CS321: Introduction to HCI

Methods for Design, Prototyping and Evaluating User Interaction

Lecture 01: Introduction

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What is this course about?

What is this course about?

- How would we solve getting the population of a city?


```
$./getpopulation -x 10 -y 50 -d [10, 10]
> Total population: 4.74M
> % US population: 1.5%
```

What is this course about?

..not implementation!

- Who will use this?
- What will they use it for?
- Why is it important?
- Why is it this way?
- Is it really useful?

What is this course about?

No one gets it right the first time!

It's not only about computers

It is essentially a design course

Iterative Interaction Design:

Need finding, Prototyping,and Evaluation

What is this course about?

Iterative Interaction Design:

Need finding, Prototyping,and Evaluation

You're great at solving problems. But can you identify them?

→

Contextual inquiry
Scenarios, personas
Task analysis

What is this course about?

Iterative Interaction Design:

Need finding, Prototyping,and Evaluation

You shouldn't have to build a whole system to evaluate an idea

Sketching, Storyboarding, Paper/video prototypes Low fidelity and interactive prototypes

What is this course about?

Iterative Interaction Design:
Need finding, Prototyping,and Evaluation

How do you know your design is "good"?

User testing, Cognitive walkthrough
Think aloud, Heuristic evaluation

Everything is designed

- There are many ways to solve some problems
  - –That's why there is so much diversity

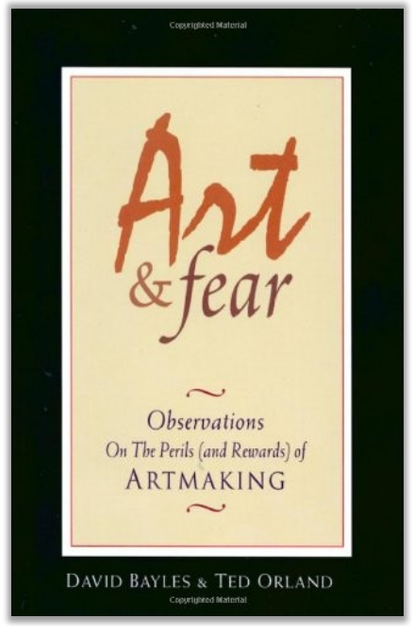
- Some are good, some are bad
  - –The design process helps you make sure it is good

- Some you like, some you hate
  - –Design is subjective and emotional

Quantity versus quality

Class-A: Graded on quantity

Class-B: Graded on quality



Which produces the best quality?

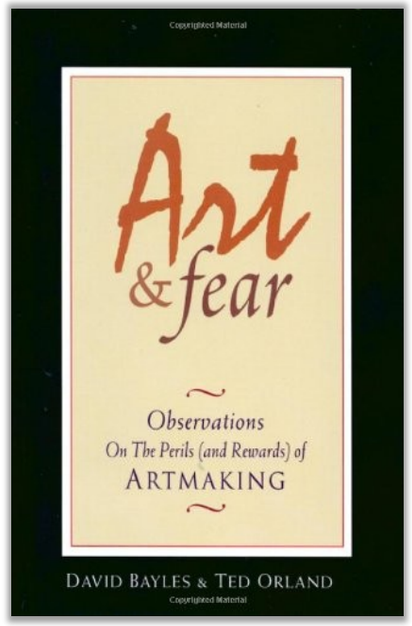
[Bayles and Orland, 2001]

Quantity over quality

Class-A: Graded on quantity

"busily churning out piles of work and **learning from their mistakes**"

Class-B: Graded on quality

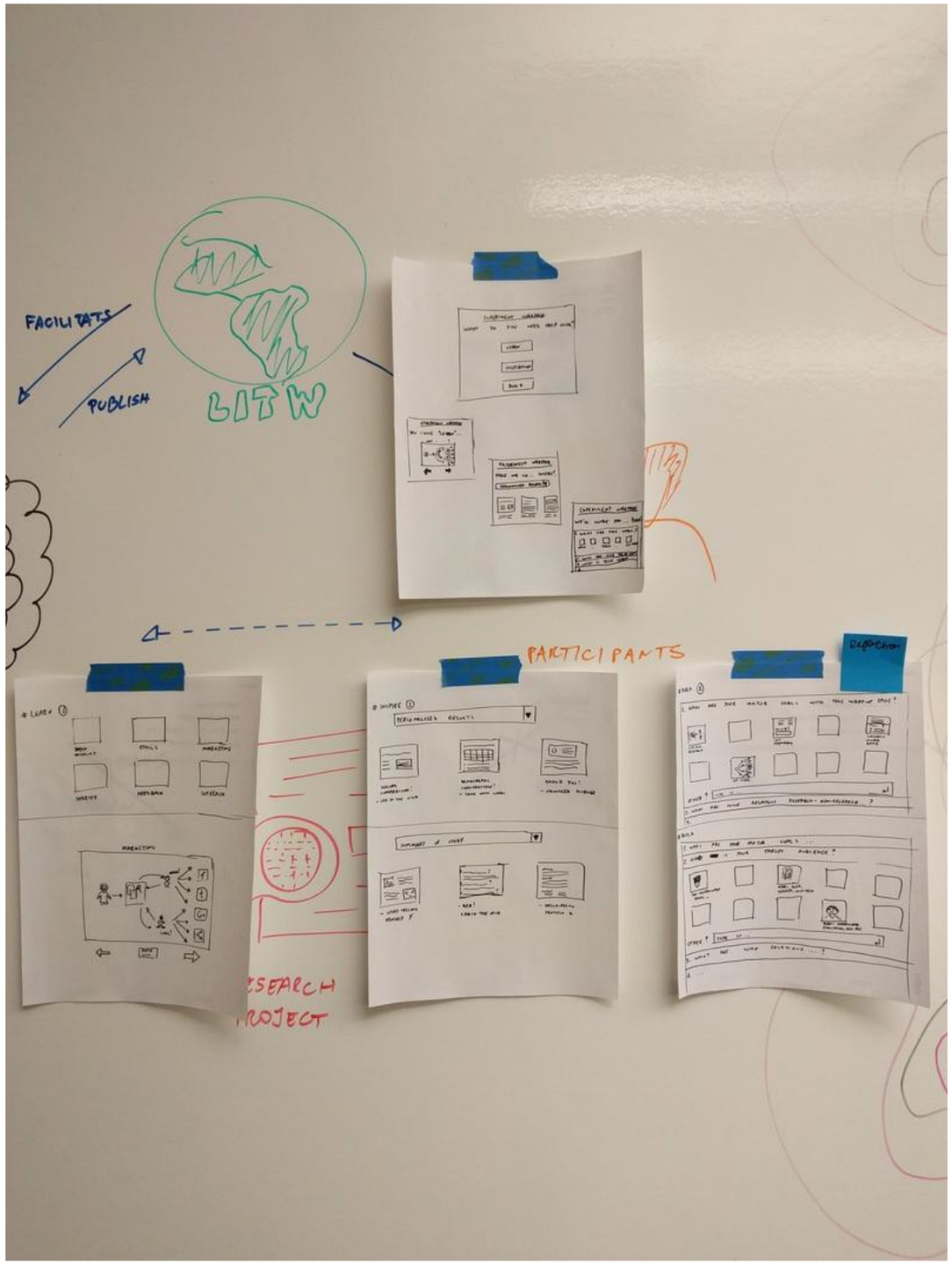


"theorizing about perfection, and in the end had little more to show for their efforts than grandiose theories and a pile of dead clay"

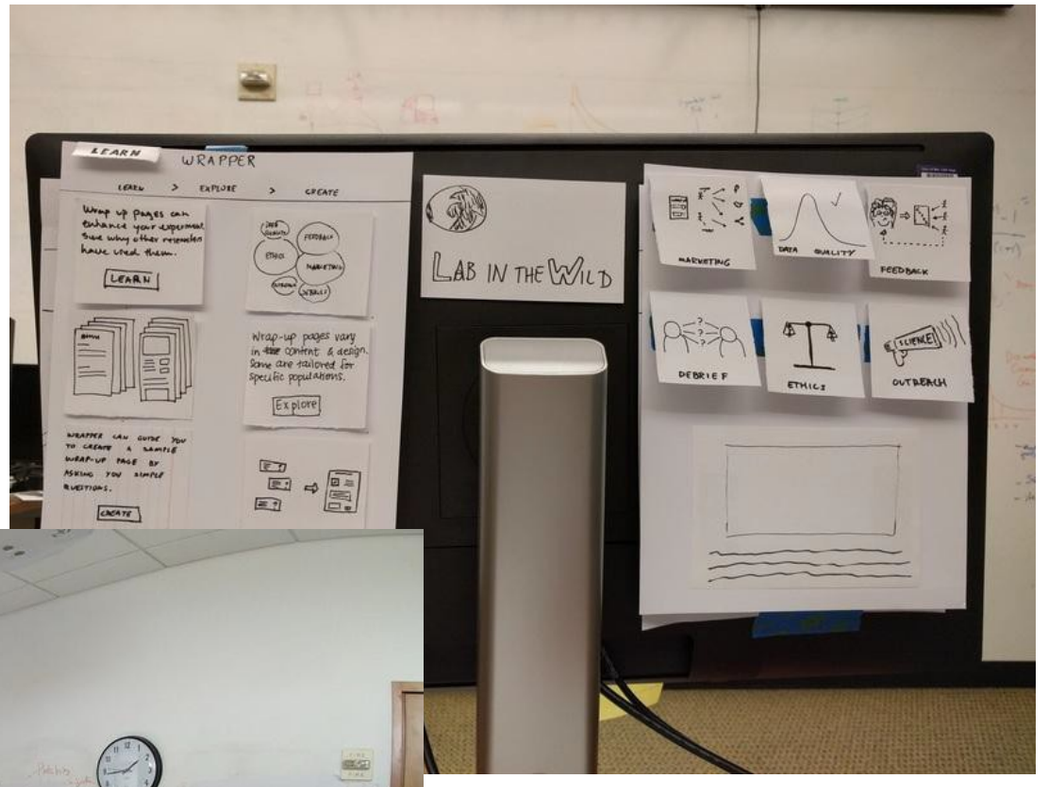
[Bayles and Orland, 2001]

Learn about the problem.

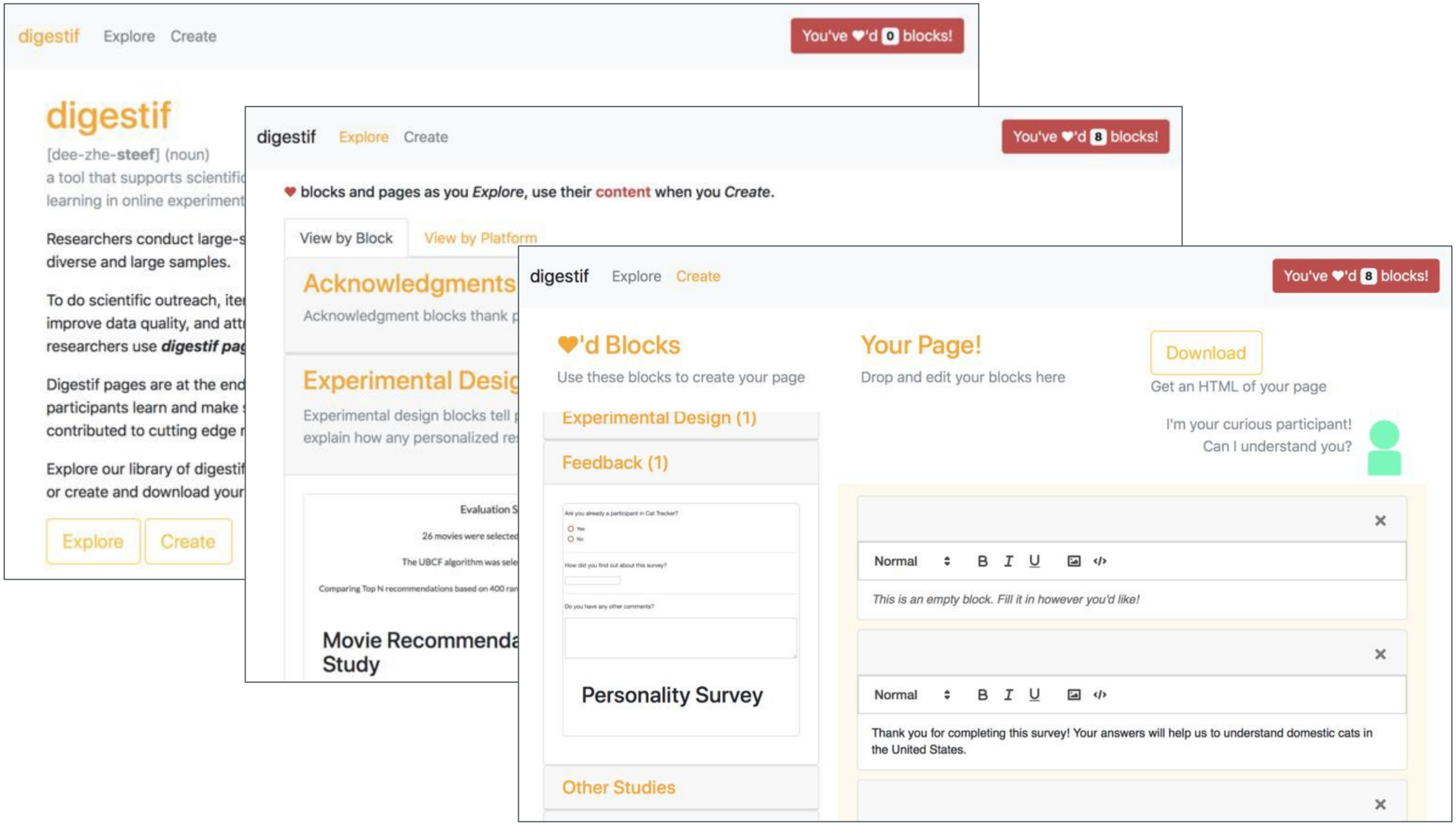
Inventing (many, many) solutions...



Prototyping and testing...



Not easy to get here!



What is this course about?

It is about reading, discussing, examining, and practicing techniques that build this design process.

Activity (10 minutes)

In groups of 2…

Redesign bulky headphones:

- What problems do you want to solve?
- How does your design solve them?

Make sure you are either addressing a **novel problem** (something nobody has tackled before) or you are contributing a **novel solution**!

Sketch out your design on a piece of paper and be prepared to show it off to the class!

What problems did you choose to solve?

What problems did you choose not to solve?

What’s your solution to those problems?

How many sketches you used?

What steps did you use to get to the solution?

What was hard and what was easy?

Anything you would do differently if you were to do this again?

“[Design is] a plan for arranging elements in such a way as to best accomplish a particular purpose.” Charles Eames

Core design skills

To **synthesize** a solution from all the relevant constraints

To **frame**, or reframe, the problem and objective

To create and **envision** alternatives

To **select** from those alternatives

To visualize and **prototype** the intended solution

Bill Moggridge

Learning Objectives

Understand what **HCI** and **interaction design** are

Develop skills on using design **methods**

Learn how to create design **artifacts**: scenarios, storyboards, prototypes

Think critically about design solutions

Learn how to do user **testing**

Communicate effective design critiques and defense

Iterative Human-Centered Design

This is a course about this PROCESS!

This is **not** an implementation course!

This is also **not** a course about “good” interfaces

nor hard rules that you should follow in design

This is a course about rapid **iteration and exploration**!

Course structure

Much more than **theory**

- But still some lectures and readings

Many in-class **exercises**

- Participation is a critical component of the course

We'll have lectures were we just discuss and review your projects

- You will work on your project within section

This course is designed around **feedback**!

Project Overview

The core of this course is a group project

Propose and do an intense end-to-end design

Initial phase

Project Proposal

Main phase

First step: Getting the Right Design

Second step: Getting the Design Right

Third step: Communicating the Design

Project Overview

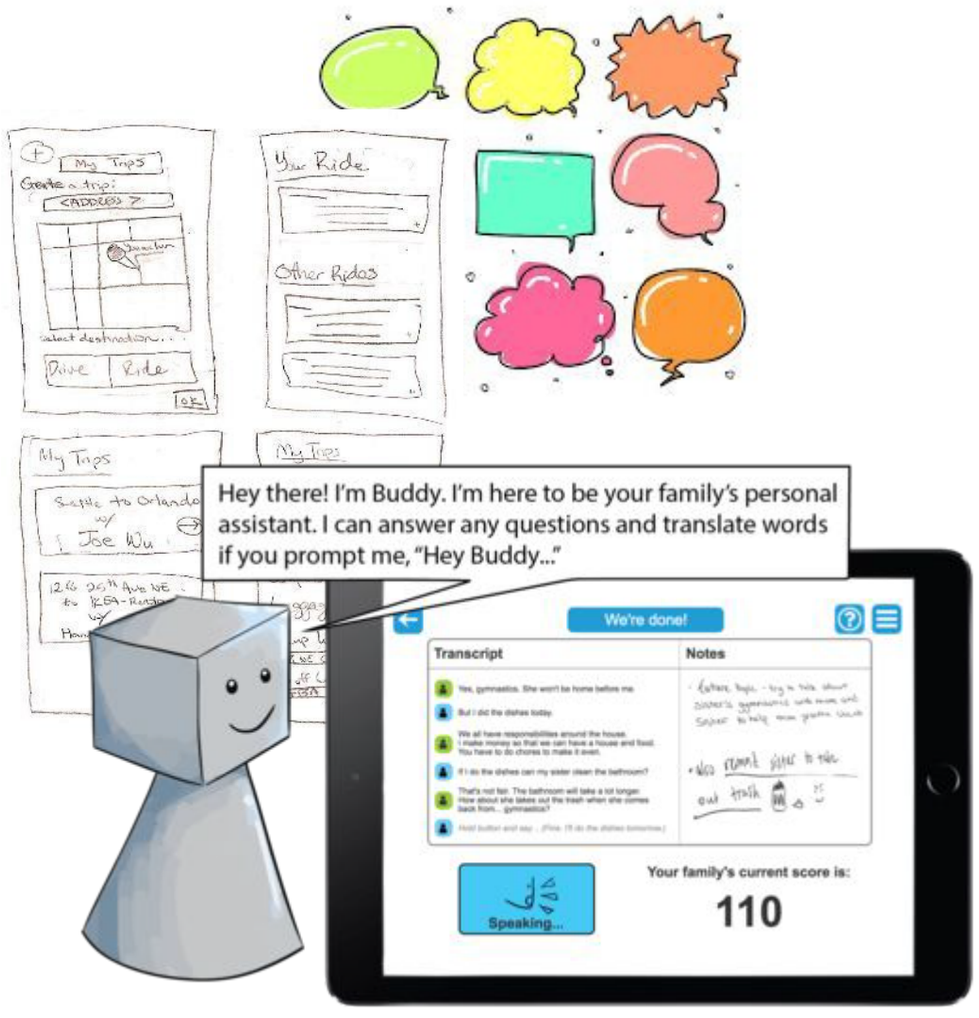
Talk to people, investigate problems

Sketching and Storyboarding

Low-fidelity Prototyping

Digital Mockup

Presentation & Communication



Project Theme:

Improve something out there!

What to improve?

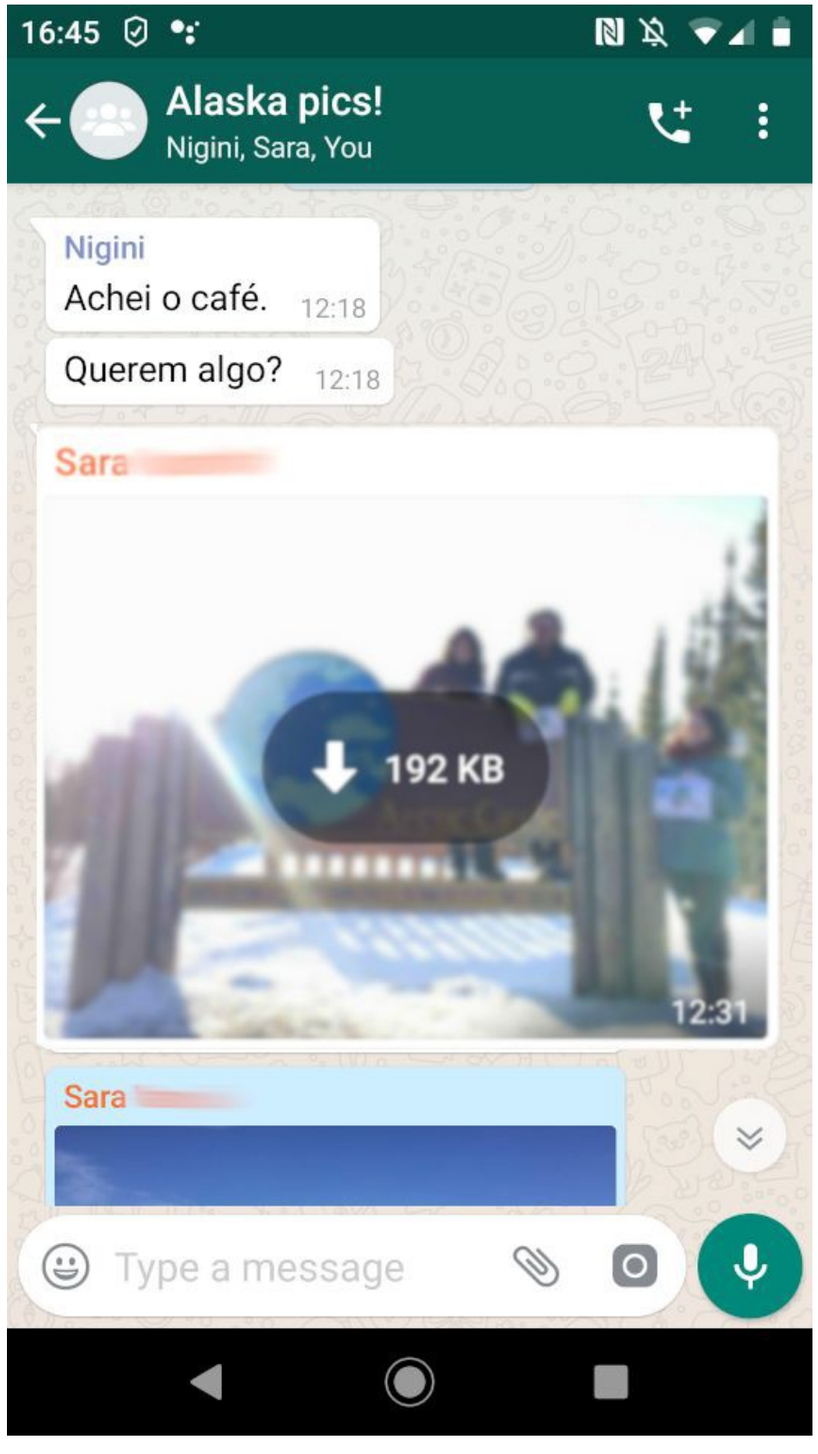
In the current environmental and societal landscape, what are current problems that people are facing:

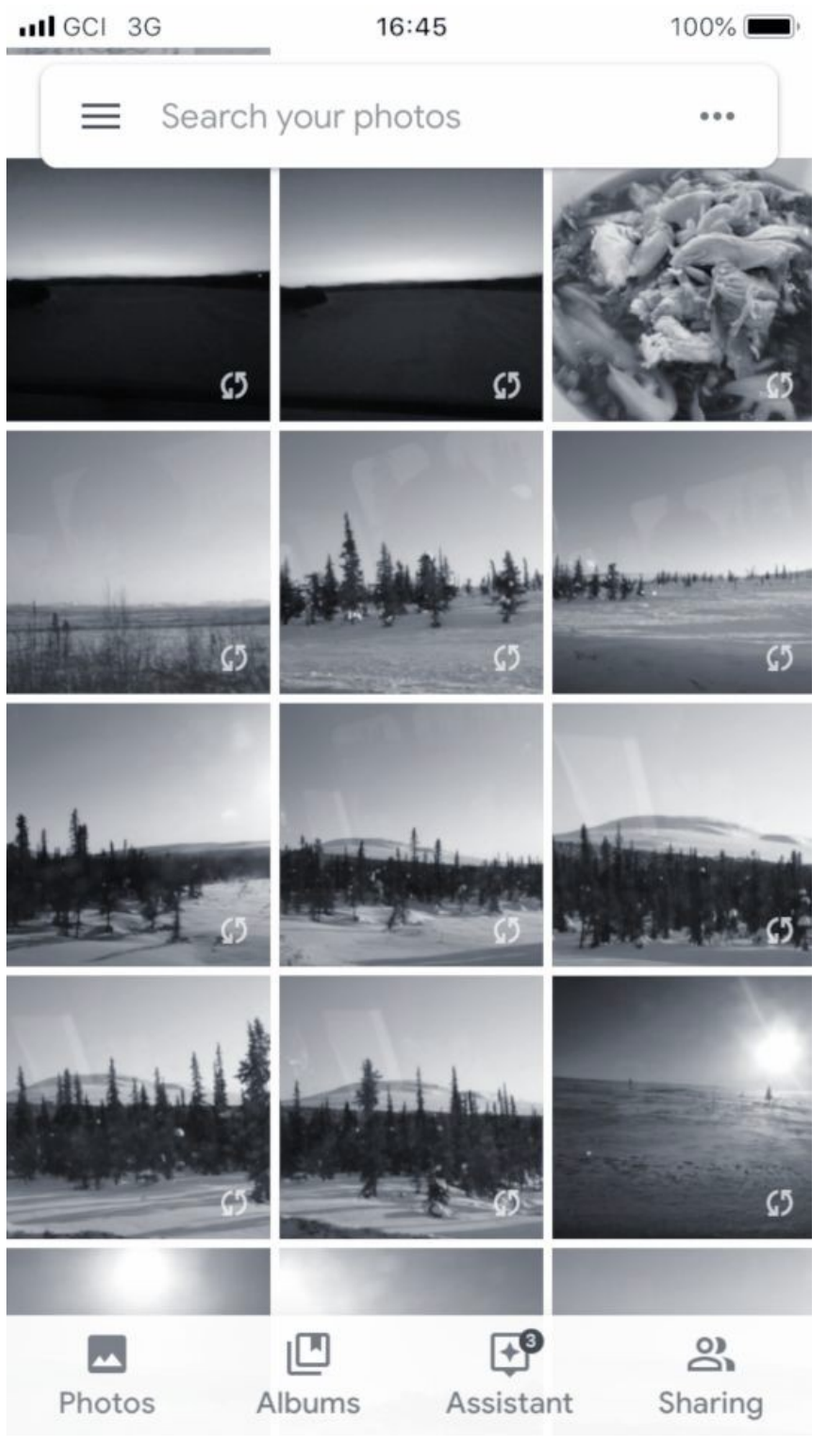
- Traveling
- Shopping
- Gaming
- Health care
- Working

Can be any aspect of daily life!

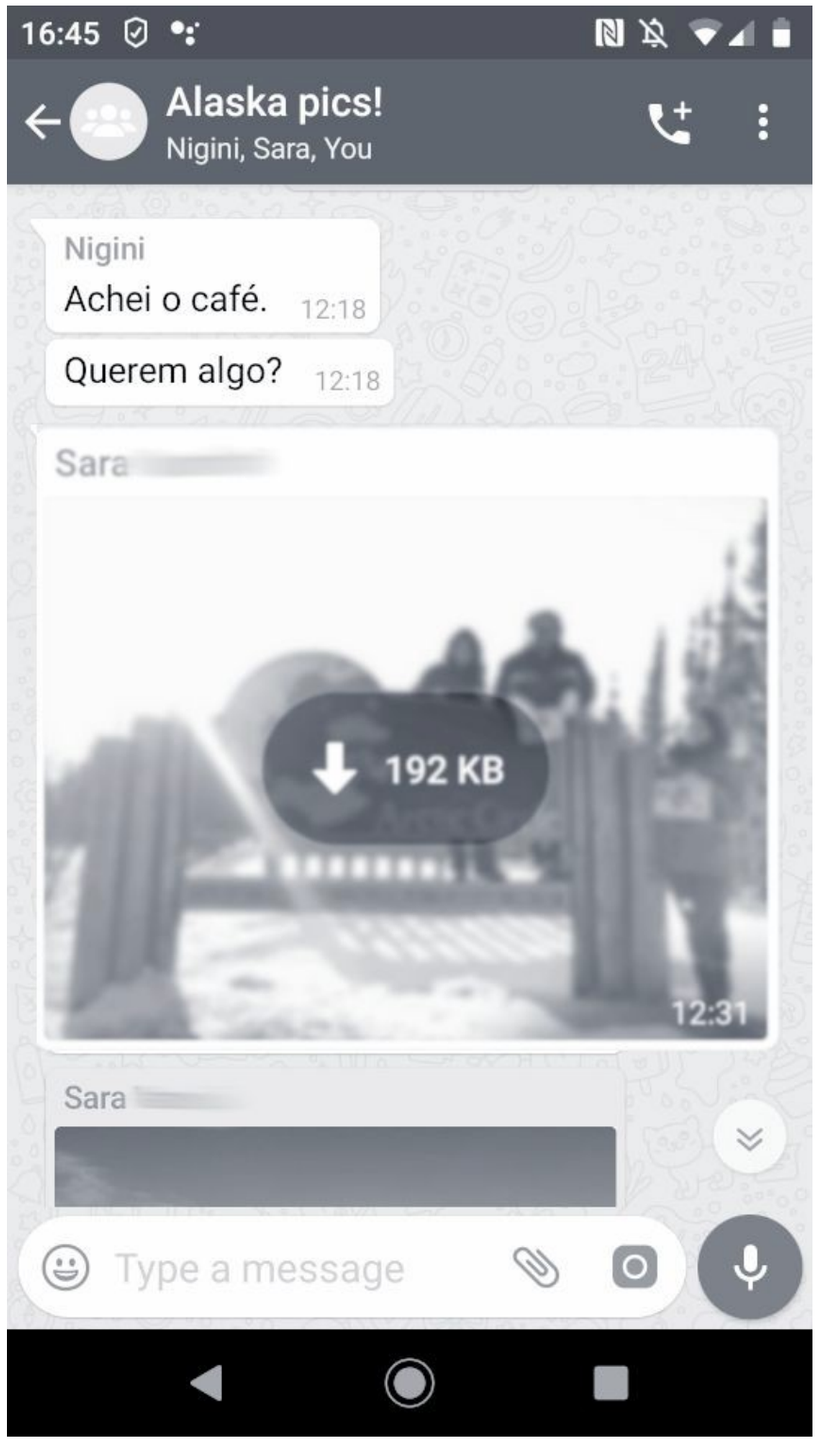
Design to support one particular kind of activity or relationship that is **important to you** but which is not sufficiently well supported by current tools.

Example


16:45
Alaska pics!
Nigini, Sara, You
Nigini
Achei o café. 12:18
Querem algo? 12:18
Sara
192 KB
12:31
Sara
Type a message


GCI 3G
16:45
100%
Search your photos
Photos
Albums
Assistant
Sharing

Example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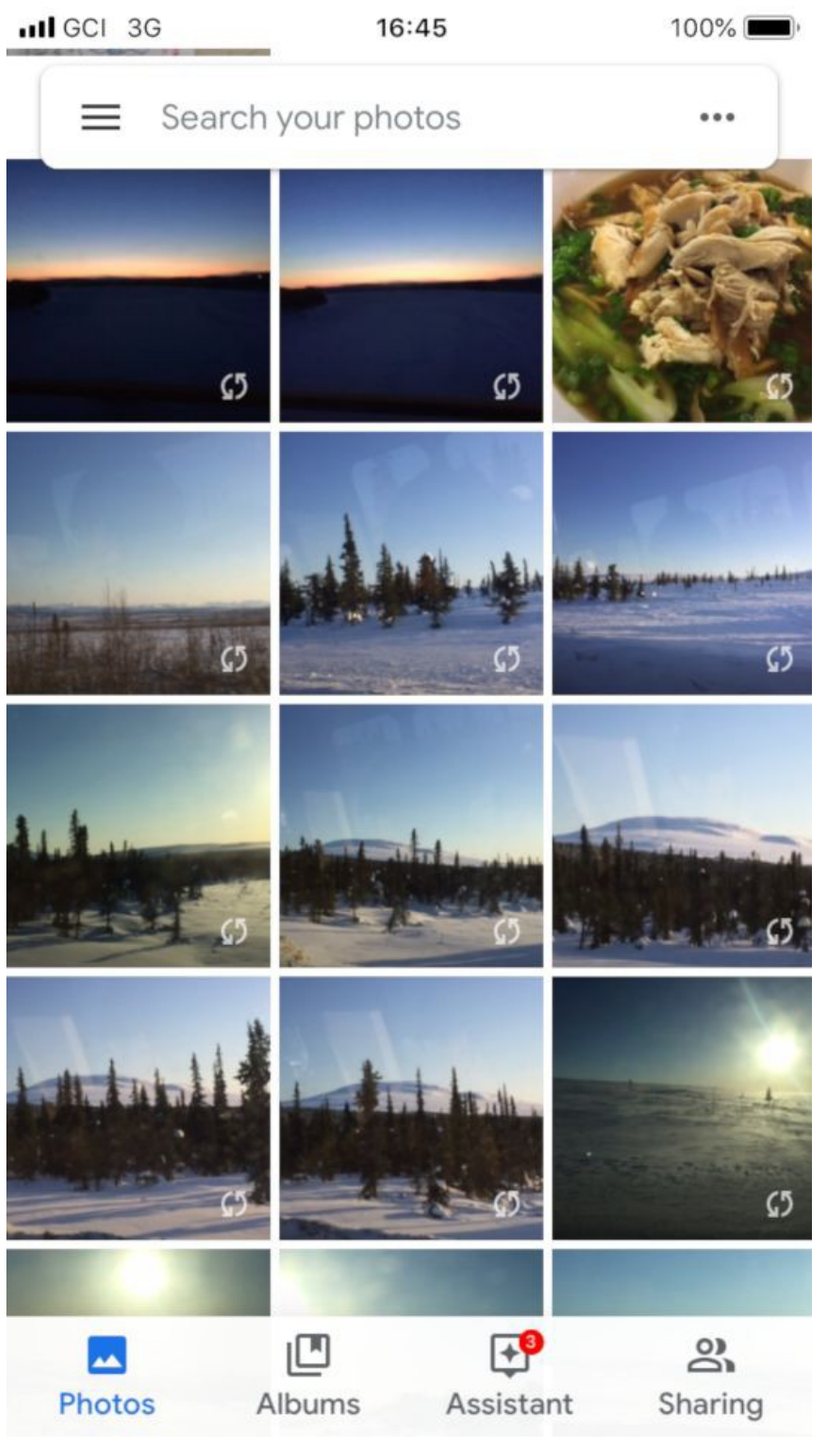
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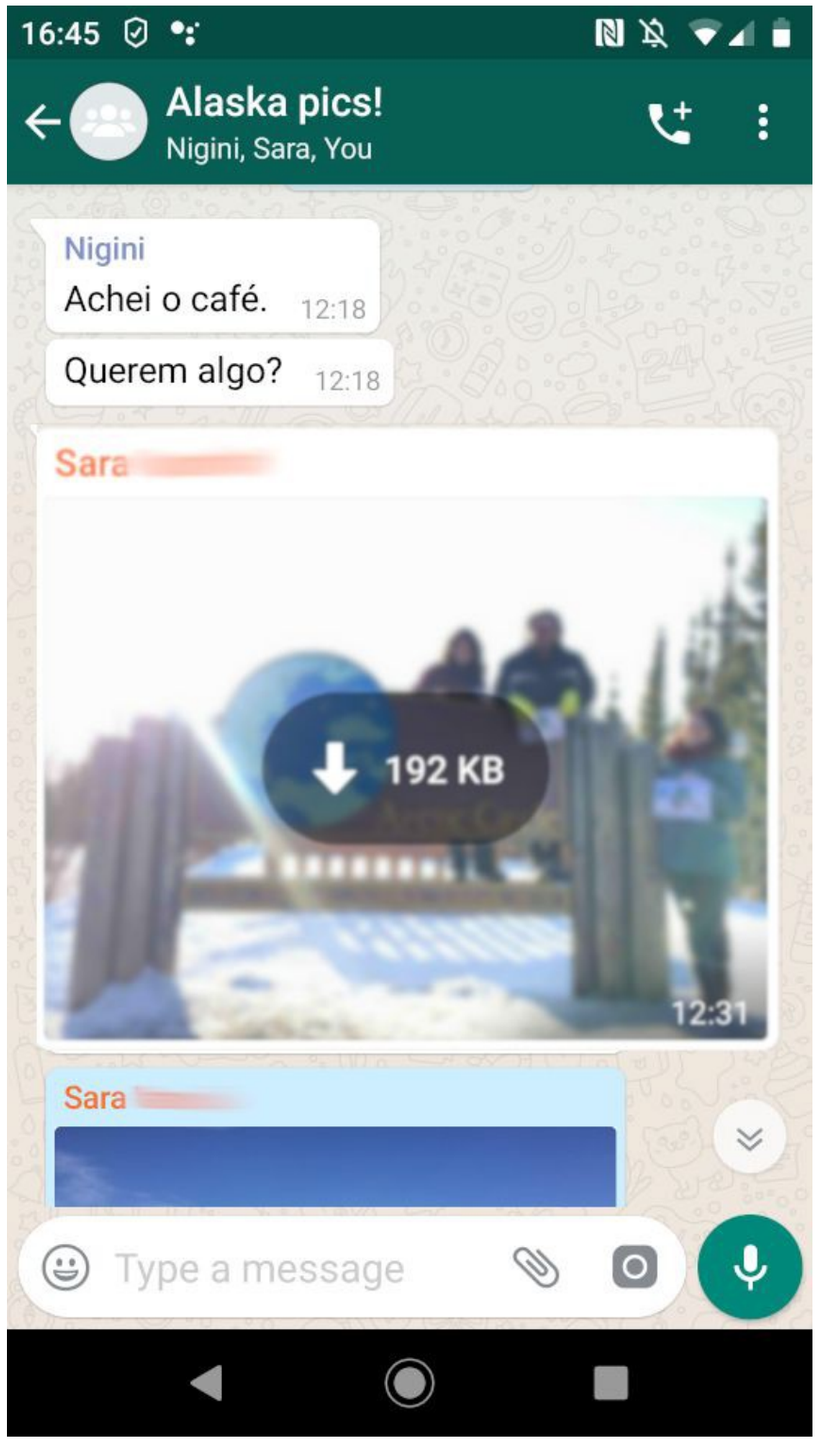
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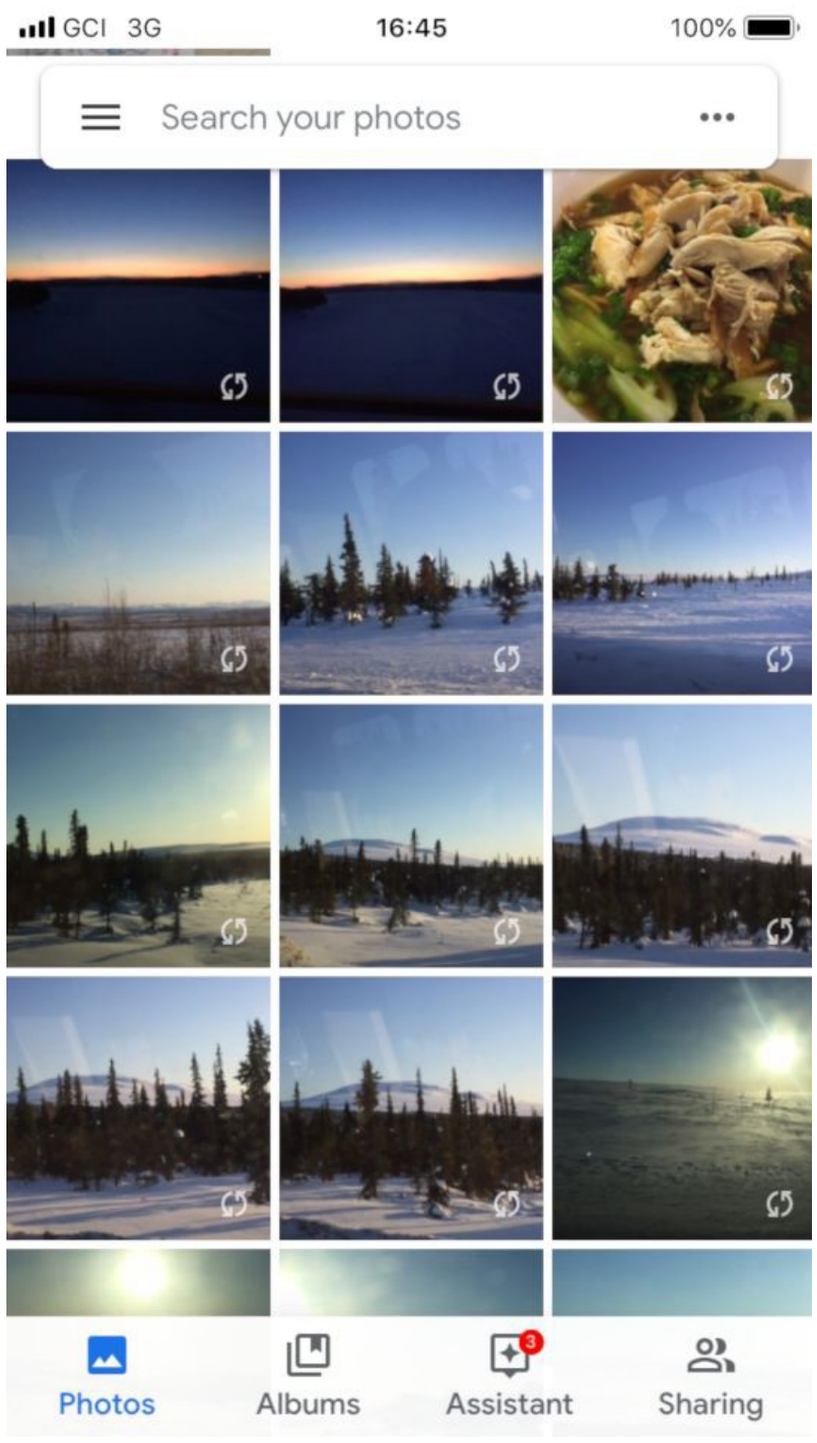
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Characteristics of a good project

You are passionate about it

The problem itself is clear: your prototype will fulfill a clear goal

It is novel

It needs to be well scoped

It is not just another app!

Characteristics of a good team

re:Work (with Google)

Grading

Design is subjective, and so is this course.

- We can't really run a unit test and grade your design =)
- Wow us with your work – it's all about the talk!!

The entire process is designed **around feedback**

- Milestone grades mean you did the milestone
- You must act on feedback (does not mean saying yes!)

Focus on putting effort on assignments and searching for feedback!

Questions,
concerns,
consternations…