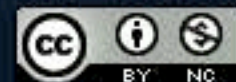# Prototypes

INTRO TO UX

Mark W. Newman

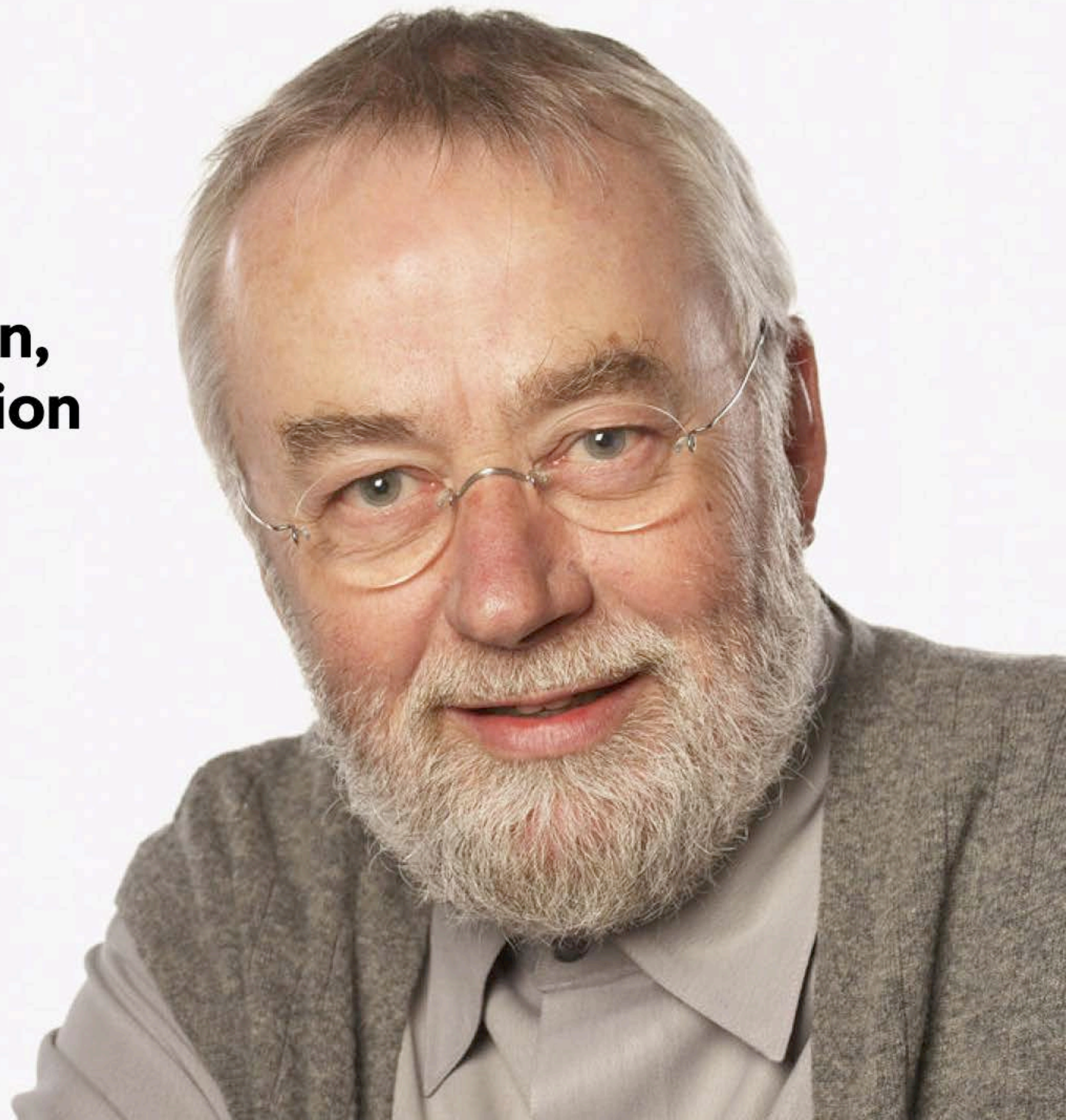Associate Professor, School of Information

Prototypes

A Prototype is…

A prototype is...

A representation of a design, made before the final solution exists.

- Bill Moggridge

A prototype is…

A representation of a design, made before the final solution exists.
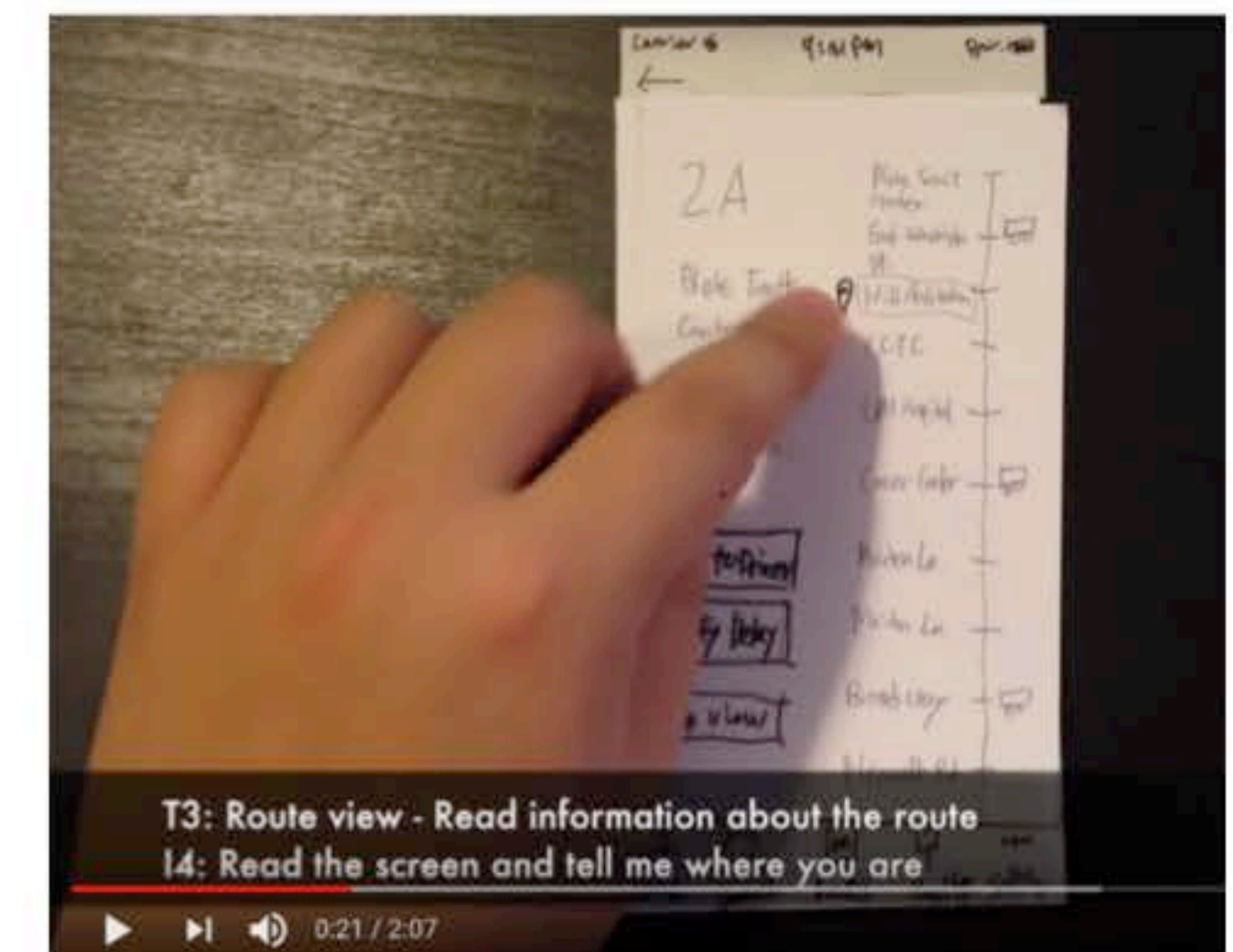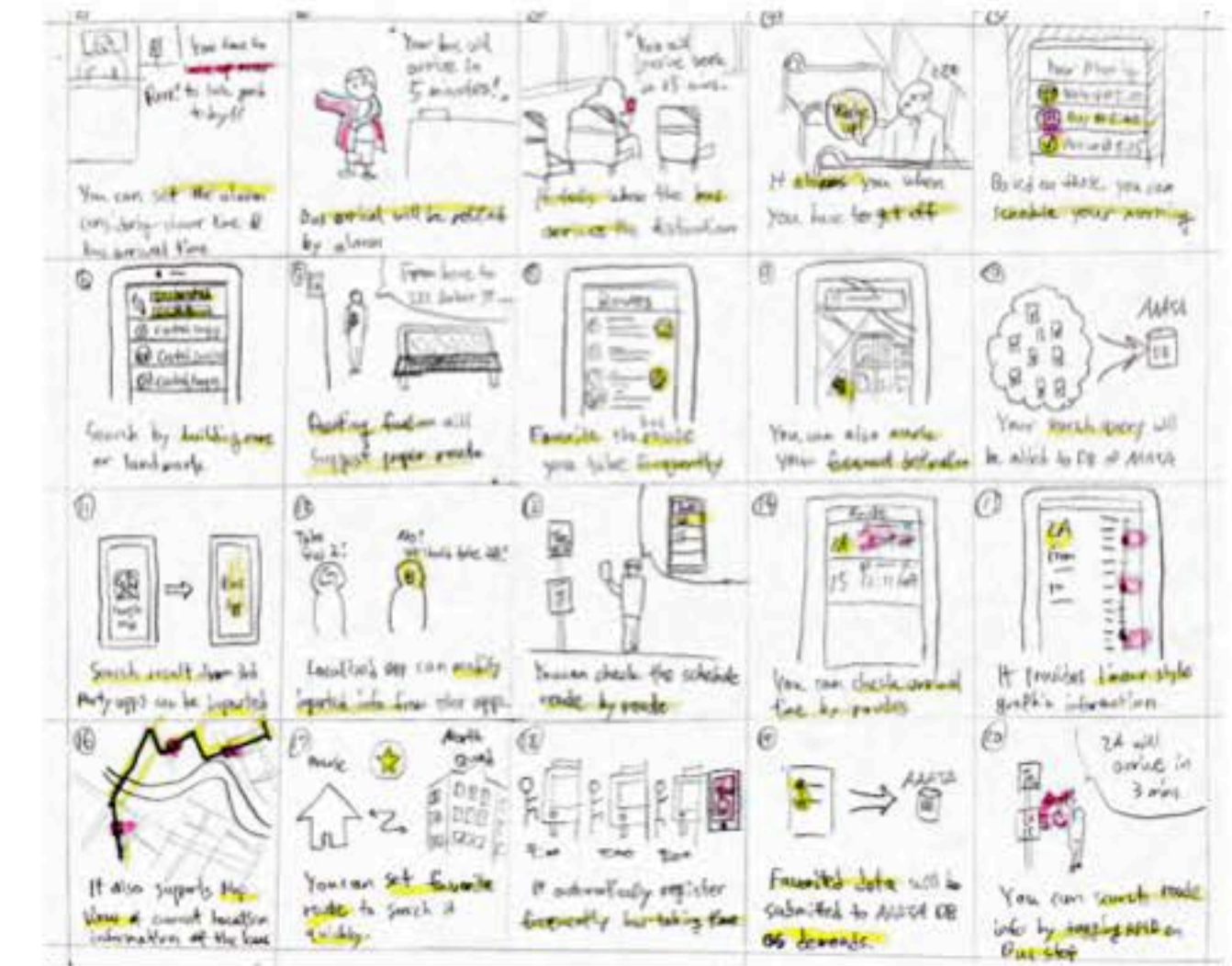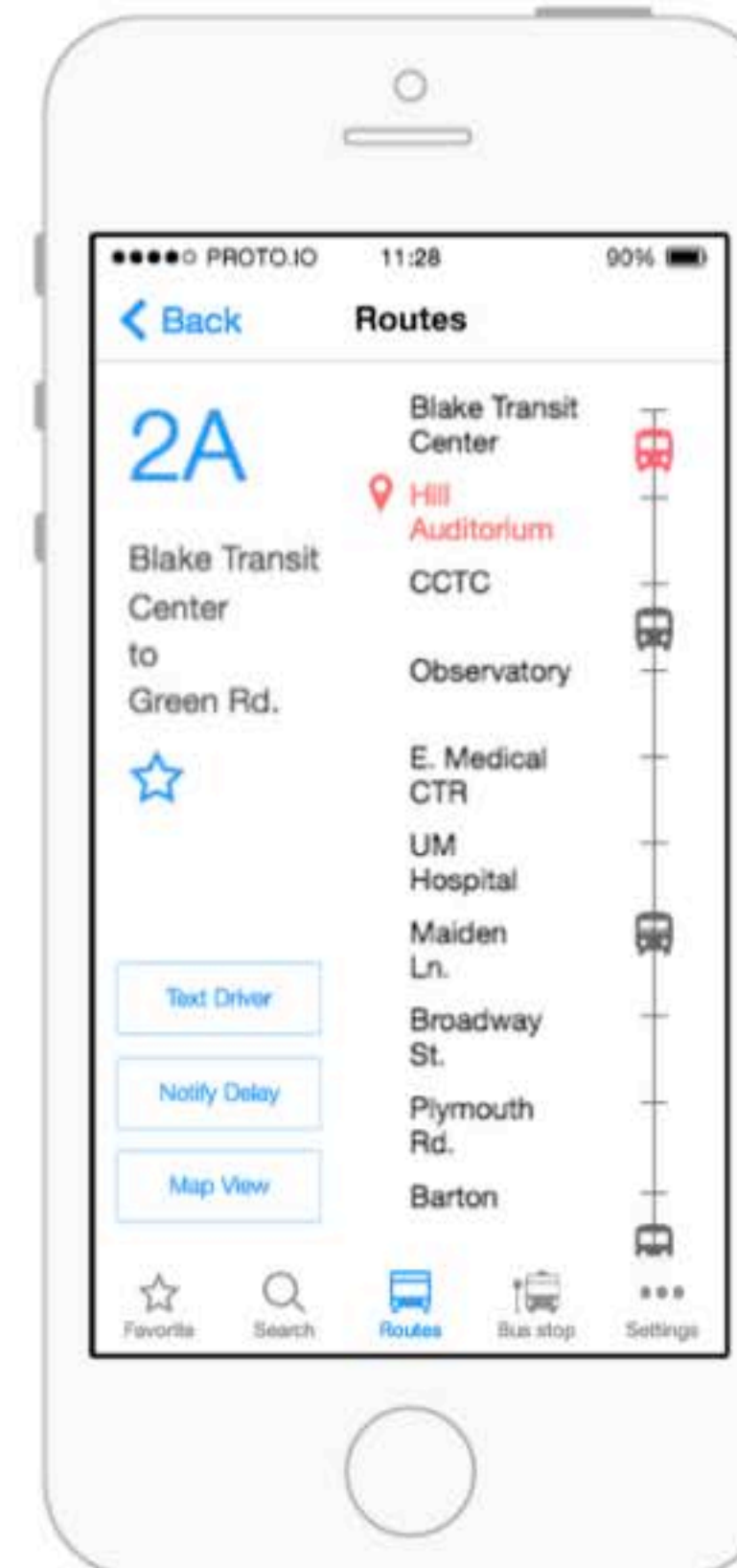
- Bill Moggridge

Why prototype?

- **Reification**
- **Reflection**
- **Communication**
- **Assessment**

Prototypes have many forms

- A "representation of a design" can mean a
  - Verbal description
  - Sketch
  - Storyboard
  - Navigation/flow diagram
  - Physical model
  - Video
  - Formal specification

But usually in UX…

Lo-Fi

Mid-Fi

Hi-Fi
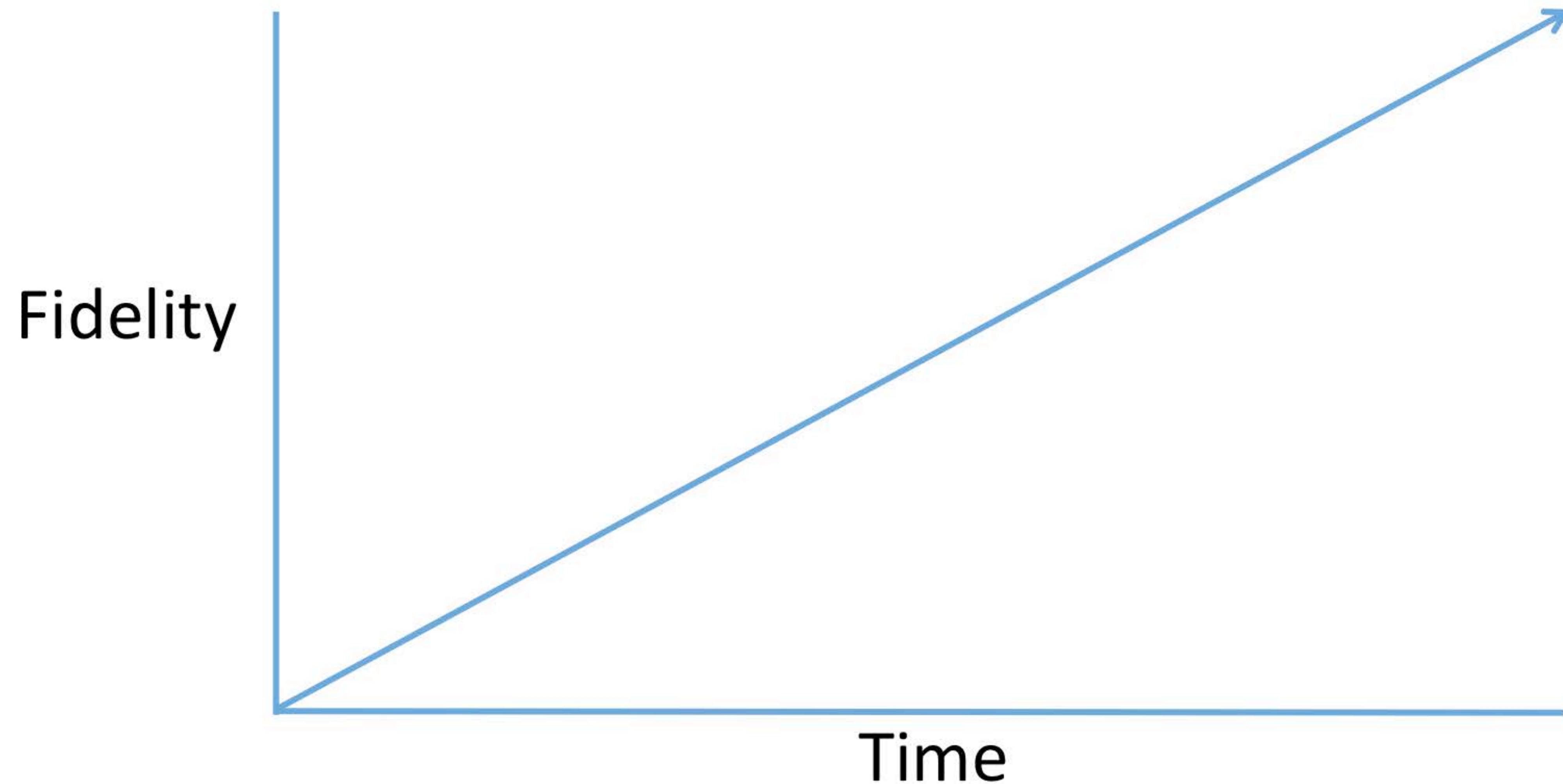
Progression of prototypes

Progression of prototypes
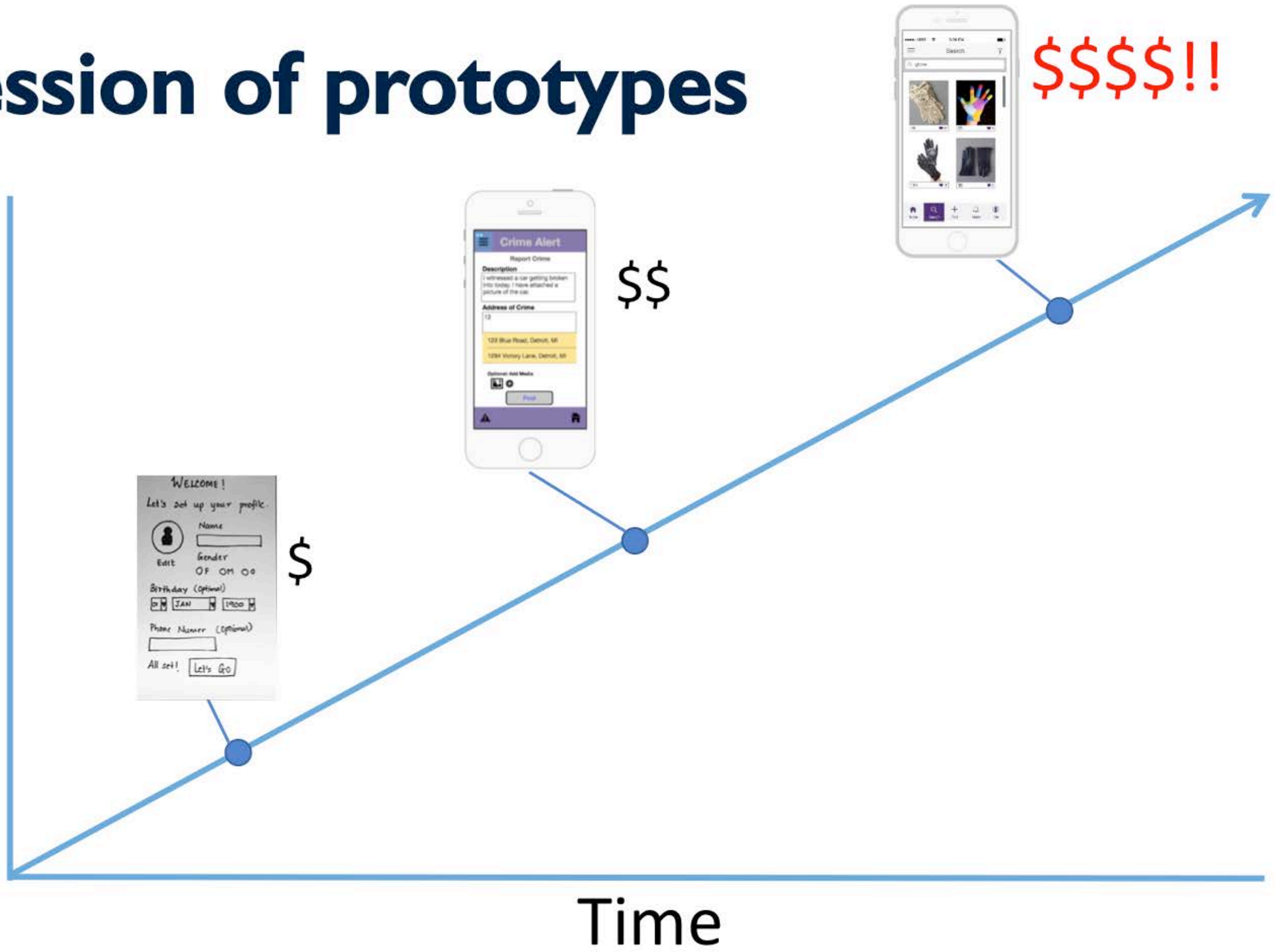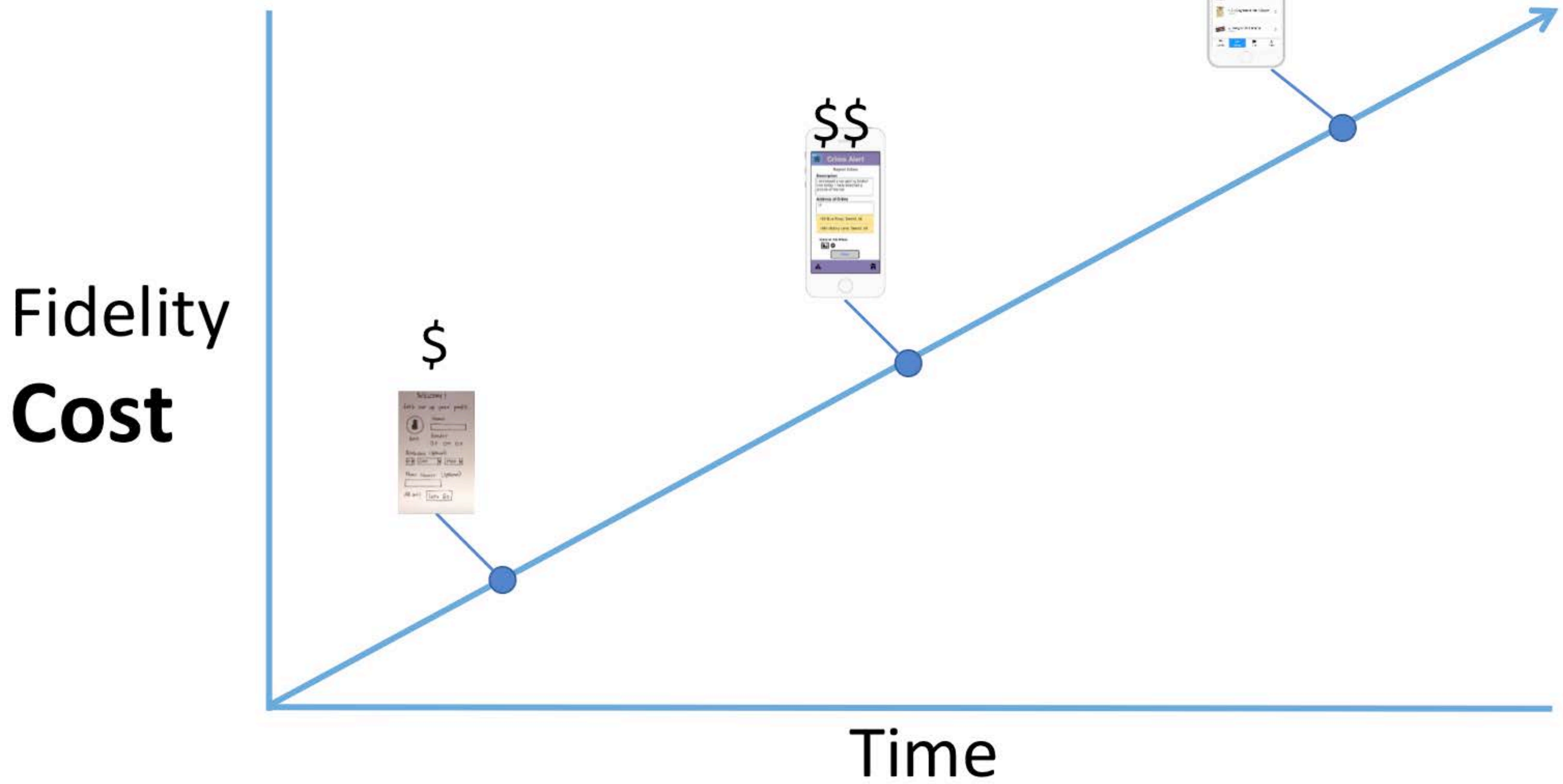
Fidelity

Time

Progression of prototypes

$$$$!!

$$

$

Fidelity
Cost

Time

Progression of prototypes

$$$$!!

$$

$

Fidelity

Cost

Time

Lo-fi prototypes

Address
- **Functionality**
- **Basic organization**
- **Task flow and coverage**

Ignore
- **Graphics**
- **Programming**
- **Real data**

Mid-fi prototypes
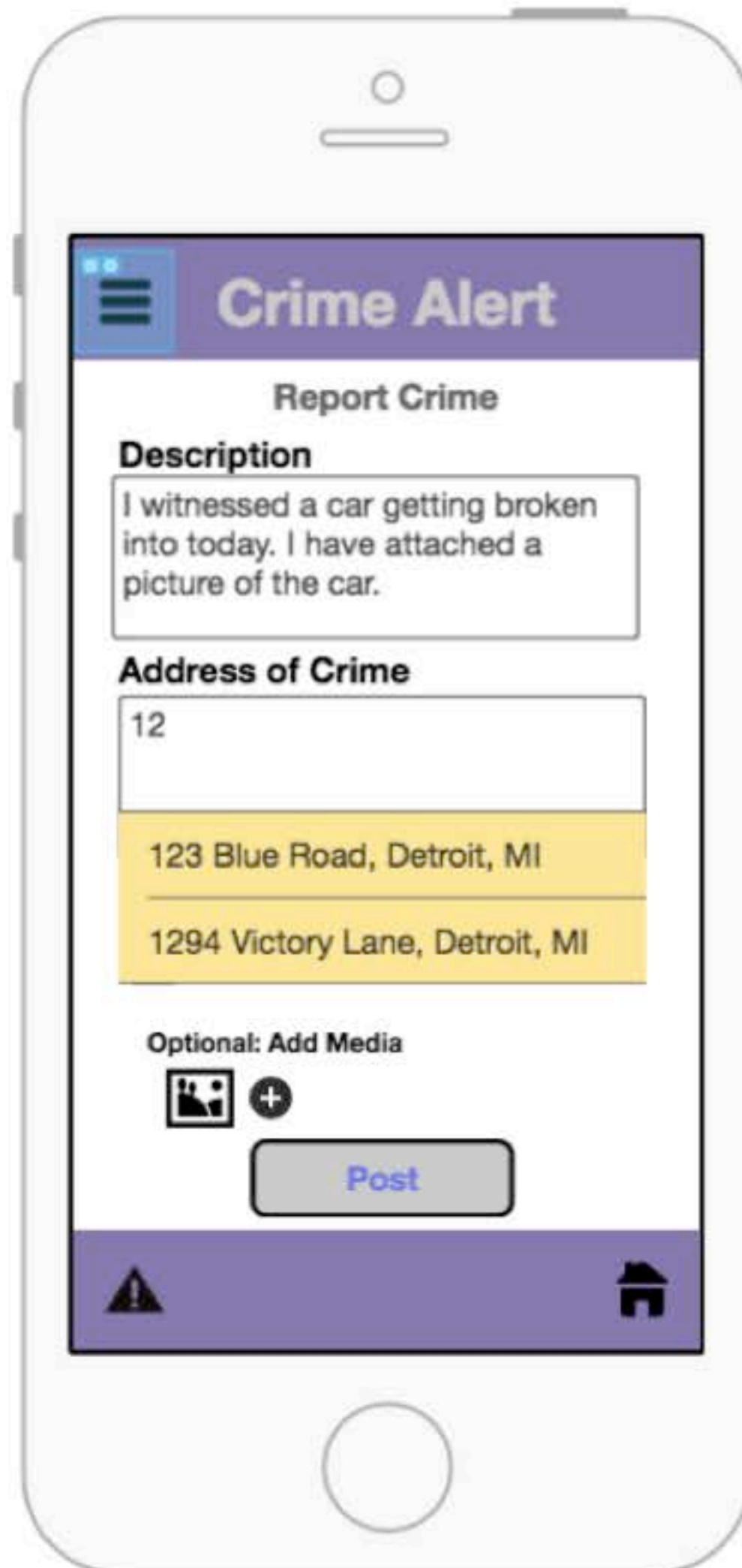
Address lo-fi concerns, plus

- **Layout**
- **Interactivity**
- **Navigation**

Ignore

- **Graphics**
- **Programming**
- **Real data**

Hi-fi prototypes
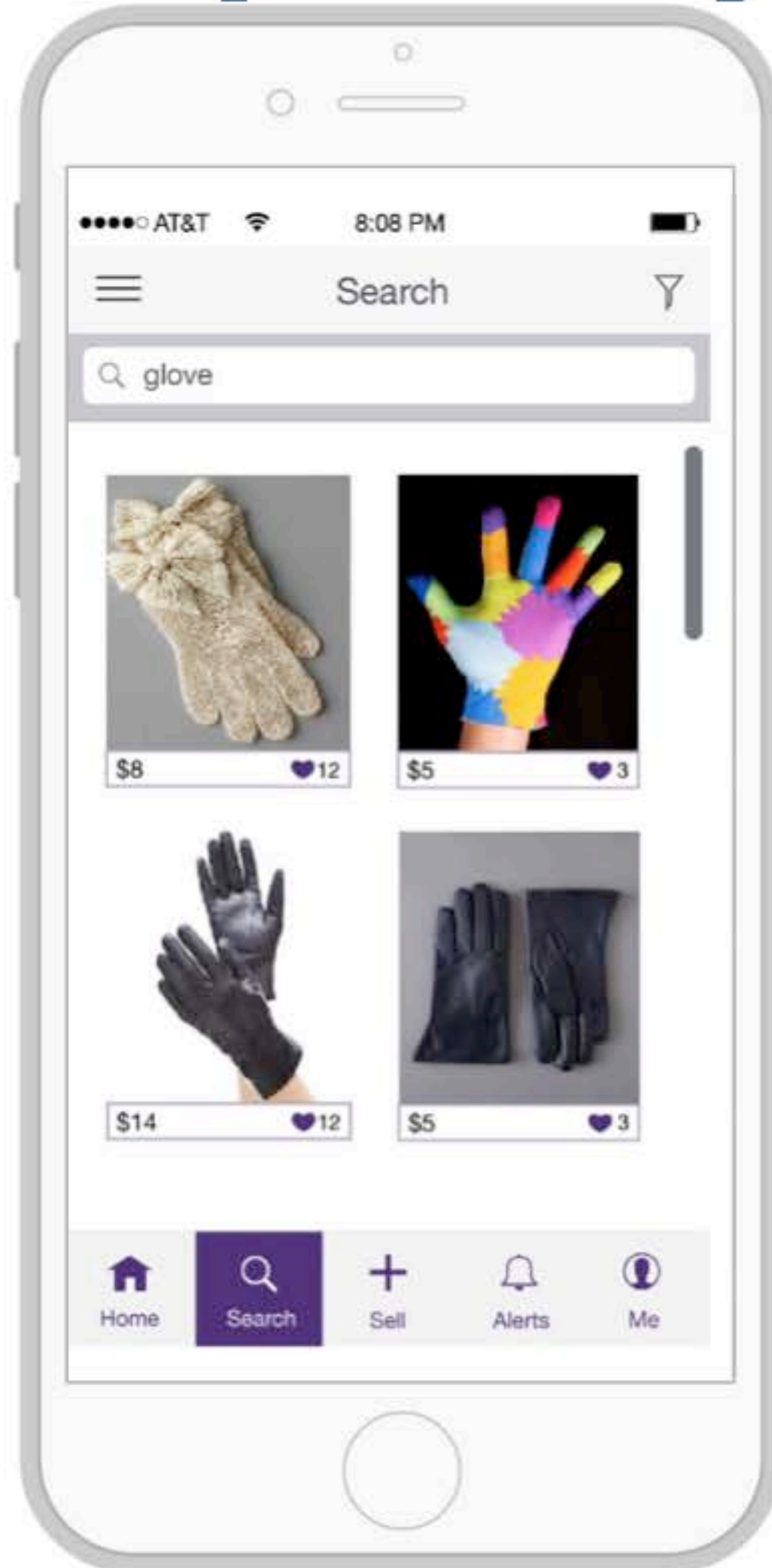
Address lo-fi concerns, plus

- Graphic design
- Interaction details
- Realistic data

Ignore

- Backend programming
- Complete functional coverage

Economic principle of prototyping

The best prototype is the one that, in the simplest and most efficient way, makes the possibilities of a design idea visible and measureable.

- Lim, Stolterman, and Tenenberg

Premature commitment

- **Investing resources (time, money) in a dead end**

- **Problems**
  - **Waste money and effort**
  - **Exhaust project resources/timeline, stuck with a bad design**
  - **Cognitive and emotional commitments hard to undo**

Lo-fi prototyping maximizes the number of times you get to refine your design *before you commit to code*

(or manufacturing, etc.)

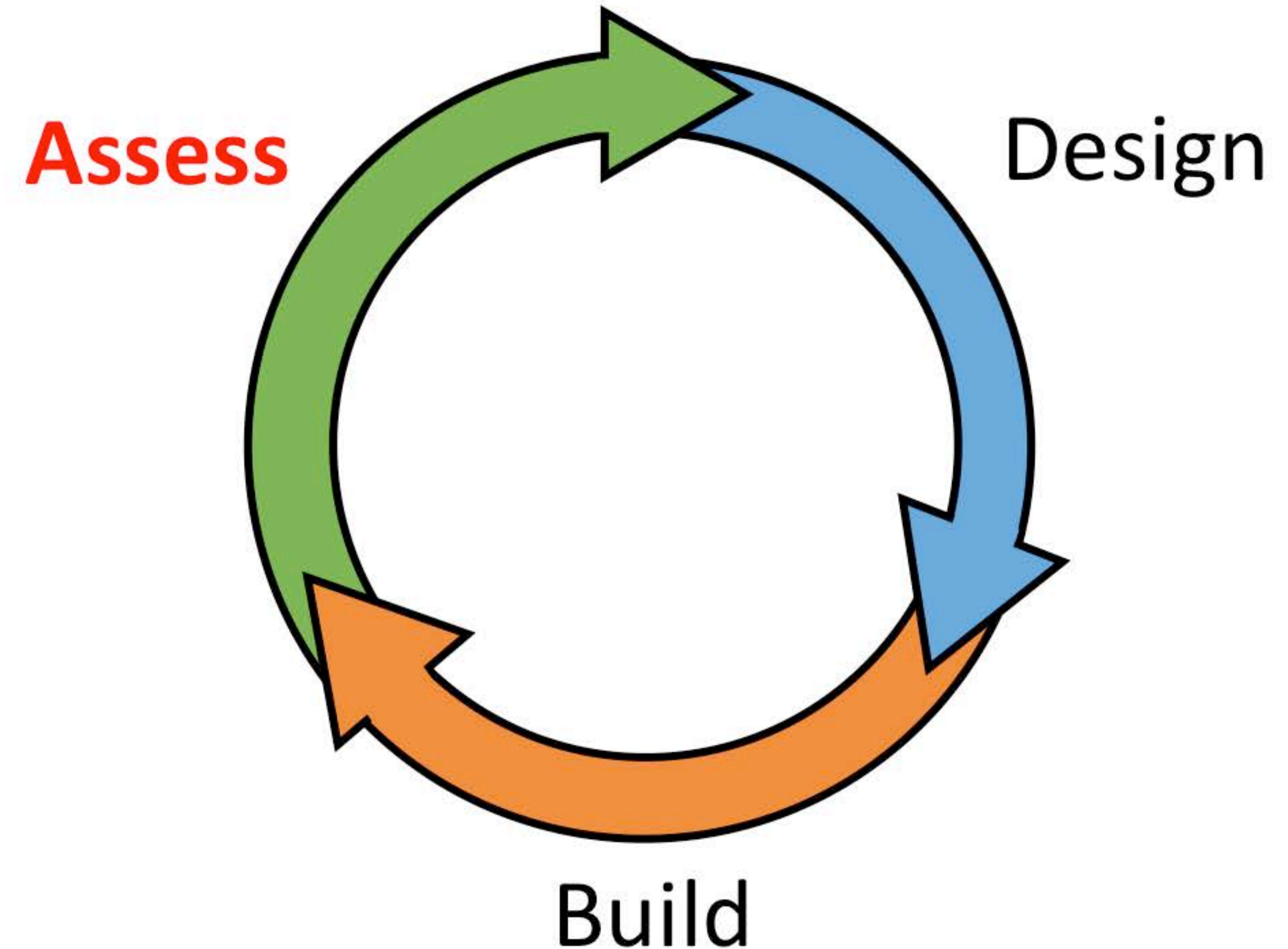**Lo-fi prototyping uses lightweight materials that are** *quick, cheap,* **and** *easy to change*

lo-fi prototypes are *not precious*, and therefore invite more *honest critique*
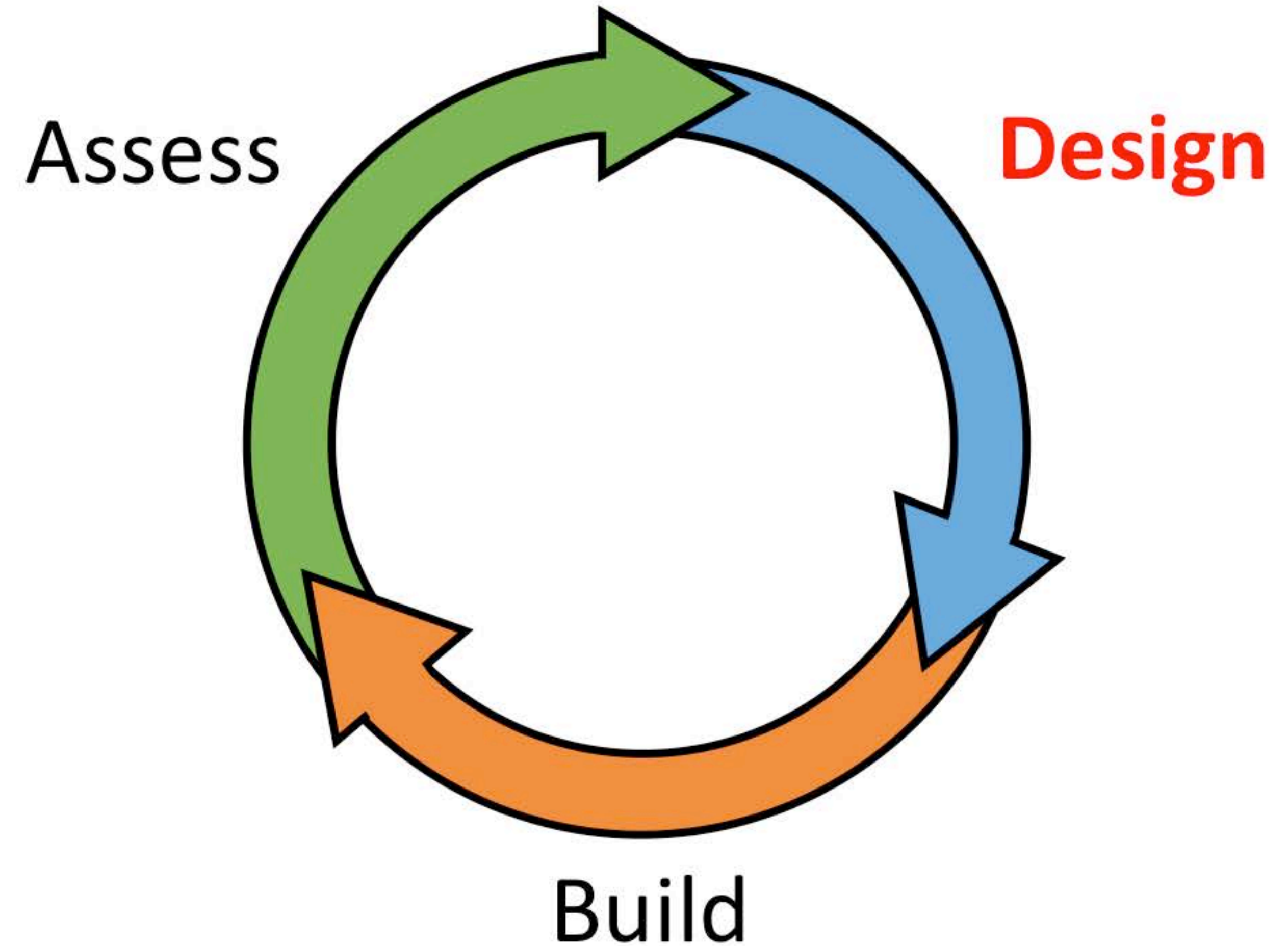
-Bill Moggridge

What happens before prototyping?

- **Assess current needs**
- **Establish guidelines and constraints**
- **Personas, scenarios, user stories, requirements**

Assess

Design

Build

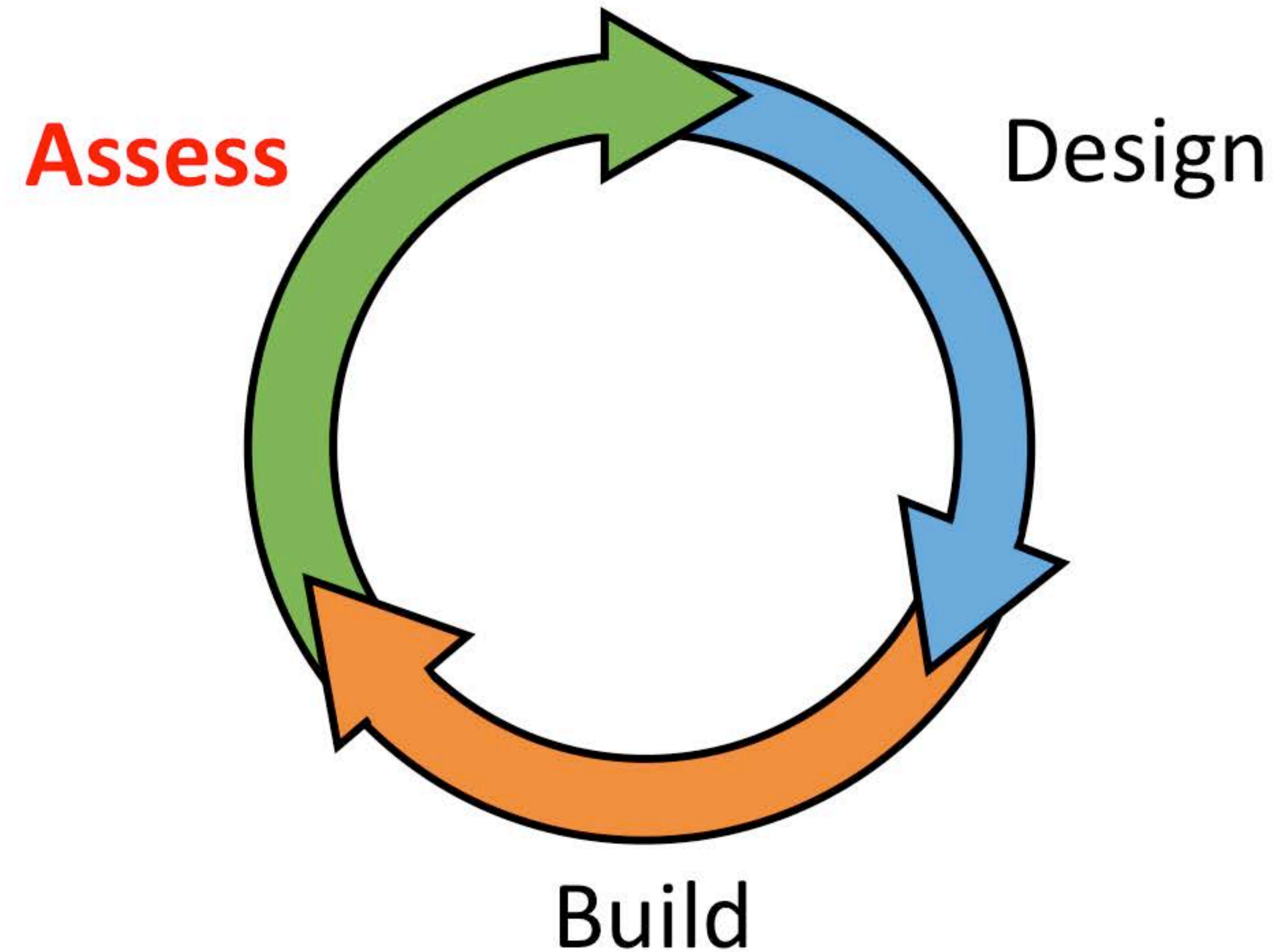# What happens before prototyping?

Design!
- **Ideation**
- **Sketching**
- **Selection**
- **Synthesis**

Assess

Design

Build

What happens after prototyping?

- **Assessment**
- **Redesign**
- **More prototyping**

Assess   Design

Build

Prototypes

- **Embody design concepts**
- **Facilitate**
    - **Thinking**
    - **Communication**
    - **Assessment**

Atrributions

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"Midfi" is provided by Micaela Hunter