

Wireframing and Prototyping

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67-443: Mobile Application Design & Development

<https://tinyurl.com/443-quiz2-F23>

A couple of notes

- Posted a copy of the grading sheets to help you.
- Mentor reports must be at least 24 hours after the meeting. You need time to reflect on the advice.
- Opportunity to correct now; not so in the future.
- Will be reviewing this afternoon.

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What is

design

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Understanding Users Better

- Biggest challenge is **not** technical
- Understand your audience and their needs first
- First step is often to interview subjects
- How many interviews are enough?
- Three good interview rules to follow *(from Deloitte UX expert)*

Rule 1: Average Isn't Good Enough

Never ask for a “typical” day or an “average” experience - ask for specific, concrete examples.

Instead Of: “What do you normally buy when you go grocery shopping?”

Ask: “The last time you went to the grocery store, what did you buy?”

Rule 2: Gather Evidence, Not Opinions

Don't ask the interviewee to make a judgment for you.

Hypotheticals don't matter; the interviewees don't know their needs or what's really available to them - that's for you, **as the expert**, to decide.

Instead Of: “If you could have an app that helped you buy groceries, what would you want it to do?”

Ask: “What did you do before and/or after going to the grocery store the last time you bought groceries?” This gets to the core of what the hypothetical was asking - which is to understand what other activities occur around the act of buying groceries, and what their relative values are.

Rule 3: First-Hand Experiences Only

Hearsay doesn't matter and don't trust guesses about what "other people" do, say, think, etc. Unless that person is in front of you, you can't ever actually be sure.

Sometimes it's not possible to literally observe someone engaging in a task, BUT ask for artifacts, ask to act things out - do more than just discuss in the abstract

If someone says "I personally don't want a grocery cart that loudly counts the calorie value of food, but other people probably would..."

Instead Of: "Why do you think they would like that?"

Ask: "Why don't YOU want that?"

Chase leads! But be mindful.

When chasing leads, you go off script, so it becomes easy to ask questions that deviate but try to remember these rules. Always ask why. Ask for specific examples.

Exercise: Interview Triads

Question:

Do you compare prices while shopping for household goods?

If so, how do you compare?

Understanding Users Better

- Biggest challenge is **not** technical. *(gonna keep saying it...)*
- After interviews, we want to formalize the knowledge we've captured
- Various modeling approaches can help us in that regard
- Three we will discuss today:
 - Sequence modeling
 - Flow modeling
 - Cultural modeling

Sequence Modeling

Represents the steps users go through to accomplish a certain activity, including breakdowns

- **Trigger(s)** that start a sequence (one model may have >1)
- **Intent(s)** that highlight the user's reason for completing a process (one model may have >1)
- **Breakdowns** (red lightning bolts) to highlight breaks in the sequence and opportunities to improve

Sequence Modeling

!Trigger: Out of Milk

Intent: Buy Milk

↓
Add milk to grocery list on fridge

⚡ **BD: grocery list is far away; Evan has to remember to walk over to the fridge to add any new items**

↓
Gather things to go to the store

↓
Mother calls

↓
Take call on the walk to the store

↓
Arrive at store

⚡ **BD: while talking on the phone, Evan is too distracted and forgets the list**

↓
Walk through aisles

↓
Buy snacks

↓
Return home with food

⚡ **BD: still out of milk**

Flow Modeling

Used to represent the coordination, communication, interaction, roles, and responsibilities of the people in a certain work practice

Flow models contain:

- **People and groups** (in bubbles) with a job function and list of responsibilities
- **Flow** (arrows between bubbles labeled with passed information/artifacts)
- **Artifacts** (in boxes) that can be any “real” part of the work and flow
- **Places and items** (large boxes) with a name and responsibilities
- **Breakdowns** to highlight problems

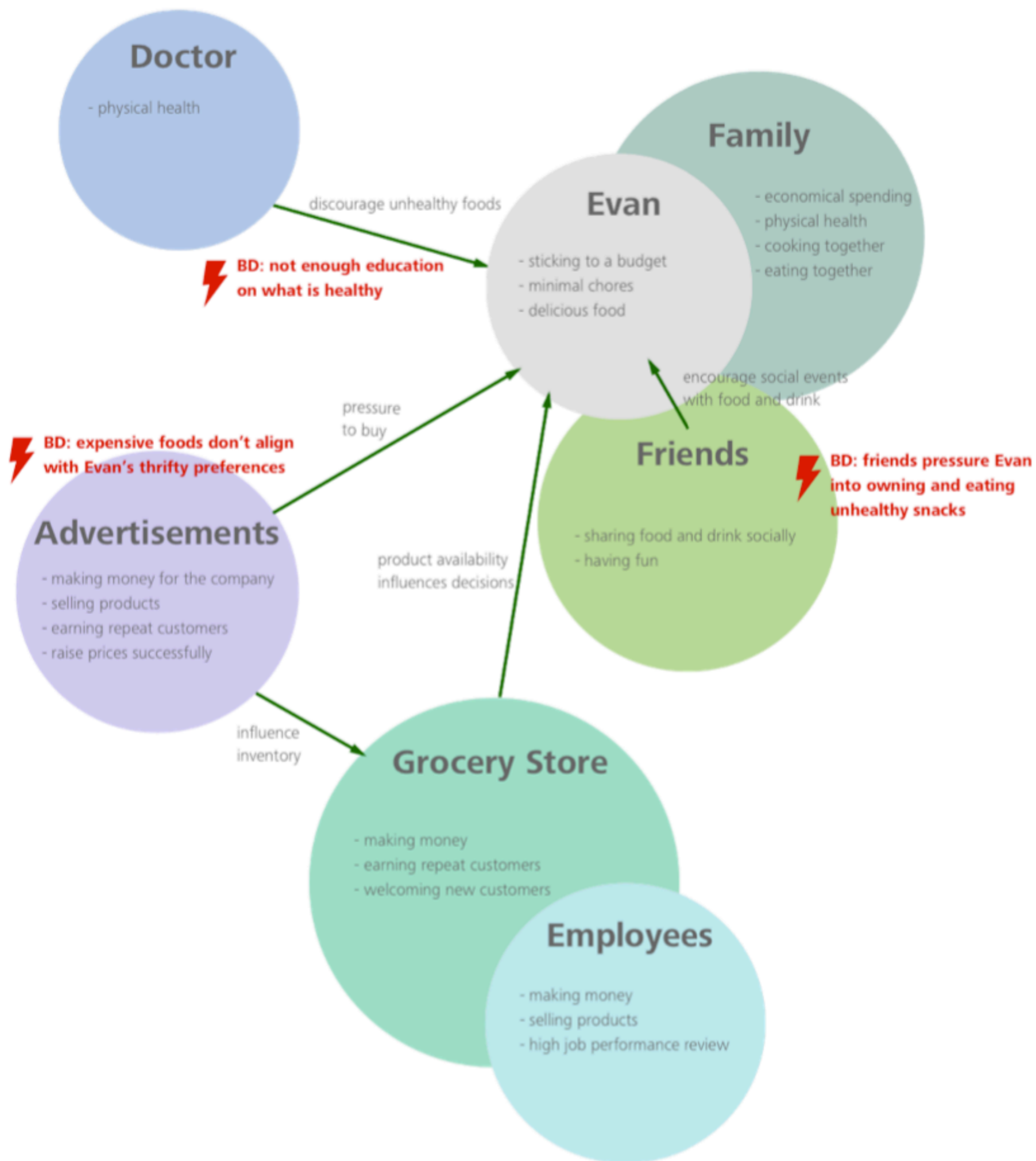


Cultural Modeling

Used to represent the norms, influences, and pressures that are present in the work environment

Cultural models contain:

- **Influencers** (in bubbles), that can be individuals or groups with a job function and a list of values
- **Influence** (arrows between bubbles labeled with the type of influence)
- **Relationships** and group membership (in how the bubbles overlap)
- **Breakdowns** to highlight problems

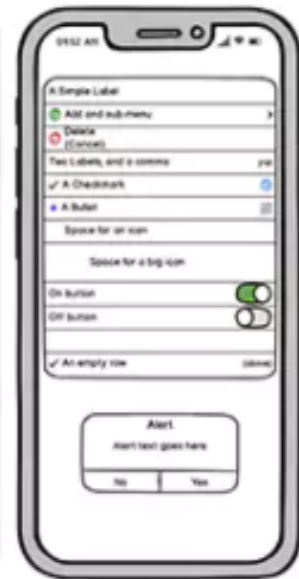
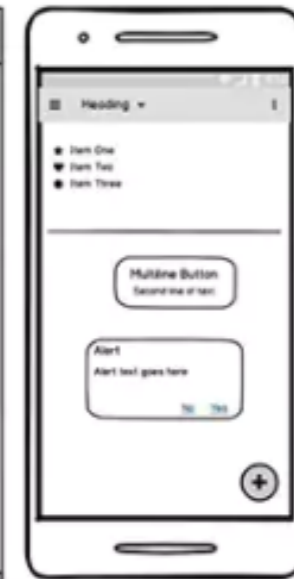
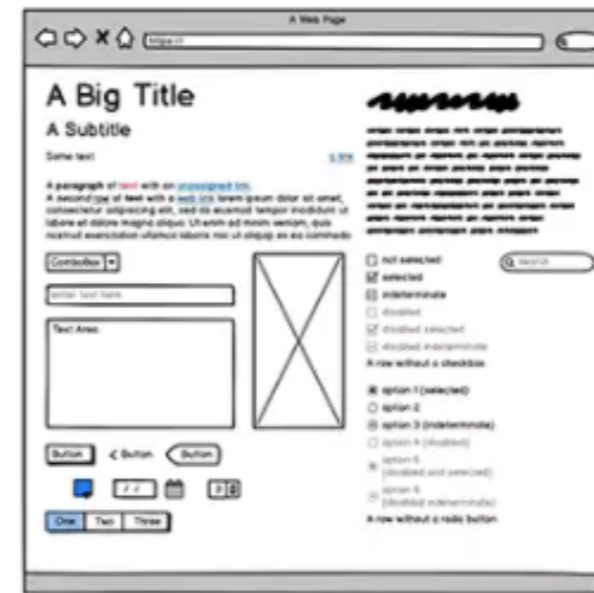


Prototype, Prototype, Prototype

- Biggest challenge is **not** technical *(the truth bears repeating...)*
- Once you understand your audience, need to encapsulate that learning with wireframes
- Also a key step in helping us bridge the two gulfs

Starting with Low Fidelity Wireframes

- Various ways to generate LFW



Starting with Low Fidelity Wireframes

- First prototype **must** be low-fidelity wireframes
 - Time-saving; can explore lots of ideas (good and bad) quickly at low cost
 - Easy for visual interaction to overwhelm other interactions
 - Honesty from users improves
 - Knowing what (*and what not*) to go forward with

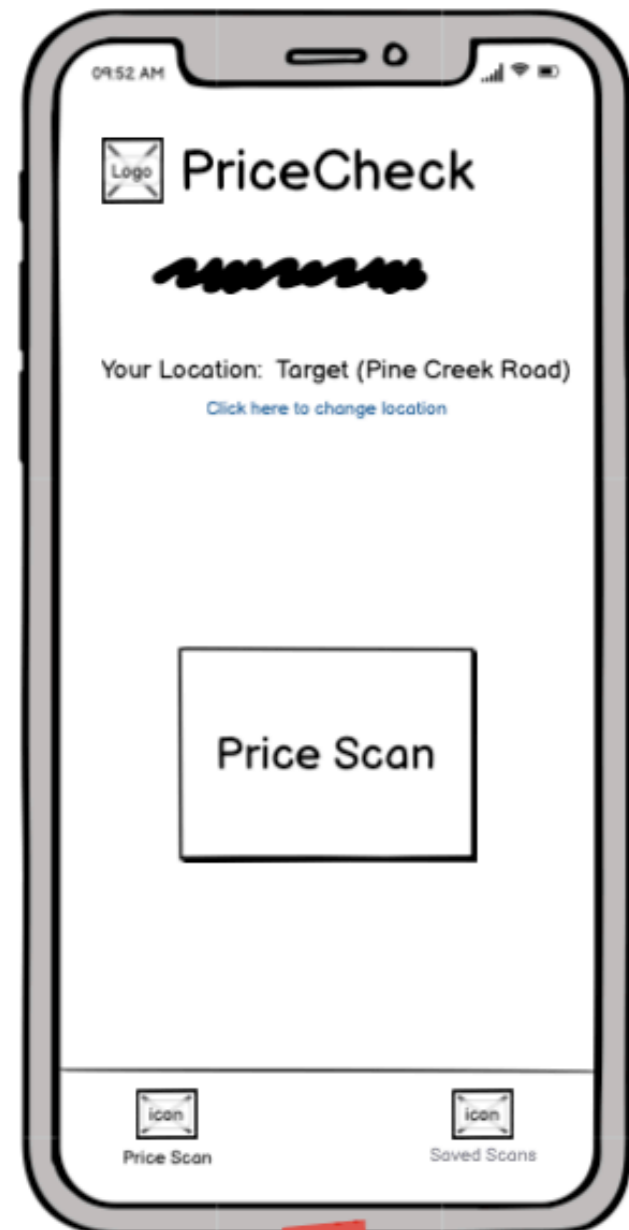
Exercise: Sketching a LFW

We are wireframing an app that scans for the price of items at a particular store.

Notes:

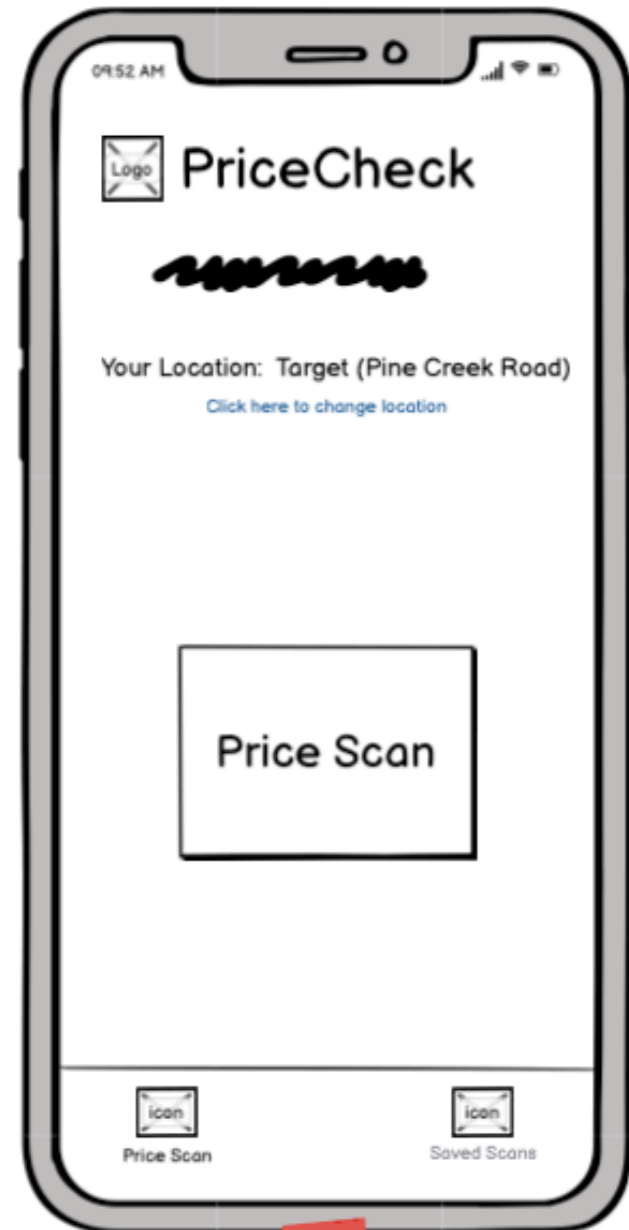
1. There are two parts to the app — the actual price check and saving past price checks — but we will only focus on the process for scanning items now.
2. Need a minimum of two screens, but absolutely no more than 6 screens.

One possible solution

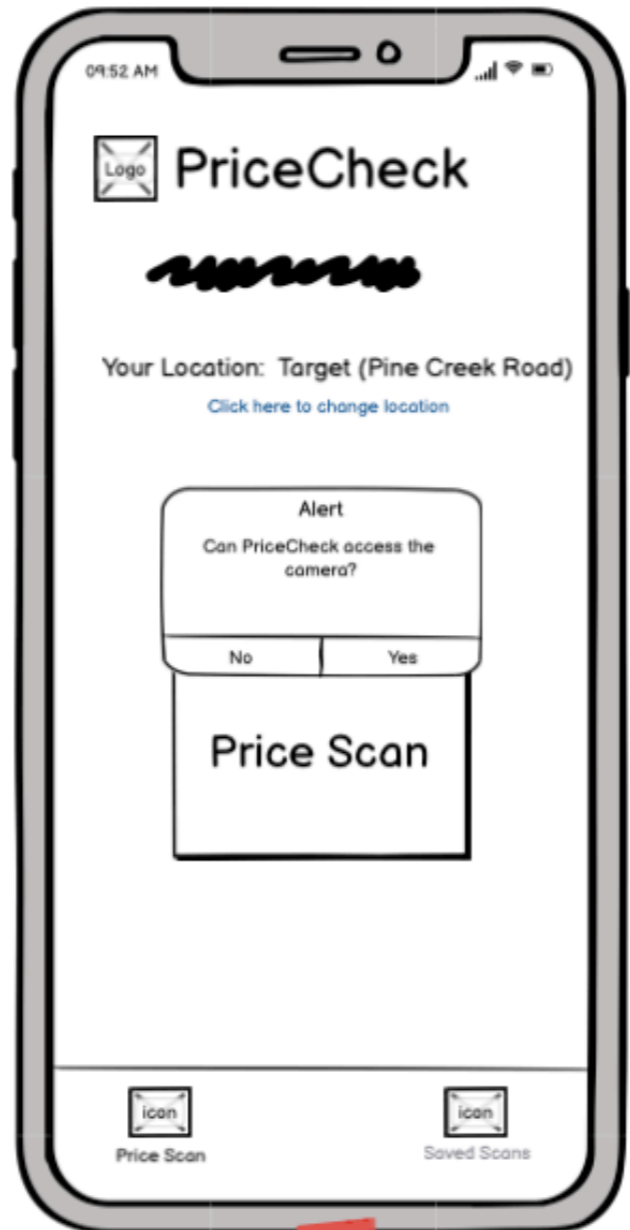


Need to think through
changing locations...

One possible solution

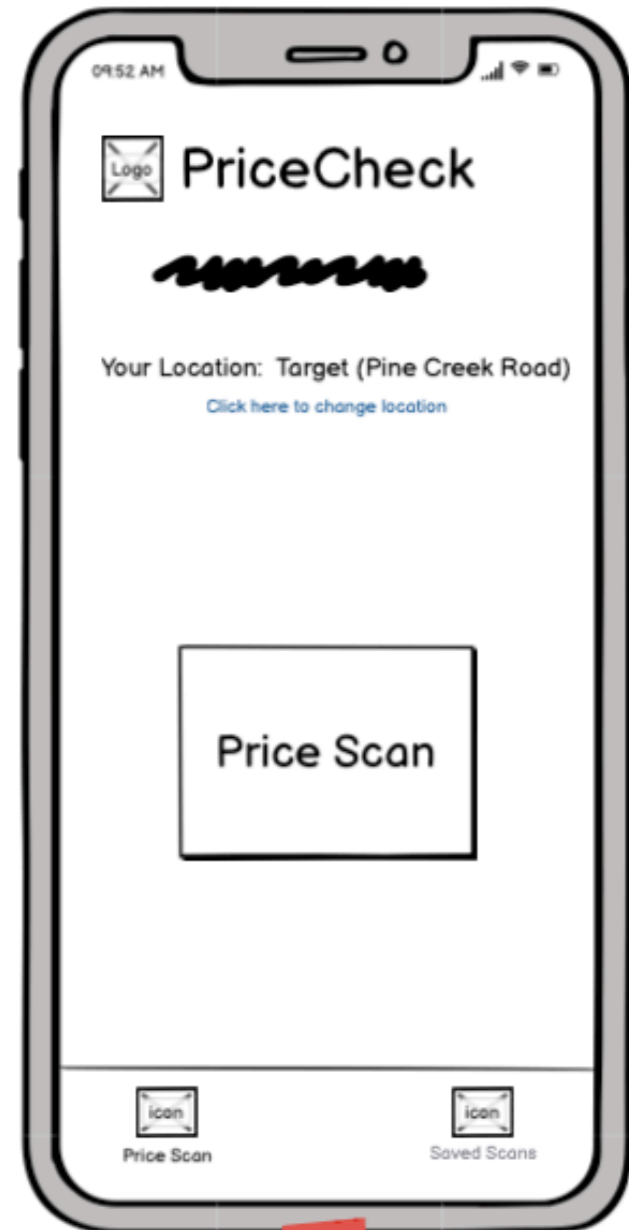


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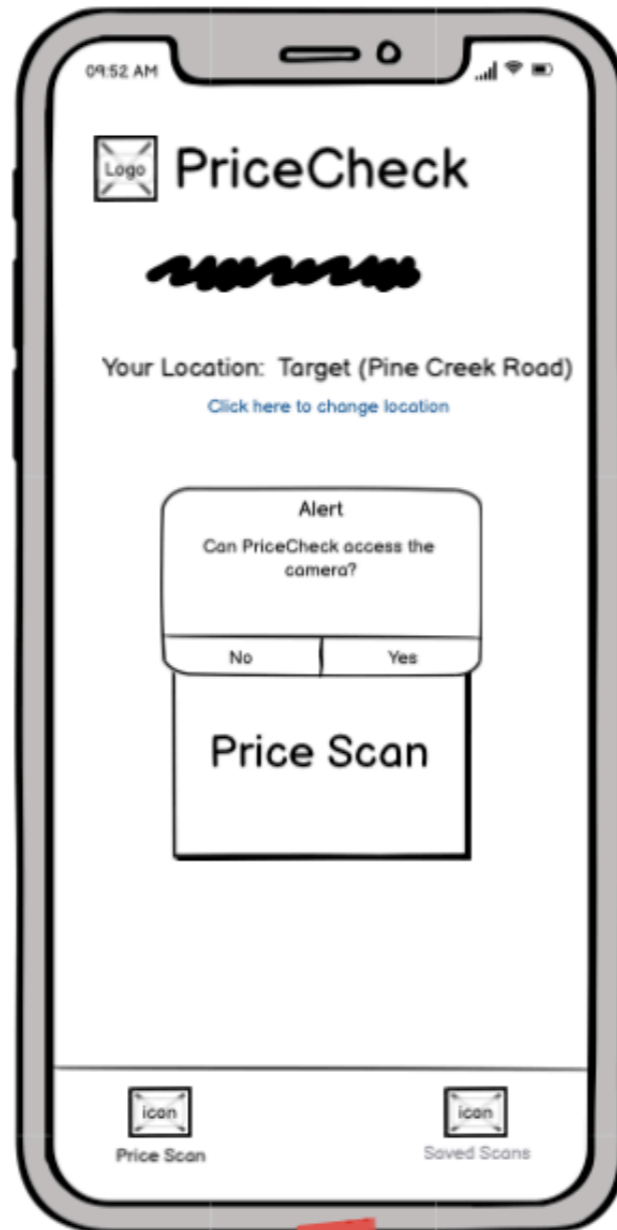


This would only be for the first time the app was used

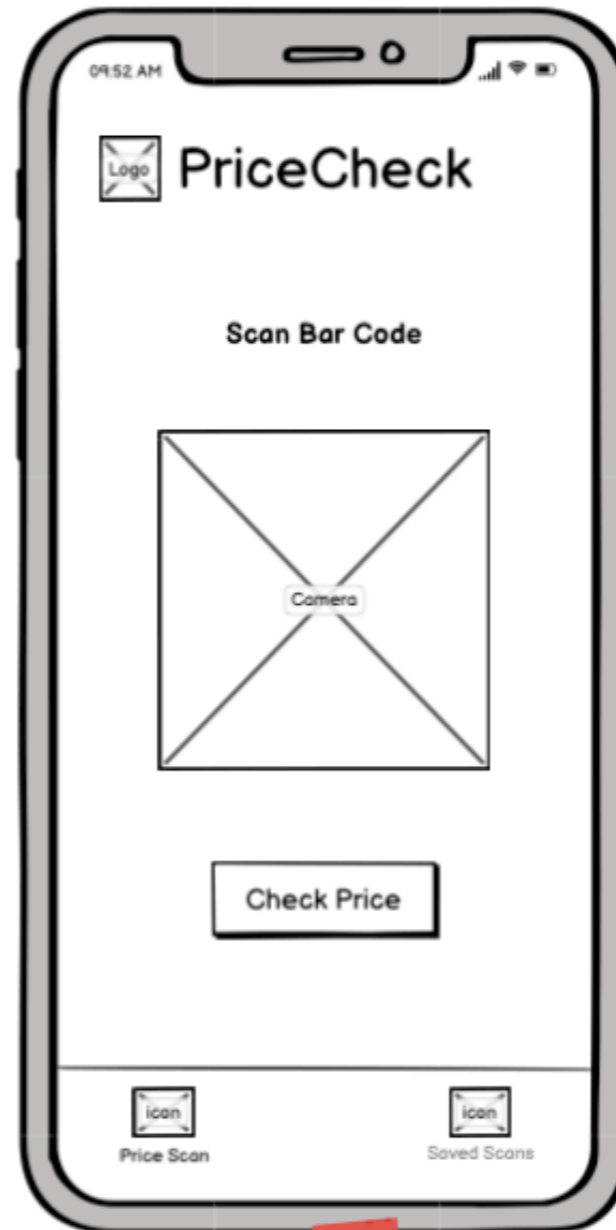
One possible solution



Need to think through changing locations...

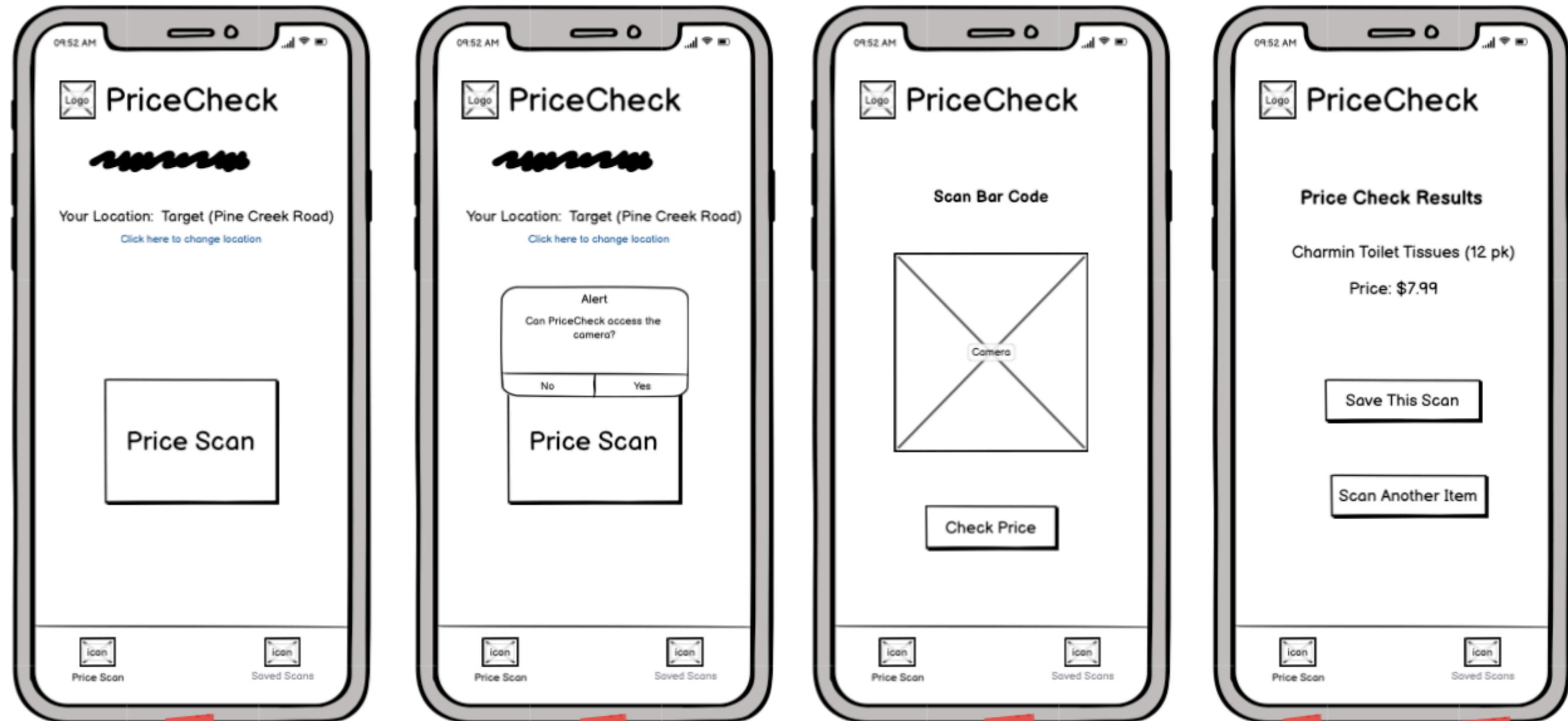


This would only be for the first time the app was used



Why not start right on this screen?

One possible solution



Need to think through changing locations...

This would only be for the first time the app was used

Why not start right on this screen?

Should this be a modal?

What does the feedback for Save This Scan look like?

Should date and location be on the screen?

Need to experiment with button placements

What is the response if item not found?

3 key questions to ask when testing prototypes

- Does the user know how to do _____?
- Is it easy for the user to do _____?
- How can we make this better?

At the end, ask *“Please give me two adjectives that describe this app.”*

Next level of wire framing

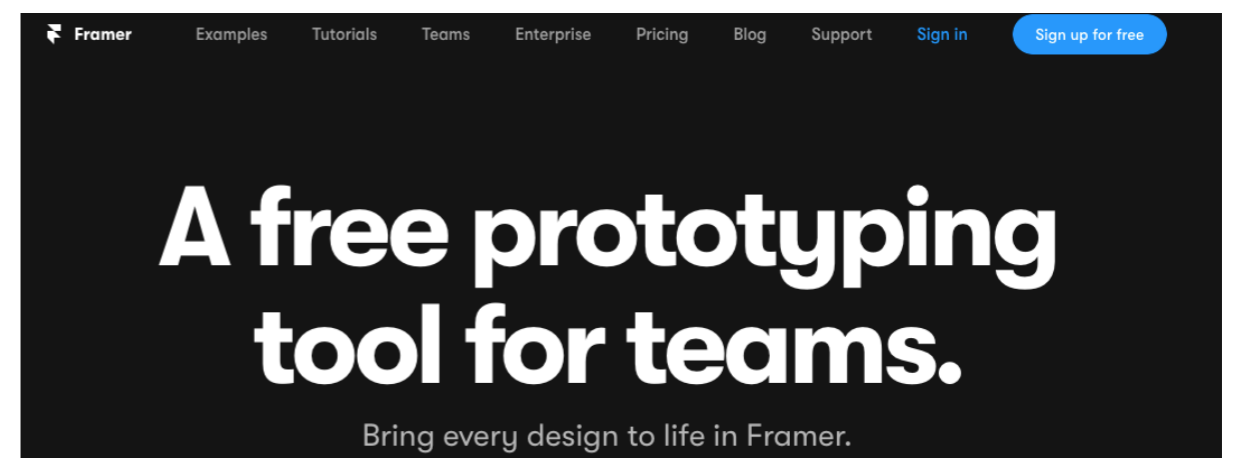
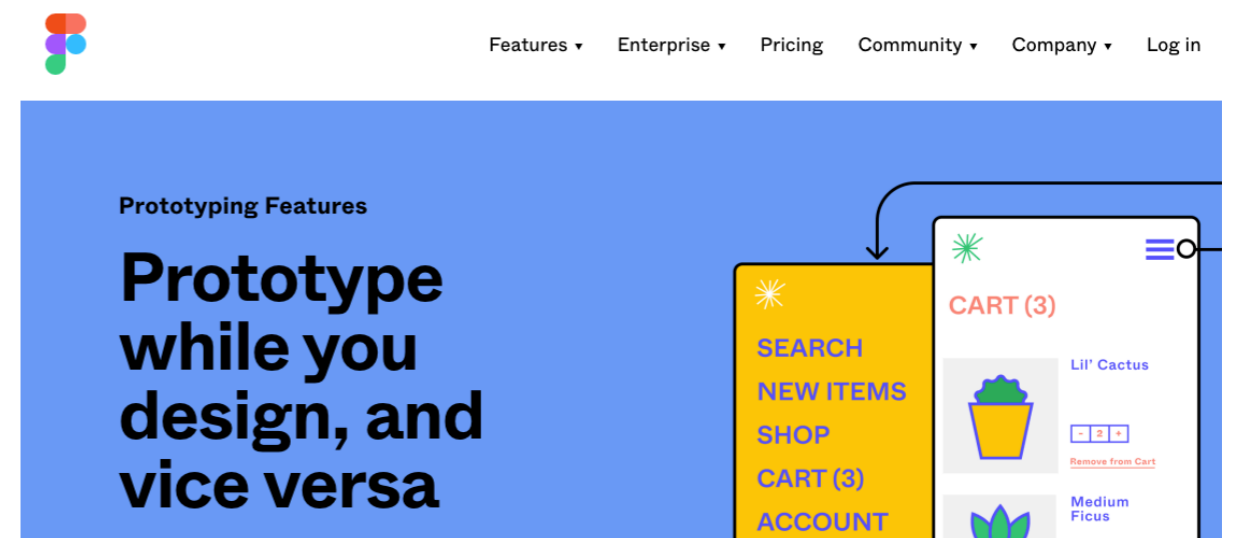
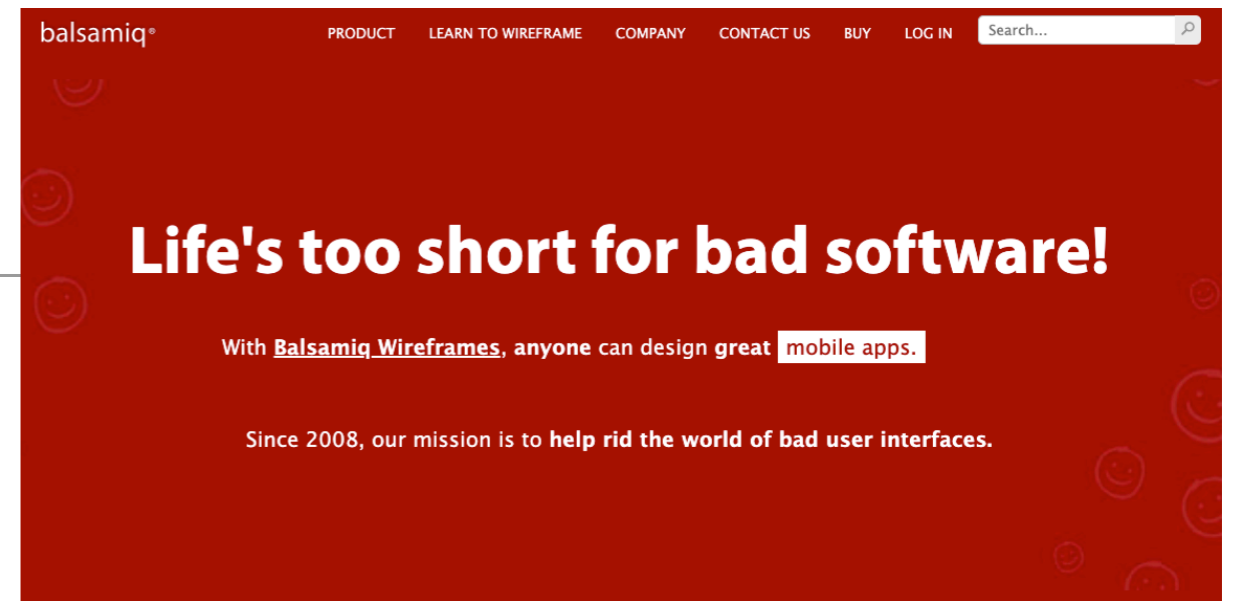
- Creating high fidelity wireframes
 - Adding colors, images, realistic content
 - Lots of notes to guide developers
- Creating interactive wireframes

Choice of Tools

- Tools to wireframe apps

- balsamiq.com
- figma.com
- framerjs.com
- proto.io
- uxpin.com
- justinmind.com

- More traditional tools like Sketch, Photoshop, and even Keynote work fine



Apple Design Resources

Design apps quickly and accurately by using Sketch, Photoshop, and XD templates, guides, and other resources.



Resources for wireframing
developer.apple.com/design/resources/

- Sketch library of UI elements
- Keynote UI elements
- Photoshop UI elements
- Adobe XD elements

Great set of videos from WWDC

- Prototyping: Fake It Till You Make It
- Iterative UI Design (*using Keynote*)
- The Qualities of Great Design
- And more at <https://developer.apple.com/videos/design/>

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