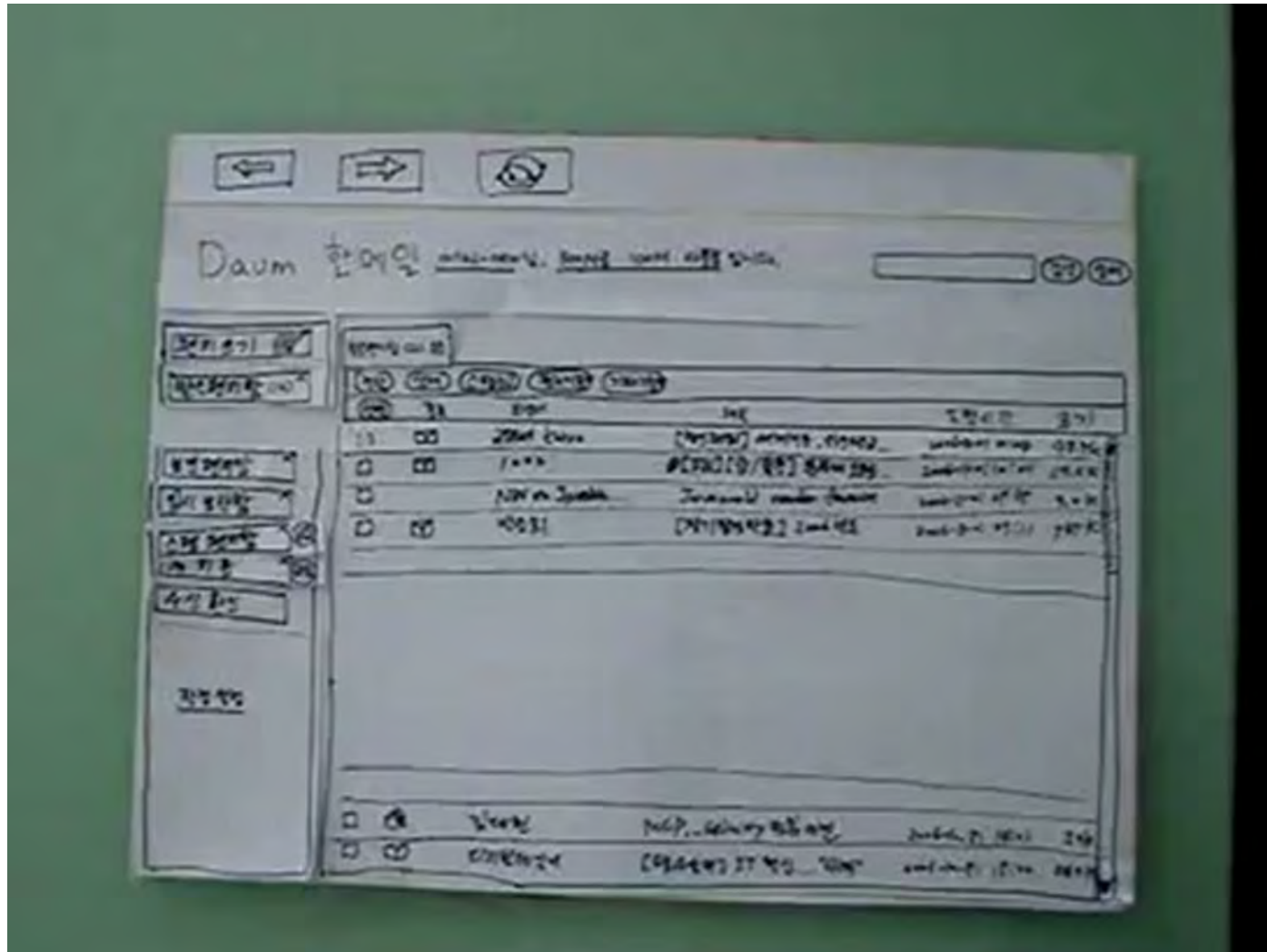
Paper Prototype as Communication



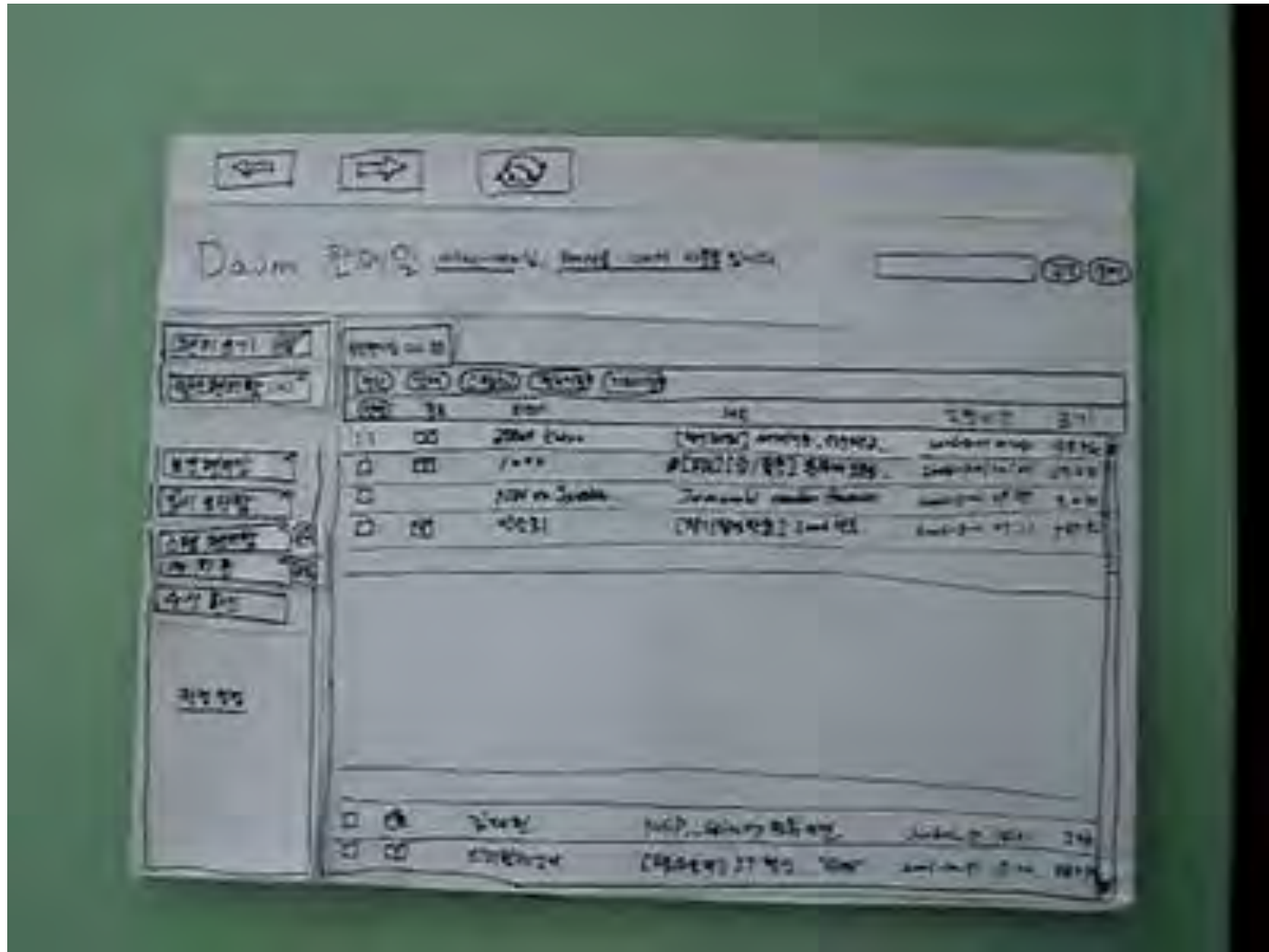
Paper Prototype as Communication



Paper Prototype as Evaluation



Paper Prototype as Evaluation



Constructing the Prototype

Set a deadline

Do not think too long

Instead build it, then learn and iterate as you go

Put different screen regions on cards

Anything that moves, changes, appears/disappears

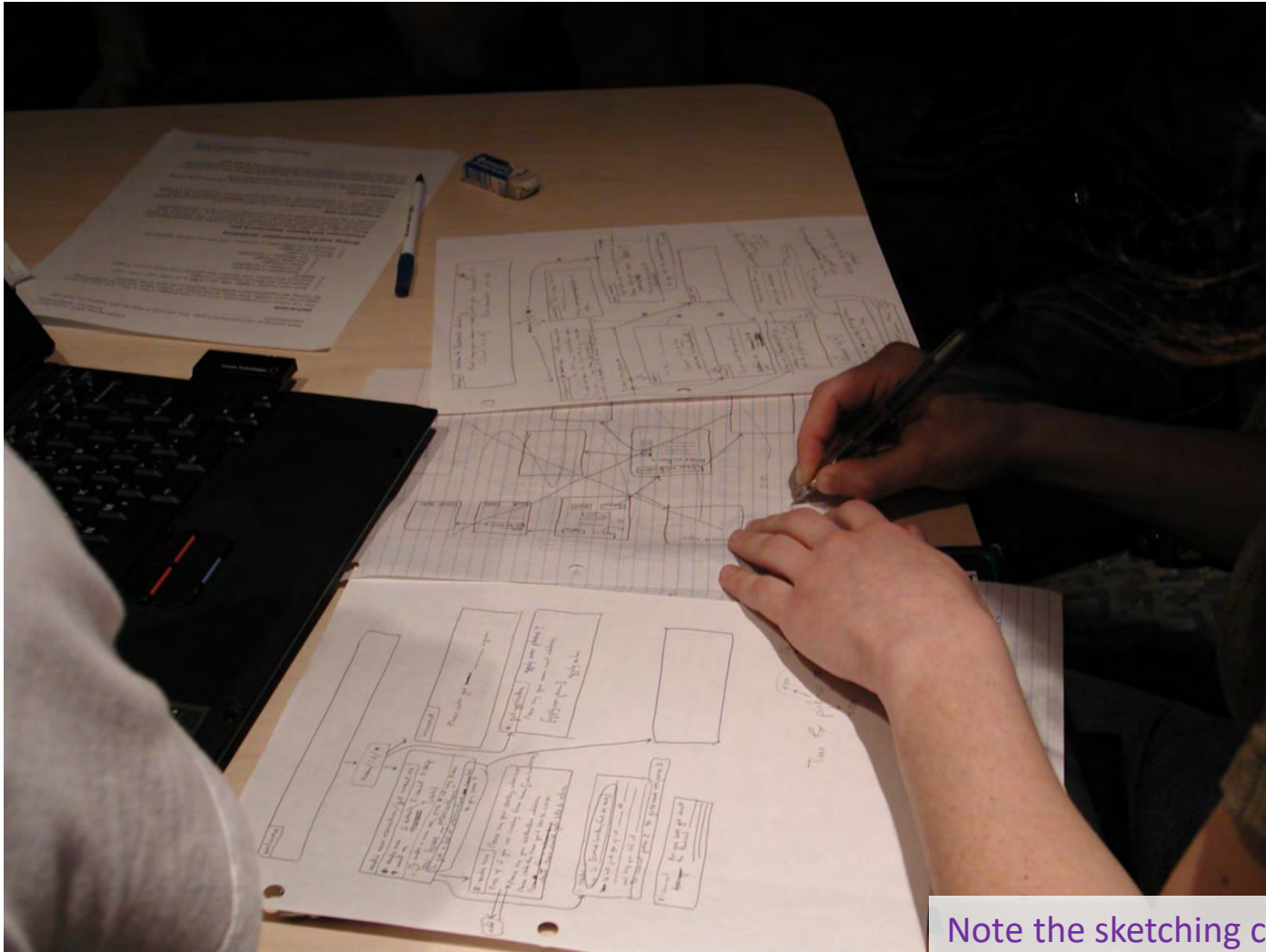
Ready responses for actions

Have those pull-down menus already made

Planned tasks can guide this

Use photocopier to make many versions

Constructing the Prototype



Note the sketching continues

Constructing the Prototype



Planning what is needed given tasks

Constructing the Prototype



Prototyping physical form

Constructing the Prototype



Prototyping physical form

Constructing the Prototype



Remember your target platform constraints

Constructing the Prototype



Remember your target platform constraints

Today

Tips for Effective Presentations

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Why Usability Test?

Find and fix problems in a design

- Removes the expert blind spot

- Obtain data to unify team around changes

- Uncover unexpected behaviors

Results drive changes, sometimes innovations

In the long run, this is a win-win

- Both improves design and saves money

Deciding What Data to Collect

Process data

Observations of what people do and think

Focused on improving this process

Summary, statistical, or bottom-line data

Summary of what happened

(time, errors, success)

Focused on measurement

Deciding What Data to Collect

Process data

Observations of what people do and think

Focused on improving this process

Summary, statistical, or bottom-line data

Summary of what happened

(time, errors, success)

Focused on measurement

Focus on process data

Gives overview of where the problems are

More useful than “too slow” or “too many errors”

Not a Scientific Experiment

Focus is on improving the design

Experimental control is not as necessary

Data measurement is not as precise

Number of participants is fairly small

Changes can be made

Fix the obviously broken design

Quickly explore alternatives

Modify the focus of testing between participants

Task-Based Usability

Set up an overall context

“We are interested in improving people’s ability to save, update, and use contacts in their phones.”

Then prescribe tasks

1. Try to find the contacts list in the phone
2. View the contact information for John Smith
3. Change John Smith’s number to 555-555-5555

Tasks can be chained to naturally lead to next

Stages of a Usability Test

Preparation

Introducing the Test

Conducting the Test

Debriefing

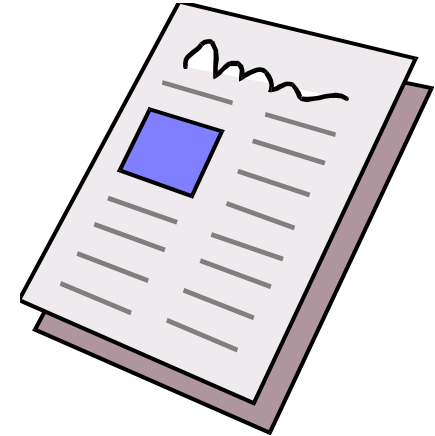
Analyzing the Data

Creating the Report

Usability Test Proposal

A report that contains

Objective, Description of System,
Environment and Materials,
Participants, Methodology,
Tasks, Test Measures



Work through it with colleagues to debug test

Reuse when presenting report of testing results

Preparing for a Test

Select your participants

Friends and family are not your design targets

Understand background, consider recruiting questionnaire

Prepare tasks and paper prototype

Practice to avoid “bugs” in your prototype

Introducing the Test

Address Feelings of Judgment

“Today we are interested in learning about X.
That’s where you come in!”

“I did not develop X.
I just want to know what the problems are with X.”

“It is X being tested here, not you.”

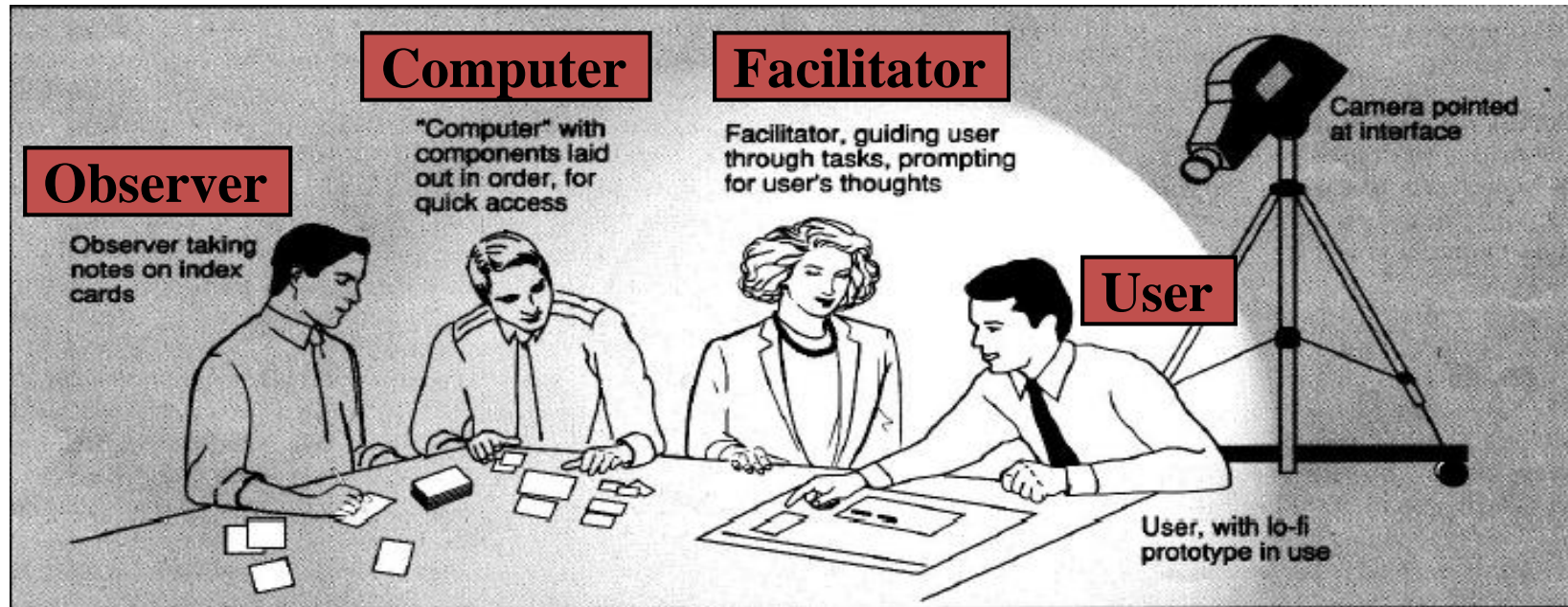
Introducing the Test

Set Expectations for Process

“It is essential you think out loud while working with X. Tell me constantly what you are thinking, looking for, wondering, confused about, surprised, and so on. If you stop talking, I will prompt you to talk.”

“I will not be able to answer your questions when you start using X. Do you have any questions now?”

Conducting a Test



See the Gommol reading tips on a test session

Talk-Aloud Prompts

“Tell me what you are trying to do.”

“Please keep talking.”

“Tell me what you are thinking.”

“Are you looking for something? What?”

“What did you expect to happen just now?”

“What do you mean by that?”

“Talk-aloud” is similar but distinct from “think-aloud”

Most do not know or care about the difference,
so you may see the terms used interchangeably

Insight Problems

When people are trying to figure something out, talking aloud can prevent needed “insight”

If your participant is really baffled, it might not be the best time to prompt them to keep talking

Wait for a natural break, and then ask
“What were you thinking just there?”

Retrospective talk-aloud

Record session,
talk through immediately afterward

Answering Questions

Remember the purpose of this test

You would not be there “in real life”

You want to see if they can figure it out

You want to see how hard it is

You want to see how catastrophic the outcome is

But you do not want to punish the person or completely undermine the rest of the session

Note any help you provide as a major failure

Do not allow observing engineers to help

Debriefing

Give them more details about what you were interested in discovering, with their help

Answer any questions they have

Now you can show them how to accomplish the tasks, talk about what you learned from the test

Thank them for their time

Appropriate to give some compensation

Analyzing and Reporting the Results

Tests yield many forms of data

Quantitative counts

time, success/failure

confusions, errors, workarounds

Observations

notes about when, where, why, how above occur

Participant comments and feedback

during session or via a questionnaire

Analyzing and Reporting the Results

Summarize the data

Make a list of critical incidents

can be positive and negative

include references back to original data

try to judge why each difficulty occurred

Sort and prioritize findings

what does data tell you

what are the important results

anything missing from test

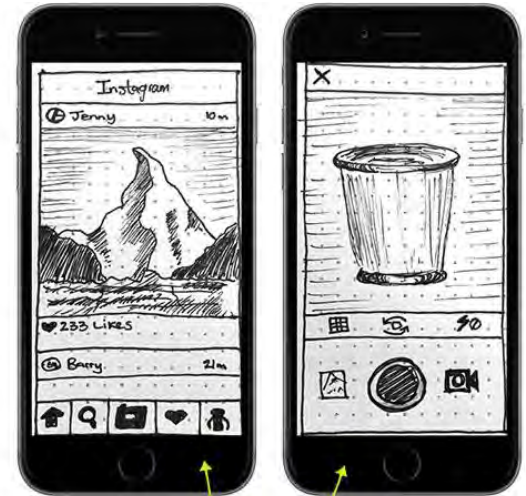
Careful Certain Temptations



Take a photo of your wireframe sketch



Add clickable areas and transitions between screens



"Use" the prototype on your own device

Today

Tips for Effective Presentations

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Ethical Considerations



Testing is stressful, can be distressing

people can leave in tears

You have a responsibility to alleviate

make voluntary with informed consent

avoid pressure to participate

let them know they can stop at any time

stress that you are testing the system, not them

make collected data as anonymous as possible

Human Subjects Approvals

Research requires human subjects review of process

This does not formally apply to your design work

But understand why we do this and check yourself

Companies are judged in the eye of the public

Public Announcement

WE WILL PAY YOU \$4.00 FOR ONE HOUR OF YOUR TIME

Persons Needed for a Study of Memory

*We will pay five hundred New Haven men to help us complete a scientific study of memory and learning. The study is being done at Yale University.

*Each person who participates will be paid \$4.00 (plus 50c carfare) for approximately 1 hour's time. We need you for only one hour: there are no further obligations. You may choose the time you would like to come (evenings, weekdays, or weekends).

*No special training, education, or experience is needed. We want:

Factory workers	Businessmen	Construction workers
City employees	Clerks	Salespeople
Laborers	Professional people	White-collar workers
Barbers	Telephone workers	Others

All persons must be between the ages of 20 and 50. High school and college students cannot be used.

*If you meet these qualifications, fill out the coupon below and mail it now to Professor Stanley Milgram, Department of Psychology, Yale University, New Haven. You will be notified later of the specific time and place of the study. We reserve the right to decline any application.

*You will be paid \$4.00 (plus 50c carfare) as soon as you arrive at the laboratory.

TO:
PROF. STANLEY MILGRAM, DEPARTMENT OF PSYCHOLOGY,
YALE UNIVERSITY, NEW HAVEN, CONN. I want to take part in
this study of memory and learning. I am between the ages of 20 and
50. I will be paid \$4.00 (plus 50c carfare) if I participate.

NAME (Please Print)

ADDRESS

TELEPHONE NO. Best time to call you

AGE OCCUPATION SEX

CAN YOU COME:

WEEKDAYS EVENINGS WEEKENDS

Today

Tips for Effective Presentations

Paper Prototyping

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In-Class Design, Prototype, Test

Design and prototype a touchscreen alarm clock to be deployed in a very high-end hotel brand. Your alarm clock should be immediately usable for tired, busy, or just-don't-want-to-be-bothered travelers who will spend zero time learning your interface.

In addition to displaying the current time, your design should include basic functionality for:

- turning the alarm on/off
- setting the wake-up time
- anything else you think is appropriate

Guests will interact with the alarm via a touch panel.

Task Design is Important

The goal of a test is to figure out how a person interacts with an interface in the wild...

There are two possible explanations for why a test does not find significant problems:

- The interface does not have significant problems

- The test itself has significant problems

Task Design is Important

Testing is not entirely in the wild

As a part of focusing the test, you often need to give a person a somewhat artificial task

The artificiality of the task may influence how people interact with an interface...

...and thus may influence the outcomes and insights gained through user testing

Bad: Artificial Subgoals

People using the design “in the wild” may not necessarily form these same subgoals

The task should give one top-level goal, a people should form their subgoals while pursuing this

Now you want to choose the type of paper you want to print your document on. Lets imagine that Bin “B” has the paper you want to print your paper on, please complete this task.

Now set the darkness of your copies to about 50% dark. After setting the darkness, you decide you want to print 2 sides of copies on two sides of paper. Please complete this task.

Bad: Artificial Ordering

Without an artificial ordering of information or subgoals, people might not proceed in this order

The ordering might also be biased towards the layout of the interface, which would conceal any problems with finding the appropriate control

- Enter in 10 copies, with lightness set to 10%.
- Choose 1 sided to 2 sided, use paper source bin A.
- Cover sheet needed, using paper bin B for cover sheet.
- Set stapling feature on and collating on.
- Start printing.

Bad: Changing the Task

The task is to make copies, and this happens to involve entering information in the copier interface

But this task description is an data entry task,
“Here is some information. Put it in the interface.”

- Make 23 copies
- With collate
- Cover sheets
- Default darkness
- 1 Sided-> 1 Sided

Bad: Giving the Answers

Tells the person what terminology the interface uses, which they might not otherwise know

lighten = contrast, sorted = collated?

You are a teacher and are trying to make 40 copies of a one-sided magazine article that is 10 pages long for your class tomorrow. Due to the large number of copies, you print the article double-sided, in other words 10 page article would be printed on 5 sheets of paper. Due to the high contrast of the article, you must lighten the copy, in other words change the contrast. You then want the copies to be collated and stapled.

Good: Giving Context

Giving realistic context through scenarios can reduce the artificiality of the task

It's your first day in the office, starting a new job. You would like to make some copies of several documents that your boss gave you to browse through. Your colleague in the next cubicle tells you that you need an access code to make copies. The code is 5150. You walk over to the copy machine at the end of the hall and realize that it is not the Xerox copier that you are accustomed to... Make 2 copies of the "Company Annual Report".

Consider: Under-Specified Tasks

Many realistic goals are under-specified, as people have only a general idea what they want

By under-specifying the task, you can elicit realistic confusion and decision-making

You just finished fixing up the old hot rod in the garage and now its time to sell her. Make a couple copies of the pictures you took to **send into the used car sales magazines. It's ok that they're in black and white** but maybe you should lighten them up a bit. Your account billing code is 5150.

Task Design Summary

Task design is difficult and important

Poorly designed tasks mask interface failures

Have others help you “debug” them before testing

CSE 440: Introduction to HCI

User Interface Design, Prototyping, and Evaluation

Lecture 08:
Presentations,
Paper Prototyping,
Tasks in Testing
Tuesday / Thursday
12:00 to 1:20

James Fogarty
Kailey Chan
Dhruv Jain
Nigini Oliveira
Chris Seeds
Jihoon Suh