

# Building Great User Experiences

Nick Black, Dawit Elias

# ArcGIS Runtime

**Start with the  
Customer Experience**

# Desirability

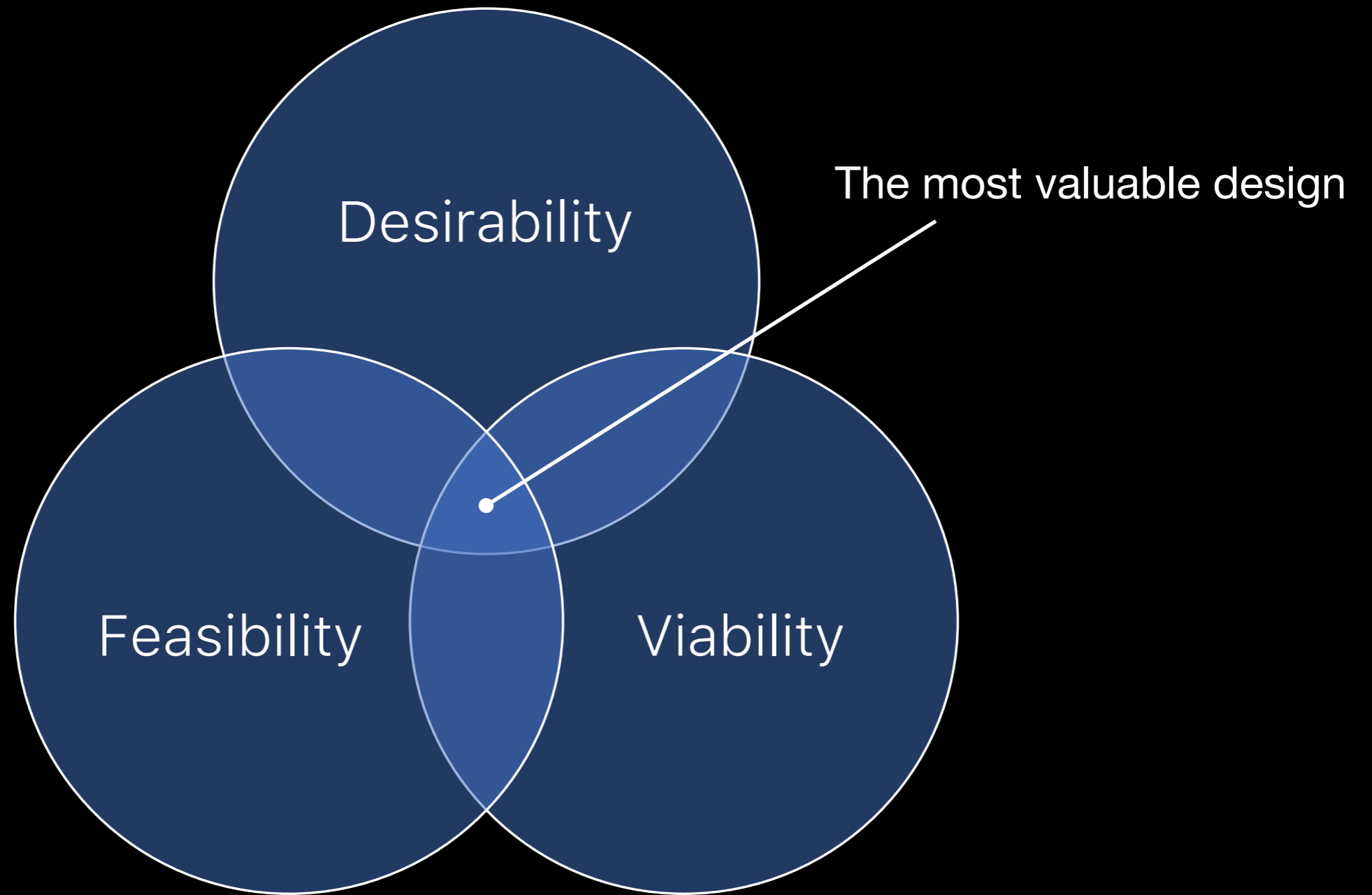
Desirability

Feasibility

Desirability

Feasibility

**Viability**



# Collector for ArcGIS

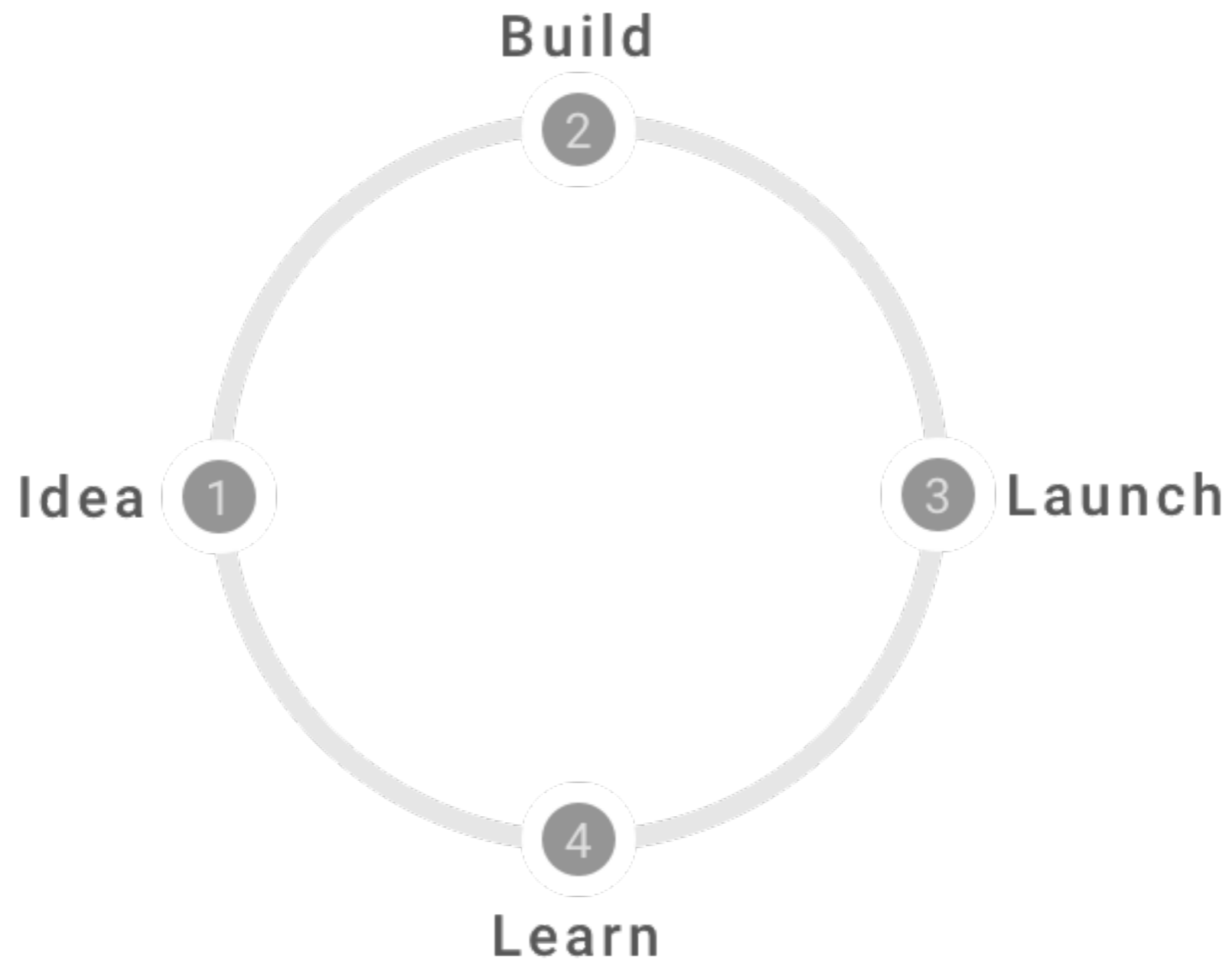
Making the case for a redesign

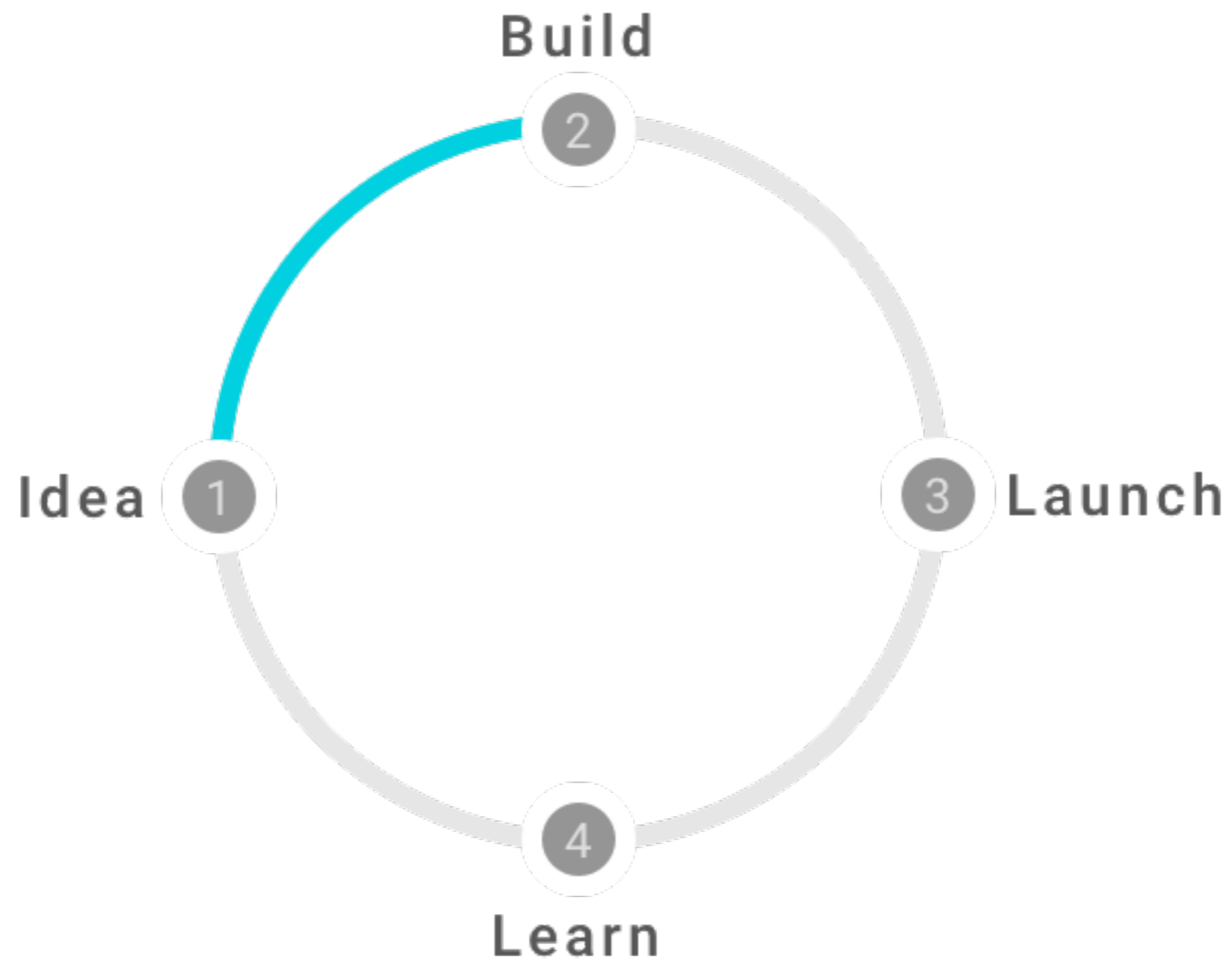


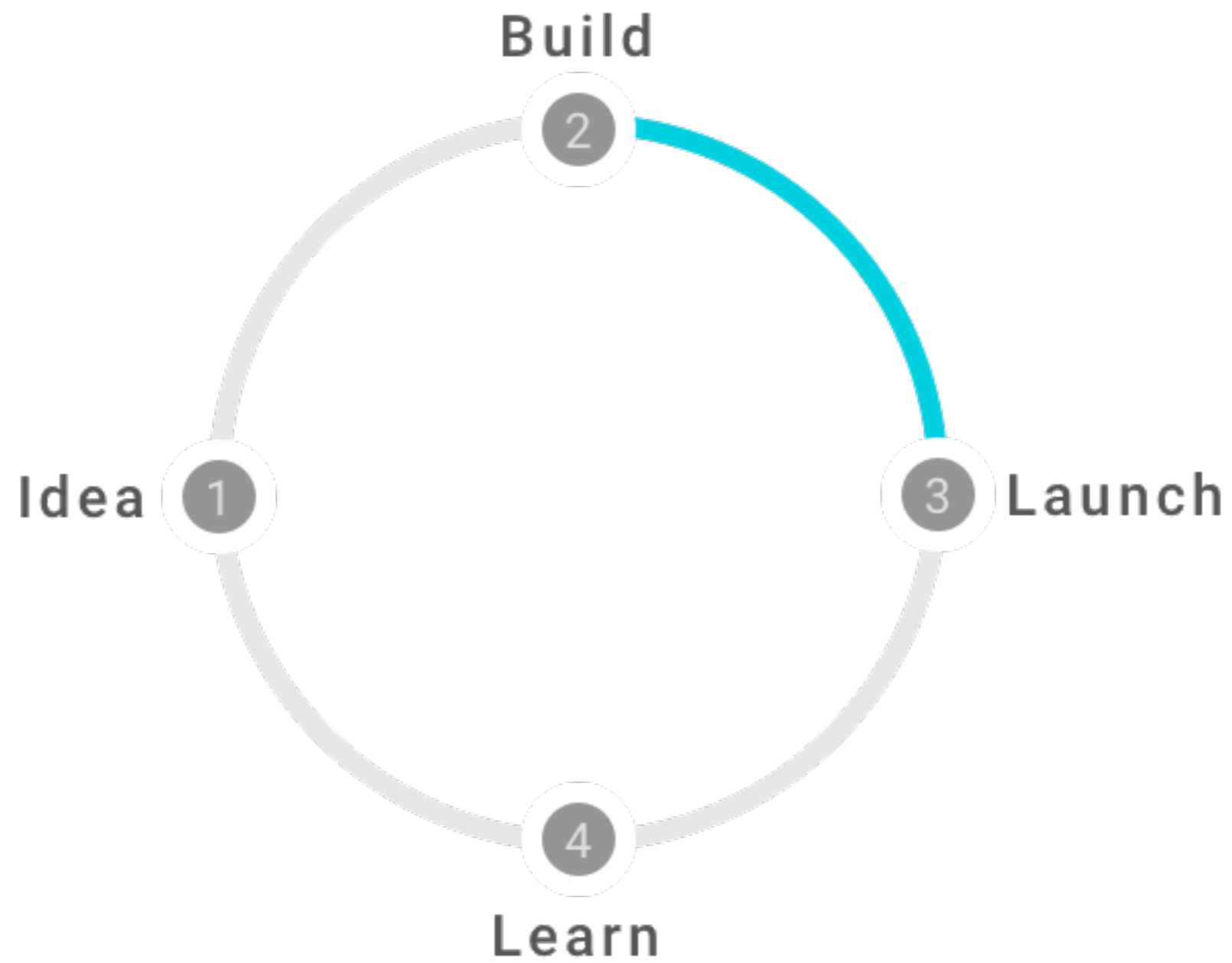
# Framing the Problem

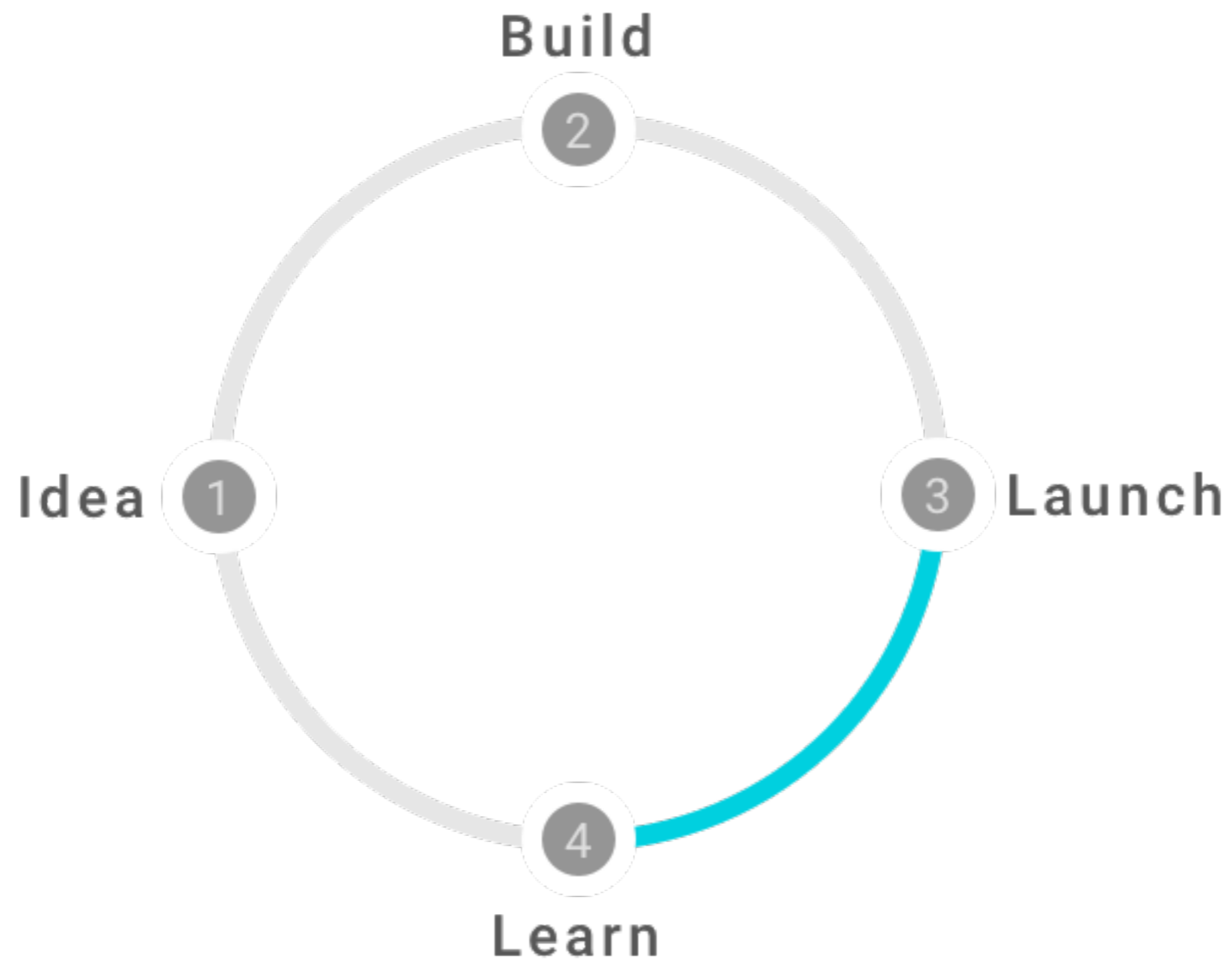
# Design Sprint

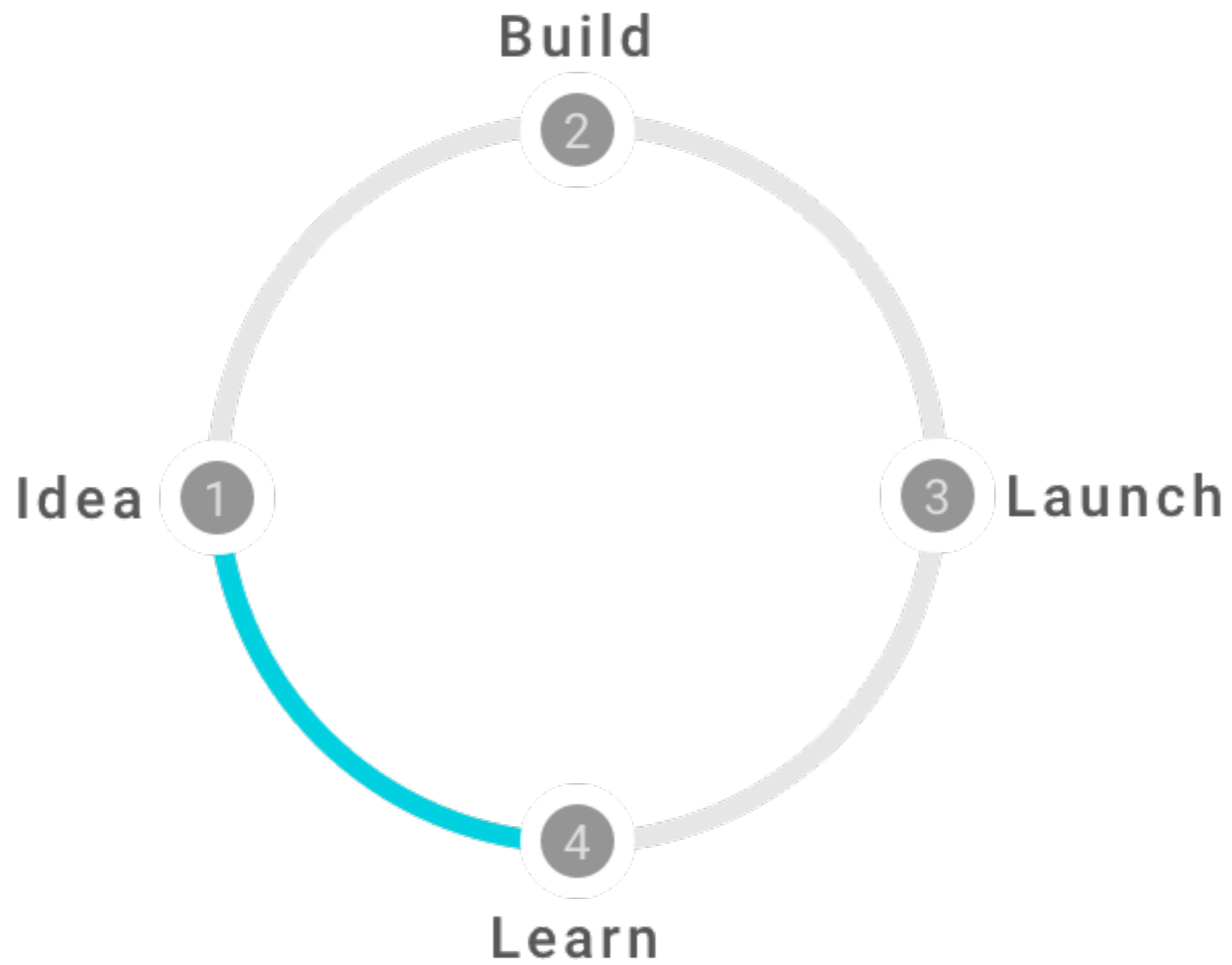
A design sprint is a five-phase **framework** that helps answer critical business questions through **rapid prototyping** and **user testing**.



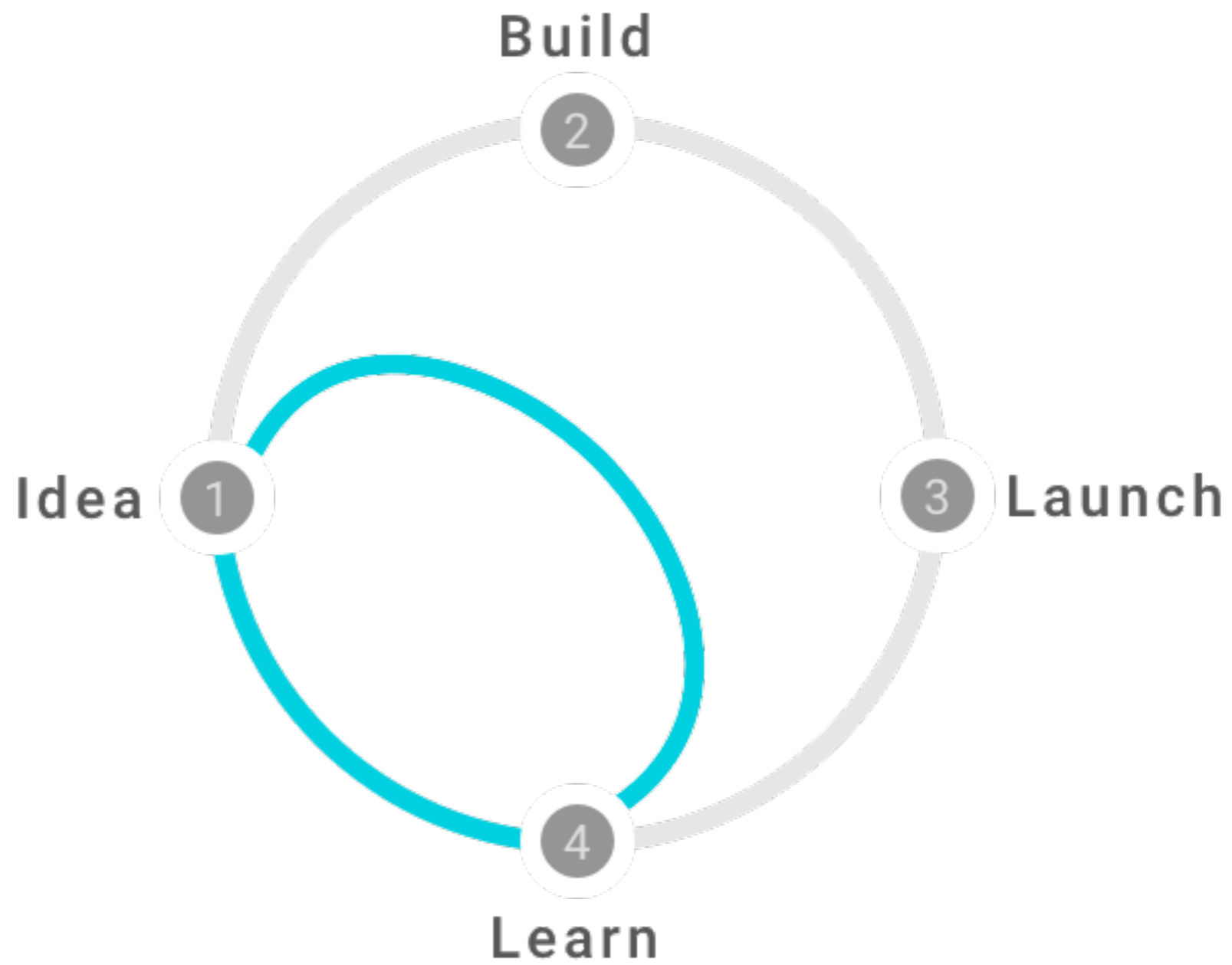












Set the stage

# Set the stage

Do you have the right challenge?

# Set the stage

Do you have the right challenge?

Do you have the right team?

# Set the stage

Do you have the right challenge?

Do you have the right team?

What do you want the team to create during the sprint?

**Understand**

**Map out the problem space and  
create a shared knowledge pool**

**How do we do this?**



# Lightning Talks



Source: Google Design Sprint Kit

<https://designsprintkit.withgoogle.com/methods/understand/hmw-sharing/>

# Affinity Maps

SEAMLESS  
EXPERIENCE

ONBOARDING

CR

# Journey Maps

## ACTORS

FIELD WORKER

FIELD SUPERVISOR

GIS ADMIN

IT ADMIN

END

CREATE NEW PROJECT  
DUPLICATE A PROJECT  
PROJECT FROM TEMPLATE

CREATE MAP  
BASEMAP  
ADD LAYERS  
CONFIGURE LAYERS

MANAGE PROJECTS  
DELETE PROJ

Project Components  
Accuracy

DEFINE MAP

ADD LAYERS

DELETE A PROJECT

Project Components

COLLECT FIELD DATA

ROYAL BLOOD TOUR 2015

22.02.15	16.03.15
BARROWLAND GLASGOW	PARADISO AMSTERDAM
23.02.15	17.03.15
BARROWLAND GLASGOW	L'OLYMPIA PARIS
27.02.15	18.03.15
PAVILLIONS PLYMOUTH	AB BRUSSELS
28.02.15	20.03.15
BRIDLINGTON	SPA KULTURBOLAGET MALMO
02.03.15	21.03.15
GUILDHALL PORTSMOUTH	ROCKAFELLER OSLO
03.03.15	22.03.15
CENTRE NEWPORT	VEGA COPENHAGEN
05.03.15	23.03.15
NORWICH	UEA DEBASER MEDIS STOCKHOLM
06.03.15	25.03.15
EMPRESS BALLROOM BLACKPOOL	ALADIN BREMEN
08.03.15	26.03.15
ULSTER HALL BELFAST	ROCKFABRIK STUTTGAERT
09.03.15	28.03.15
OLYMPIA DUBLIN	TRANSBORDEUR LYON
10.03.15	29.03.15
OLYMPIA DUBLIN	ALCATRAZ MILAN
11.03.15	31.03.15
WOLVERHAMPTON	CIVIC HALL APOLO BARCELONA
13.03.15	01.04.15
O2 BRIXTON ACADEMY LONDON	LA RIVIERA MADRID
14.03.15	

# Redesigning Collector

Copy Location

Collect Geometry - Point, Line, Polygon

Work Offline

Compass Mode

Edit Attributes

Choose Feature Type

Streaming

Attribute Validation

Layers Tool

Work Offline

Add Attachment

Delete Feature

Search

Point Averaging

GPS Receiver Info

High Accuracy GPS

**LOTS** of App Settings

Bookmarks

Browse Maps

Open a Map

Copy Attributes

Measure

85%

Collecting Points vs. Lines or Polygons

# Point Collection Workflow

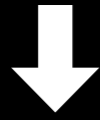
**Start Collecting**

**Start Collecting**

**Discoverability & reachability  
of primary control**



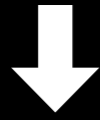
**Start Collecting**



**Choose Feature Type**

**Discoverability & reachability  
of primary control**

**Start Collecting**

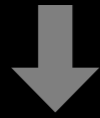


**Choose Feature Type**

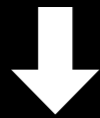
**Discoverability & reachability  
of primary control**

**Loss of context & repeating  
layer name**

**Start Collecting**



**Choose Feature Type**



**Set Geometry**

**Discoverability & reachability  
of primary control**

**Loss of context & repeating  
layer name**

**Start Collecting**



**Choose Feature Type**



**Set Geometry**

**Discoverability & reachability  
of primary control**

**Loss of context & repeating  
layer name**

**Discoverability & learned  
behavior**

**Start Collecting**



**Choose Feature Type**



**Set Geometry**



**Edit Attributes**

**Discoverability & reachability  
of primary control**

**Loss of context & repeating  
layer name**

**Discoverability & learned  
behavior**

**Start Collecting**



**Choose Feature Type**



**Set Geometry**



**Edit Attributes**

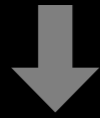
**Discoverability & reachability  
of primary control**

**Loss of context & repeating  
layer name**

**Discoverability & learned  
behavior**

**“Too many taps”**

**Start Collecting**



**Choose Feature Type**



**Set Geometry**



**Edit Attributes**



**Submit**

**Discoverability & reachability  
of primary control**

**Loss of context & repeating  
layer name**

**Discoverability & learned  
behavior**

**“Too many taps”**

**Start Collecting**



**Choose Feature Type**



**Set Geometry**



**Edit Attributes**



**Submit**

**Discoverability & reachability  
of primary control**

**Loss of context & repeating  
layer name**

**Discoverability & learned  
behavior**

**“Too many taps”**

**Shows feedback 👍**

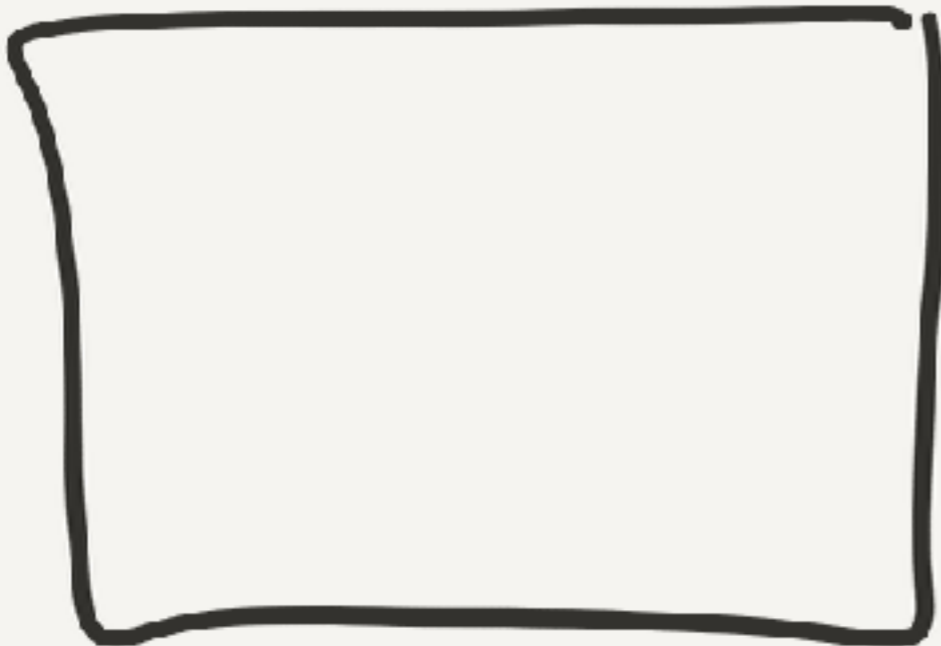
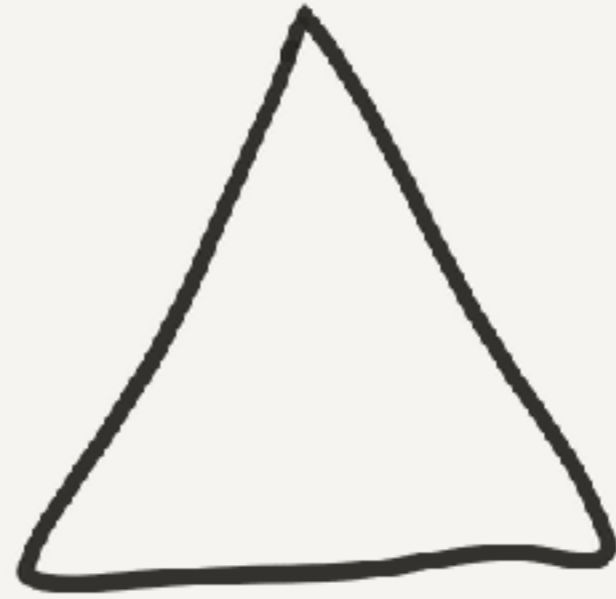
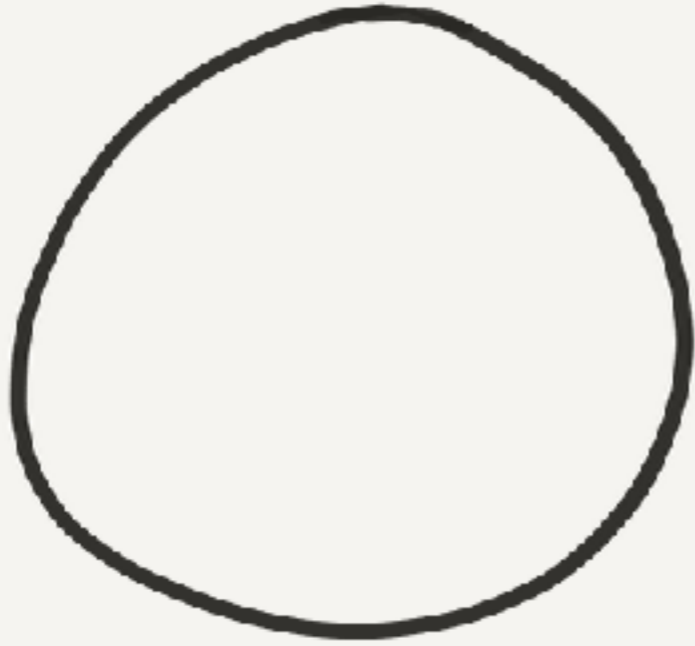


# Generating Ideas



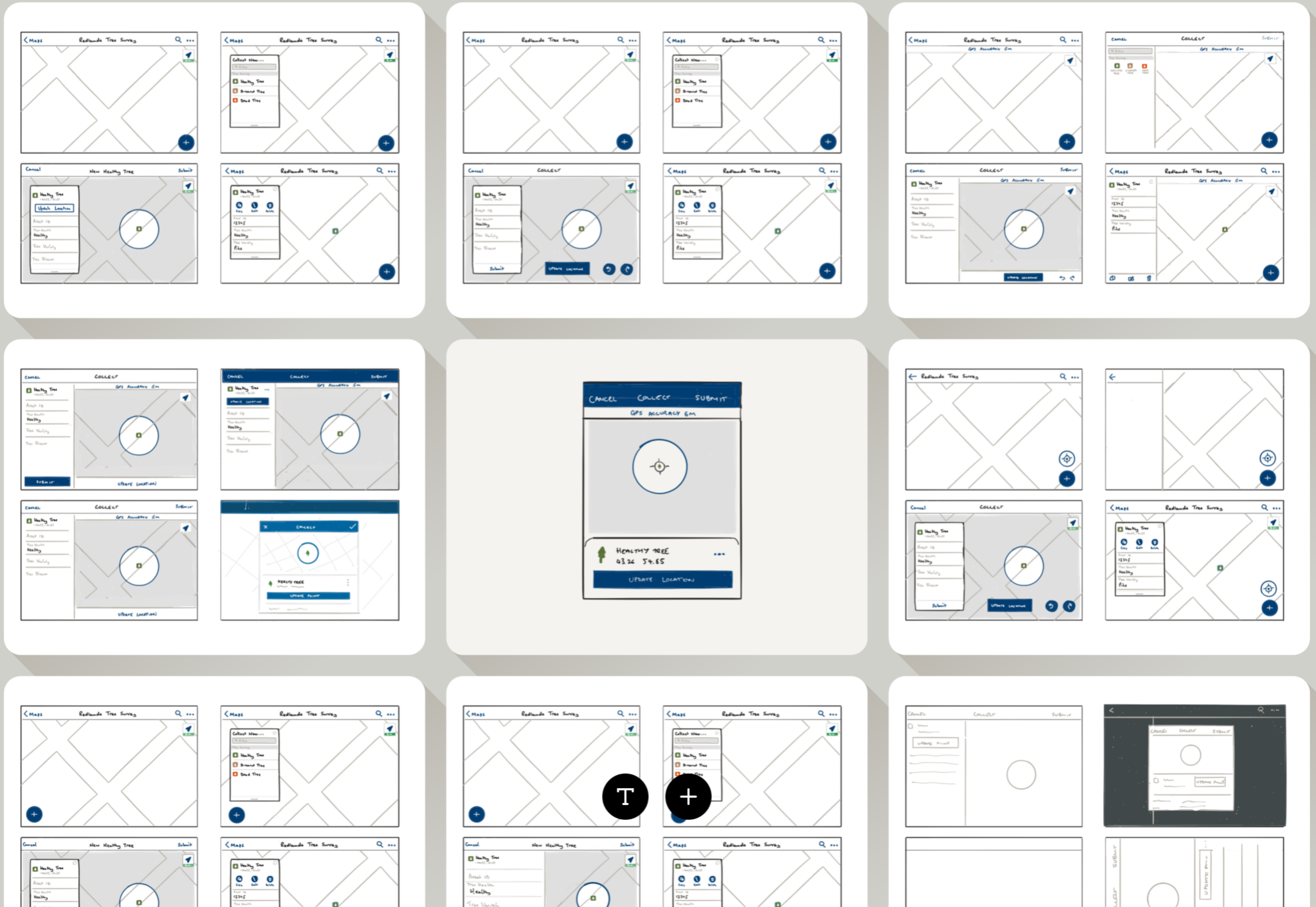
# Divergent Thinking

# Sketching



# Collect Tablet

9 pages



# Group Activities

**Discussing design  
without losing your mind**

# Critique



**“No that won’t work. What if we  
did it this way? ”**

**“It would be better if you moved  
that button over there”**

**“What. The Hell. Is this?”**

**Critique = Critical Thinking**

When giving critique...

- Don't assume

## When giving critique...

- Don't assume
- Lead with questions

## When giving critique...

- Don't assume
- Lead with questions
- Talk about strengths

## When giving critique...

- Don't assume
- Lead with questions
- Talk about strengths
- Avoid problem solving



When receiving critique...

- Remember the purpose

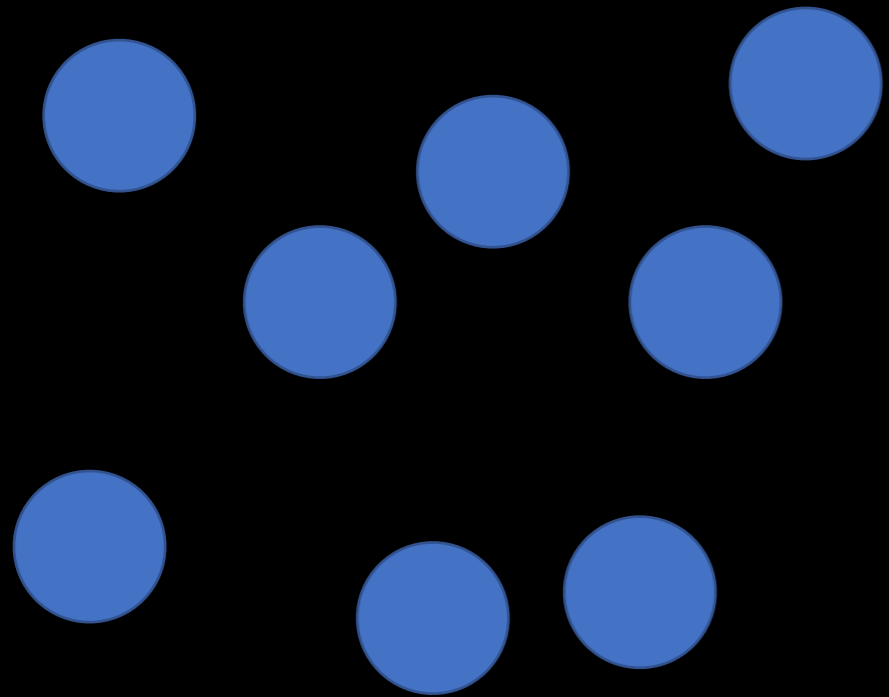
When receiving critique...

- Remember the purpose
- Think before you respond

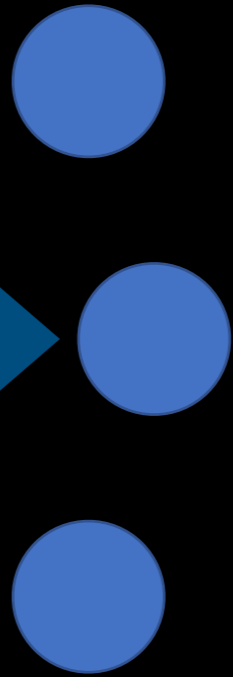
## When receiving critique...

- Remember the purpose
- Think before you respond
- Participate

# Design Studio



**Divergent  
Thinking**



**Convergent  
Thinking**

Sketch

Present

Critique



**Sketch**

Sketch

Present



Sketch

Present

Critique

**Sketch**

**Your idea**



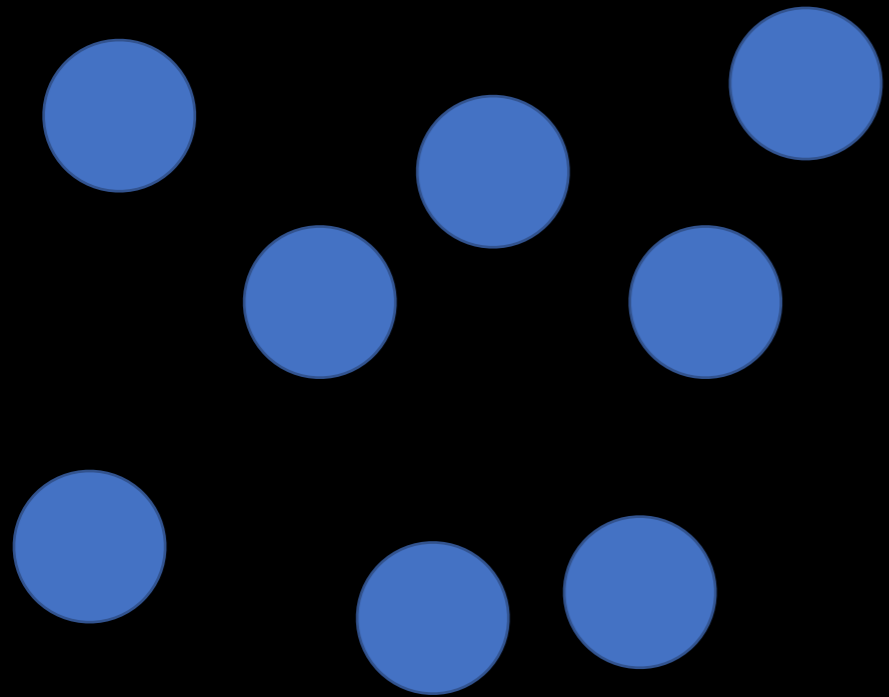
Sketch

Present

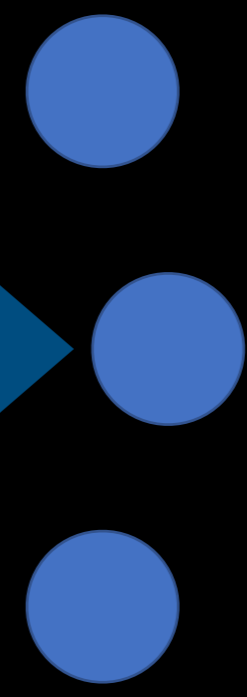
Sketch

Present

Critique



**Individual  
Exploration**

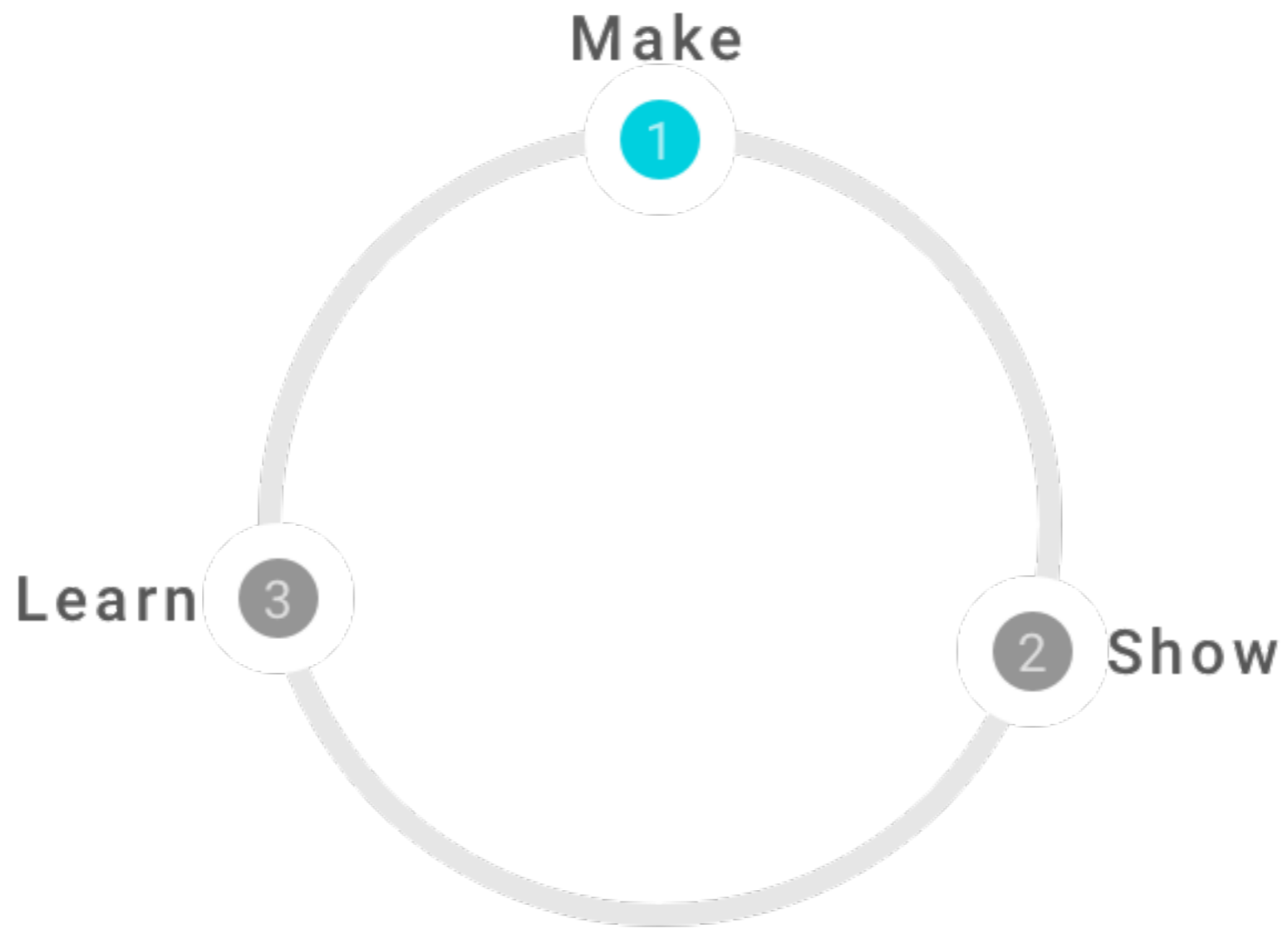


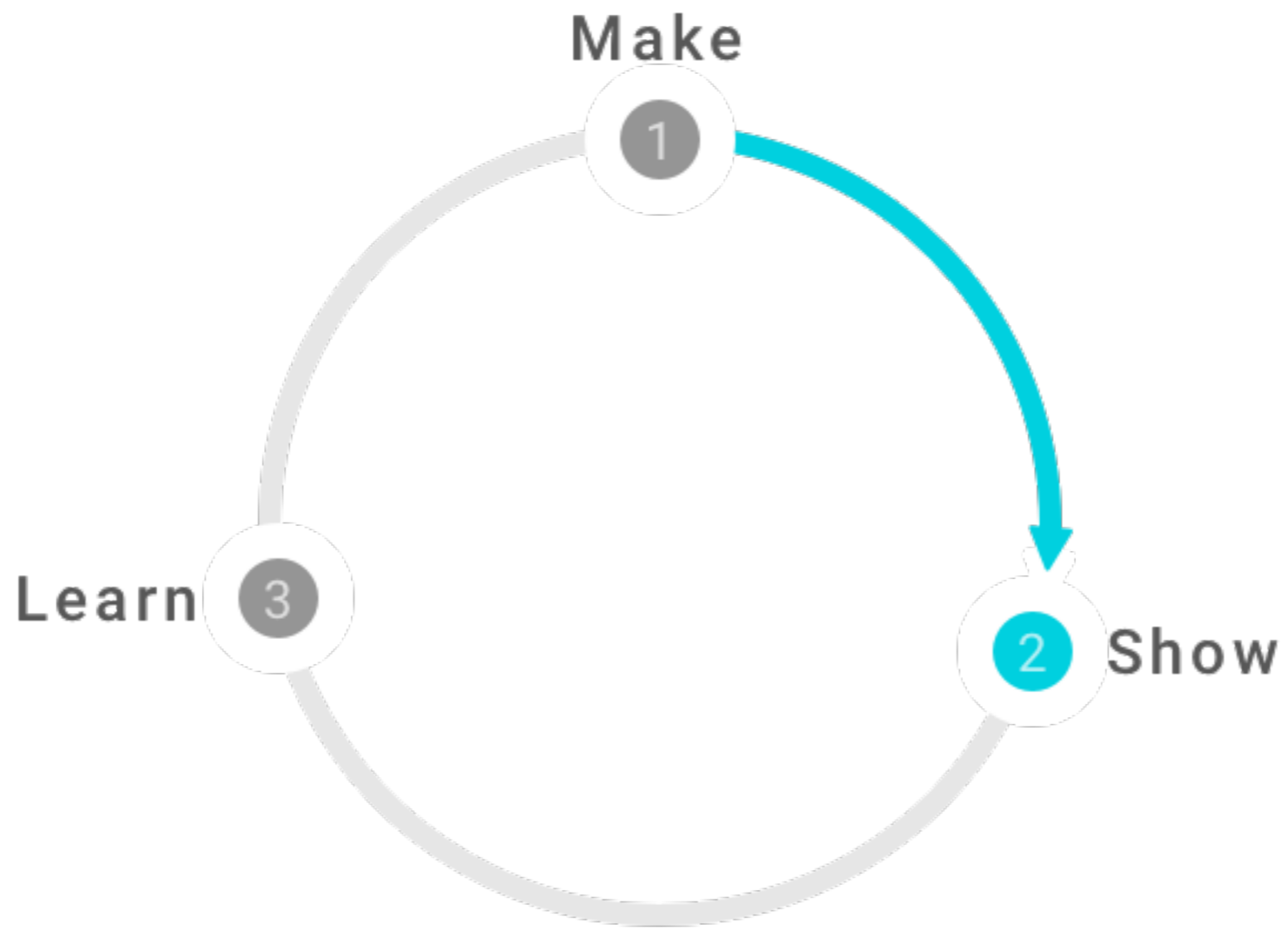
**Group  
Refinement**

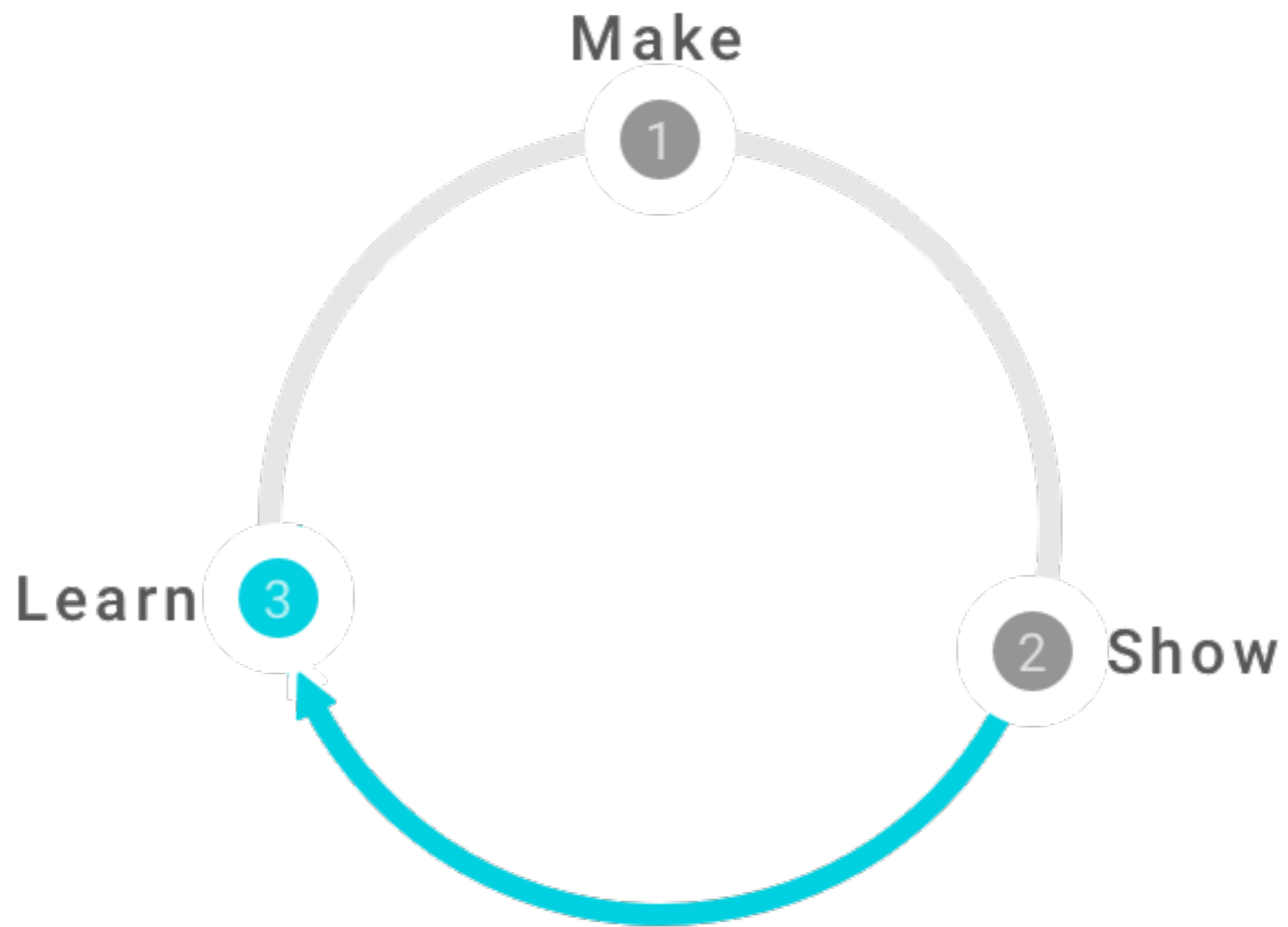
**Prototype**

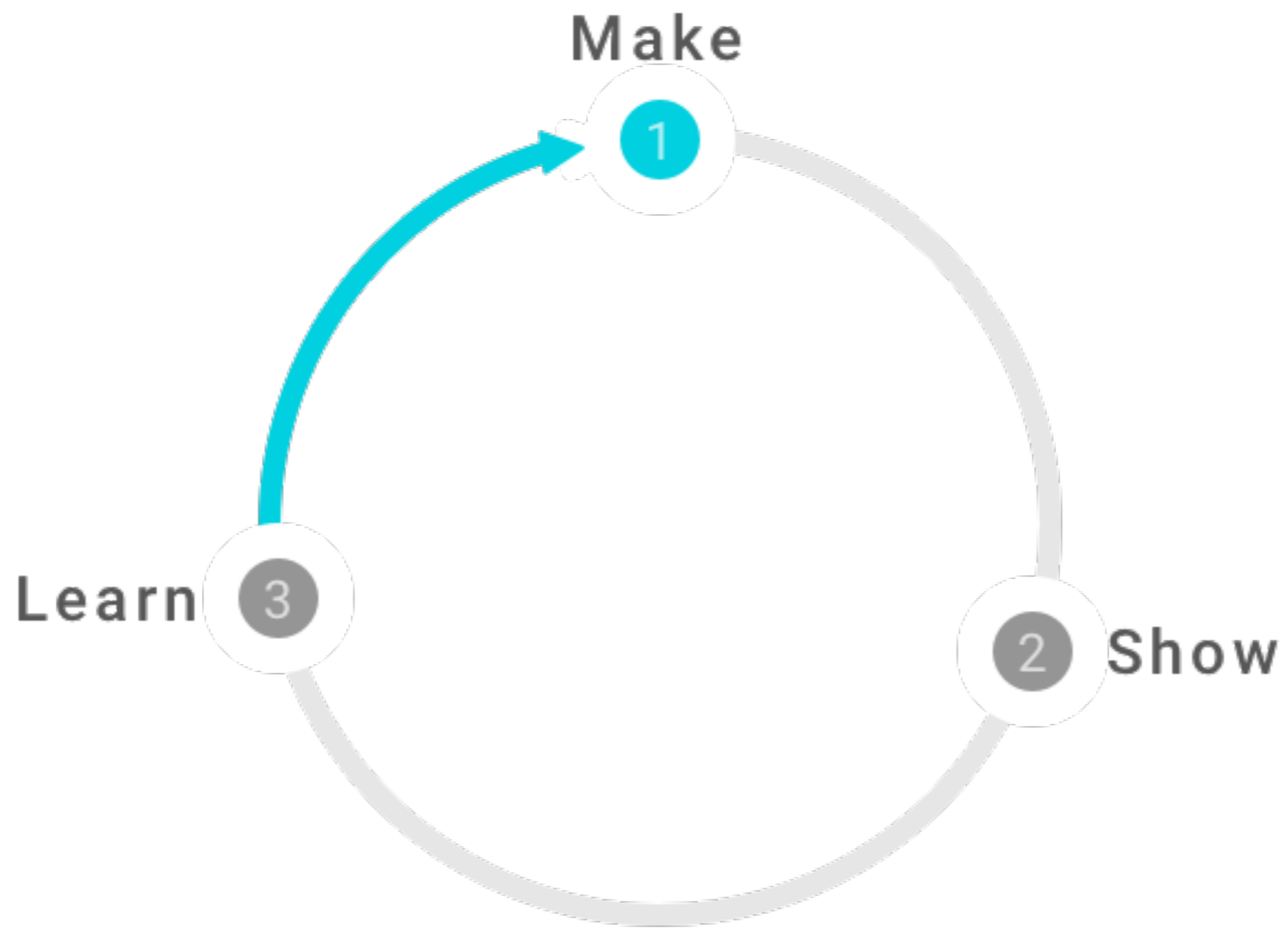
**How?**

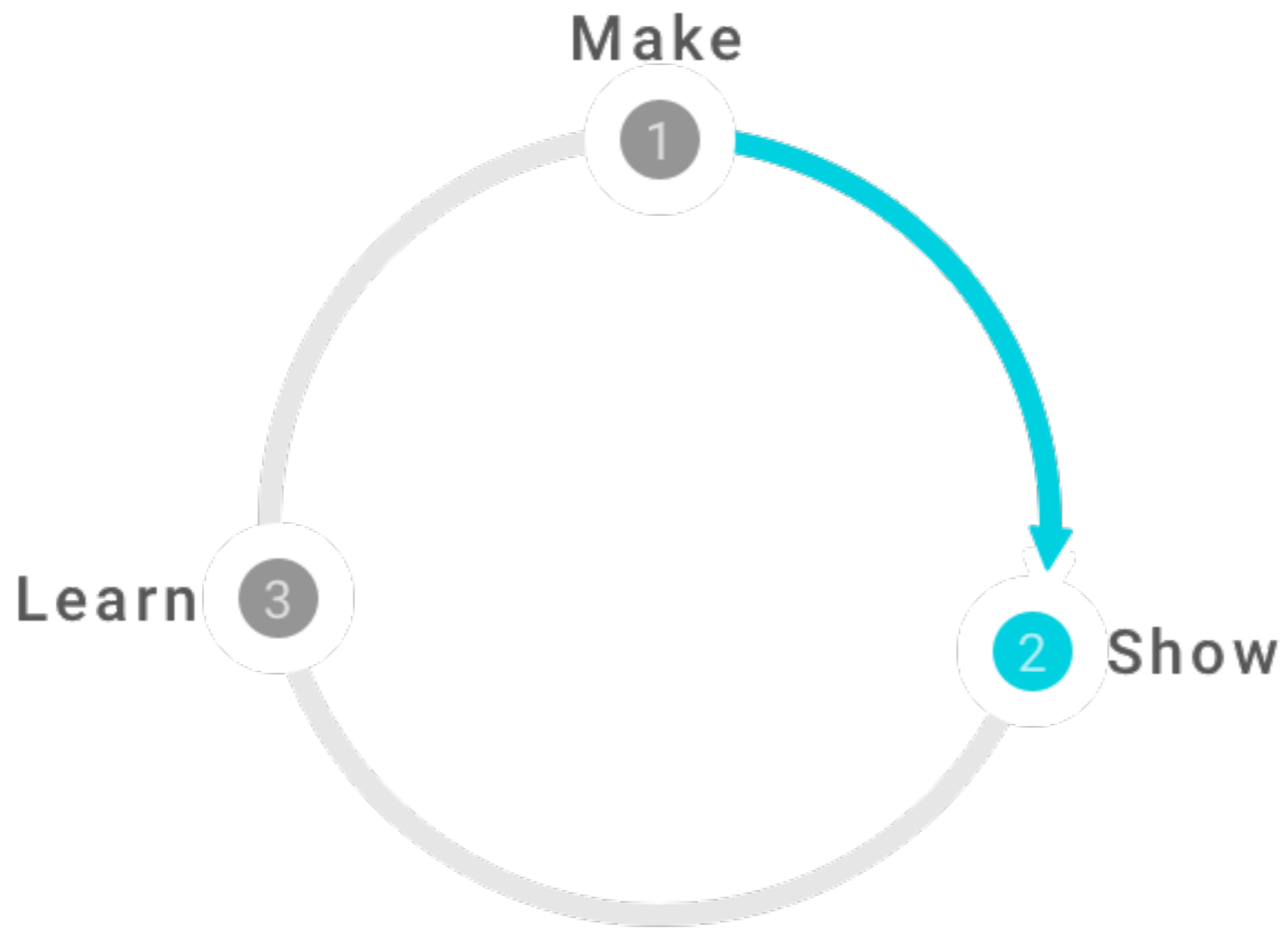


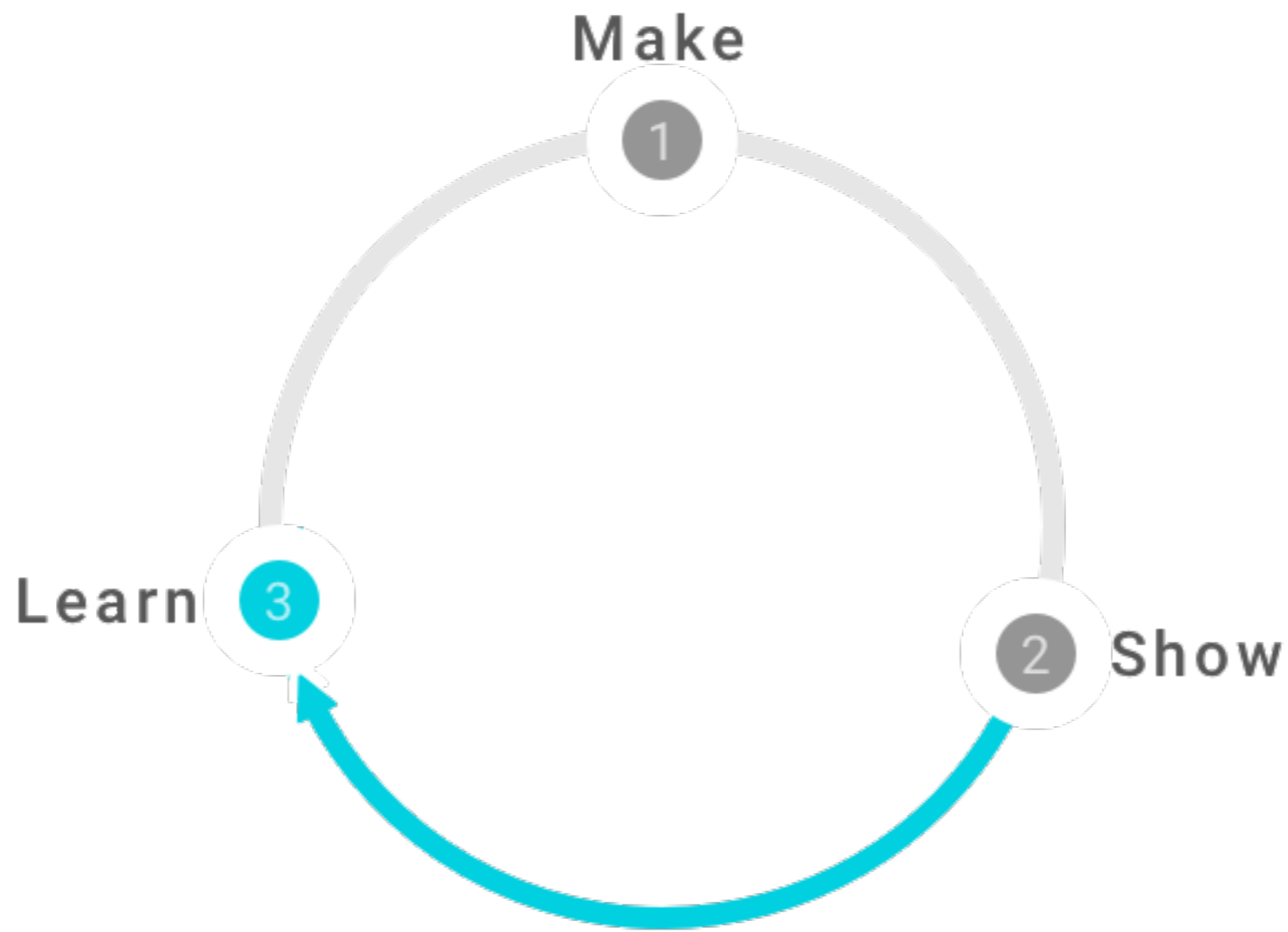












**Before you start, ask  
yourselves...**

# Before you start, ask yourselves...

What can we fake?



# Before you start, ask yourselves...








What can we fake?

Where will people use it?



# Other options

[cooper.com/prototyping-tools](https://www.cooper.com/prototyping-tools)

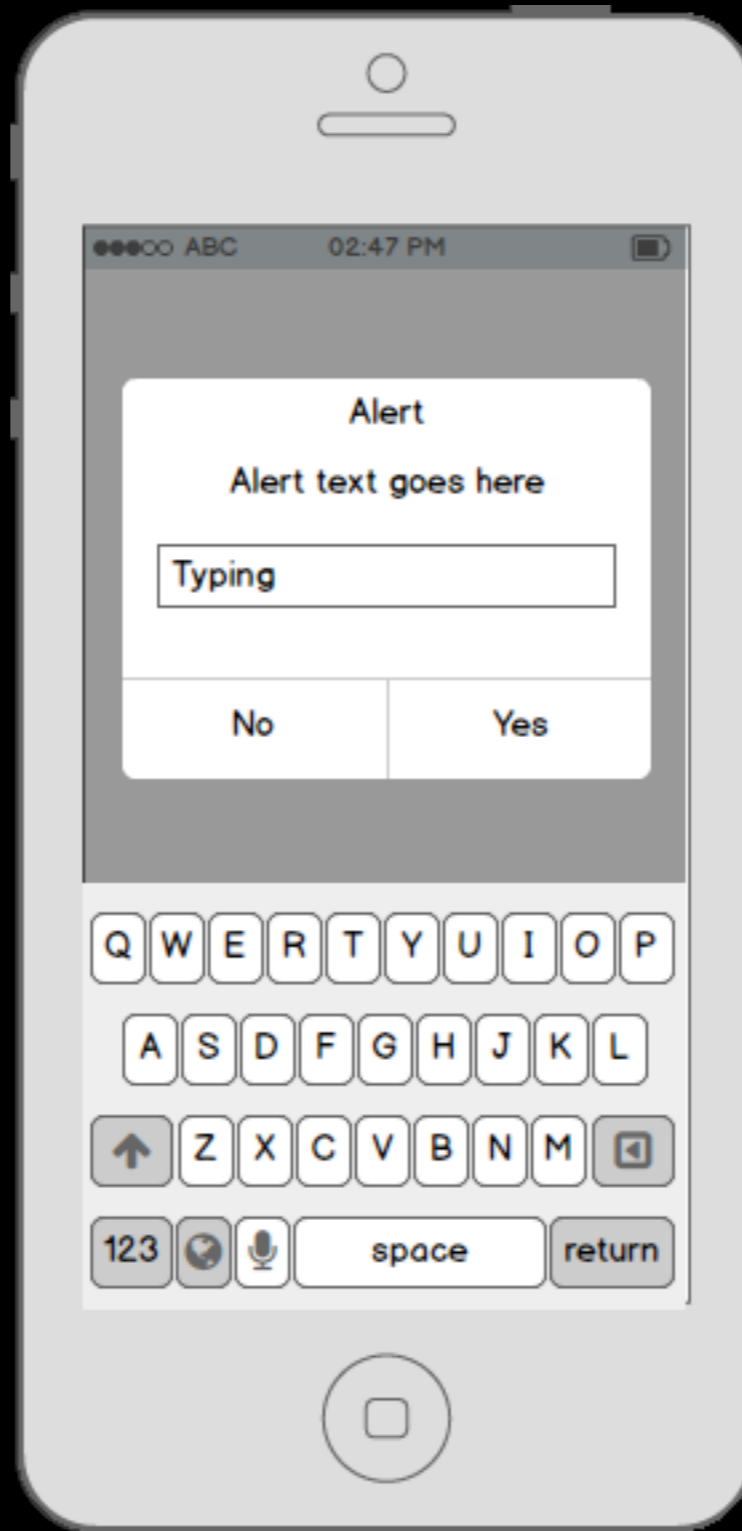
	SORT BY	SPEED	FIDELITY	SHARING	USER TESTING	SUPPORT	MOBILE & TOUCH	DYNAMIC ELEMENTS
 <b>FLINTO FOR MAC</b> Prototyping tool ideal for high fidelity motion prototypes or complex interactions. Last updated: Feb 9		5-10 mins	High	Good	Good	Good	High	Low
 <b>PRINCIPLE</b> Modern design prototyping tool for mobile and web applications. Last updated: Sep 15		15 mins	High	Good	Good	Good	High	High
 <b>WEBFLOW</b> Website builder for designing professional looking web sites from scratch. Last updated: Jan 18		40-80 mins	High	High	Good	Good	Low	Average
 <b>ORIGAMI</b> Free tool that works with QuarkXPress for prototyping mobile and desktop apps. Last updated: Jan 18		>80 mins	High	Low	Average	High	High	High
 <b>FRAMER</b> Prototyping tool built on frame.js for prototyping mobile and desktop apps. Last updated: Jul 11		>80 mins	High	Average	Average	High	High	High
 <b>MAXWEL</b> Simple click-through prototyping tool for web and mobile apps. Last updated: Jan 18		5-10 mins	Good	High	Good	Good	High	Average
 <b>AXURE</b> Robust prototyping tool for websites and apps. Last updated: Feb 1		40-80 mins	Average	Average	Average	High	Average	Good

**You might be  
thinking...**

**No thanks!**



**Paper prototypes**



**Wireframes**

**Just remember...**



# Just remember...

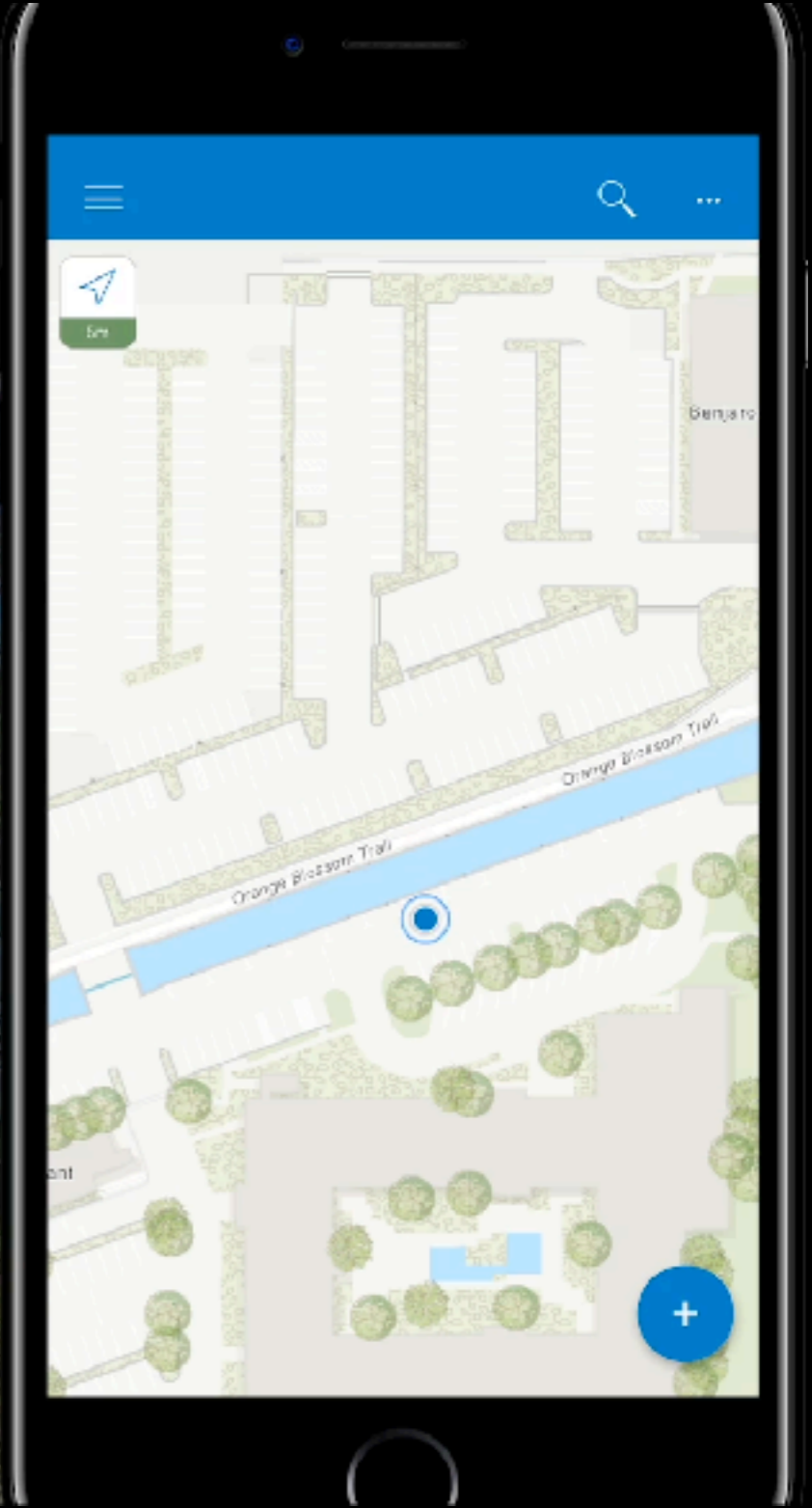
Low fidelity can lead to false positives

# Just remember...

Low fidelity can lead to false positives

Utilize Apple's [Human Interface Guidelines](#) and Google's [Material Design Guidelines](#)

**Validation**



# Implementation

**Making designs  
tangible**

**What's next?**

# What's next?

Hand-off designs to developer



# What's next?

Hand-off designs to developer

A few hours, days, or weeks later they send you their implementation

# What's next?

Hand-off designs to developer

A few hours, days, or weeks later they send you their implementation

Profit 

Right?

**Wrong.**

# Reality check

# Reality check

Feasibility

# Reality check

Feasibility

Viability

# Reality check

Feasibility

Viability

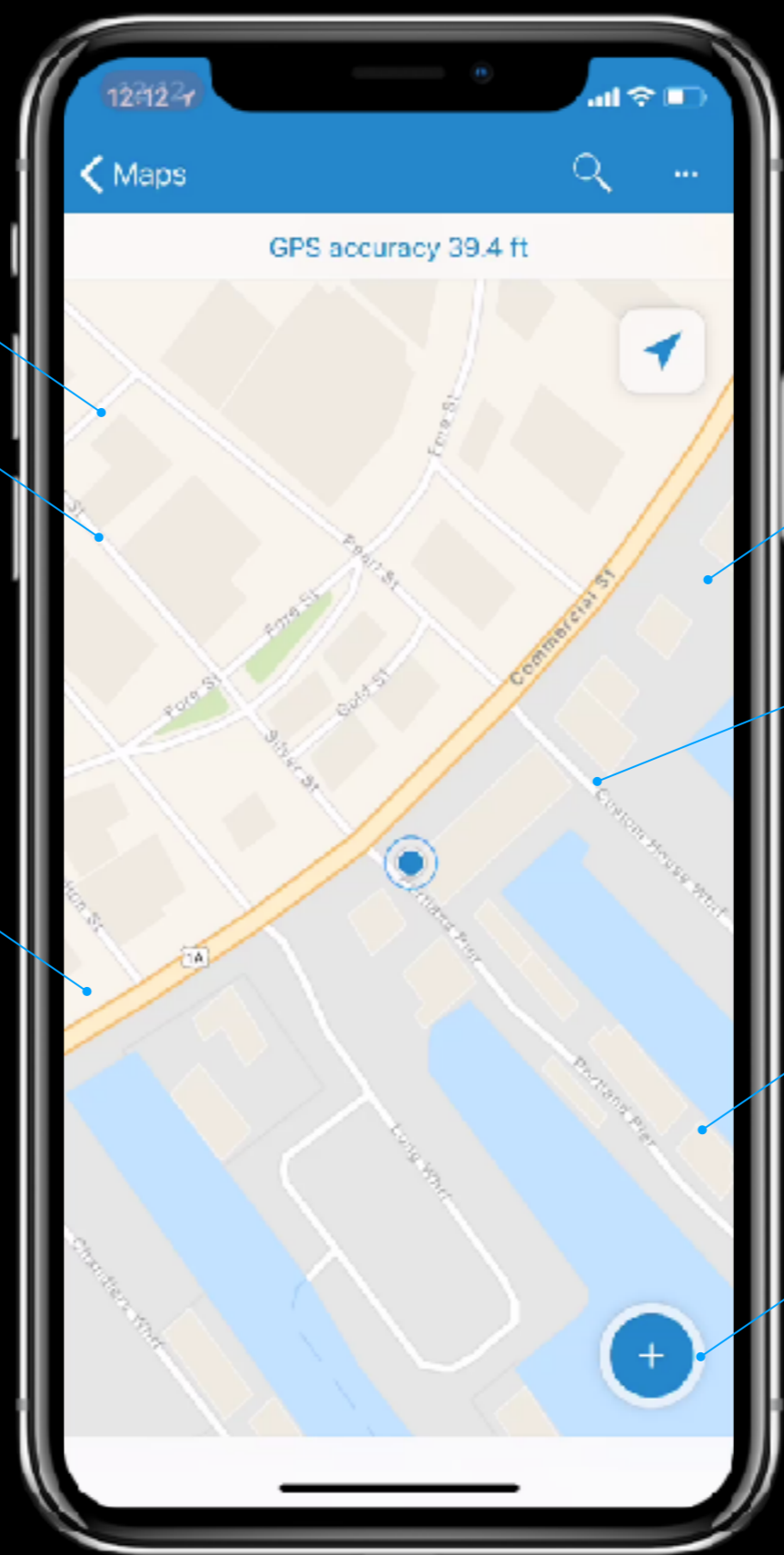
Understanding



**Communication is  
key**

**Software development  
is iterative**

# Collector Aurora



Add Photos with Less Taps

Precise Location Positioning

Easy to Update Location

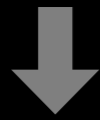
Edit Attributes Inline

Improved Feedback

Feature Types Grouped by Layer

Easy to Discover Collect Tool

**Start Collecting**



**Choose Feature Type**



**Set Geometry**



**Edit Attributes**



**Submit**

**Discoverability & reachability  
of primary control**

**Loss of context & repeating  
layer name**

**Discoverability & learned  
behavior**

**“Too many taps”**

**Shows feedback 👍**

**Conclusion**

# Resources & links

**ArcGIS Runtime SDK Samples**

<https://developers.arcgis.com/arcgis-runtime/>

**Google Design Sprint**

<https://designsprintkit.withgoogle.com/>

**Apple 2014 WWDC Session, Prototyping: Fake It Till You Make It**

<https://developer.apple.com/videos/play/wwdc2014/223/>

**Steve Jobs, Start with the Customer Experience**

<https://youtu.be/r2O5qKZII50>

**Sketch**

<https://www.sketchapp.com/>

**Cooper Design Matrix**

<https://www.cooper.com/prototyping-tools>