

MOBILE PLANET



AN EVENT APART

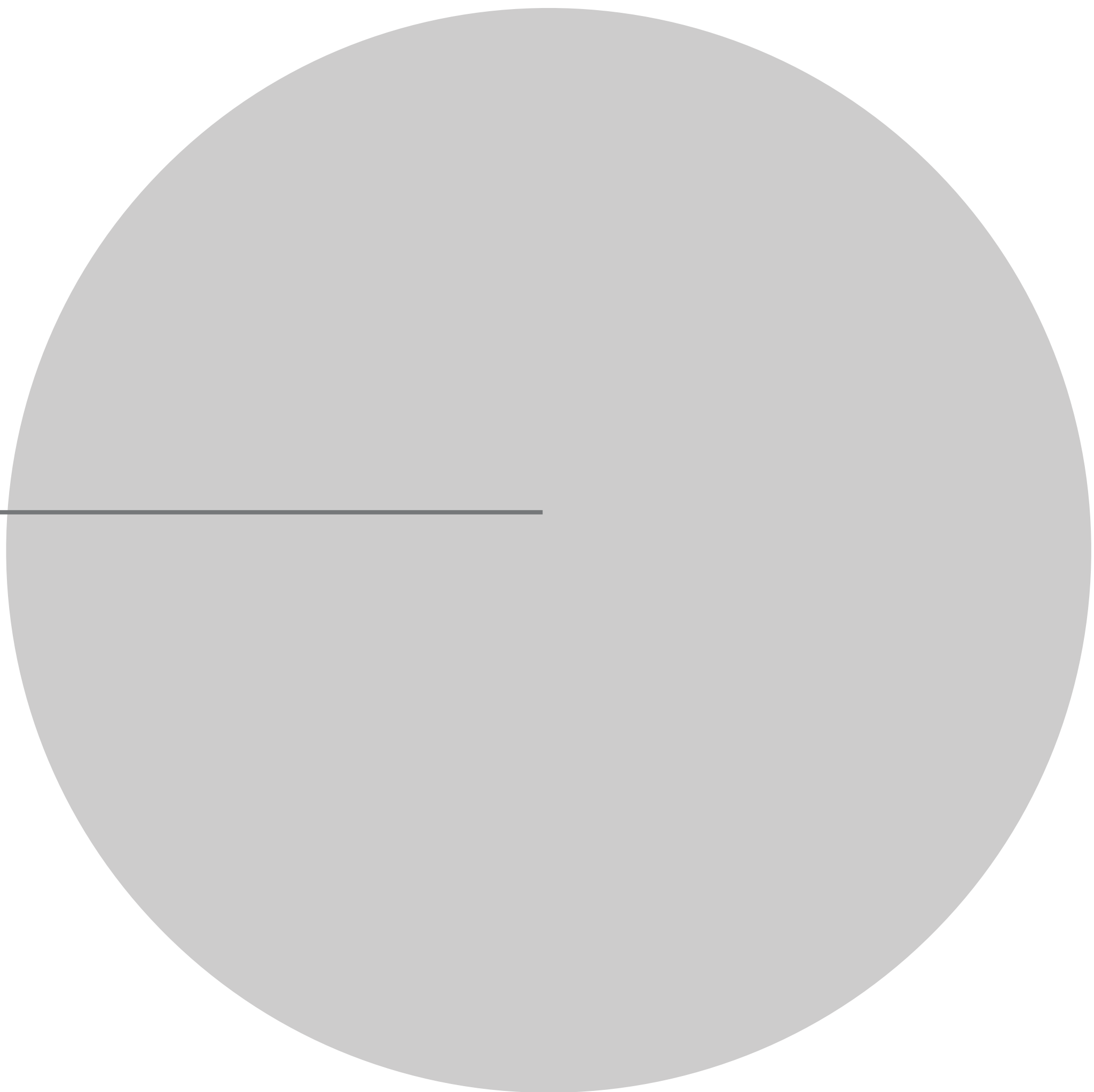
LUKE WROBLEWSKI

Earth

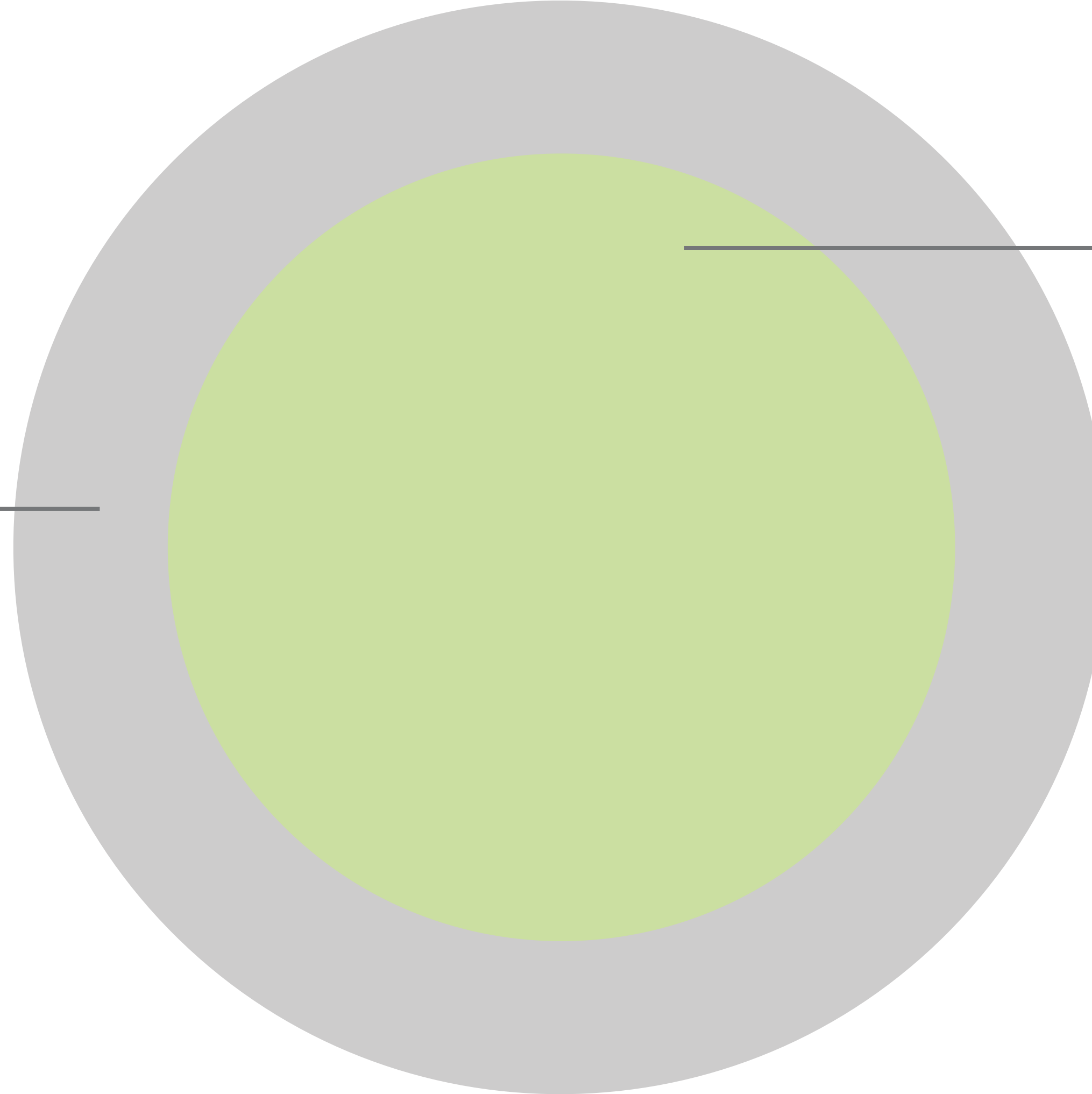
3rd planet from sun



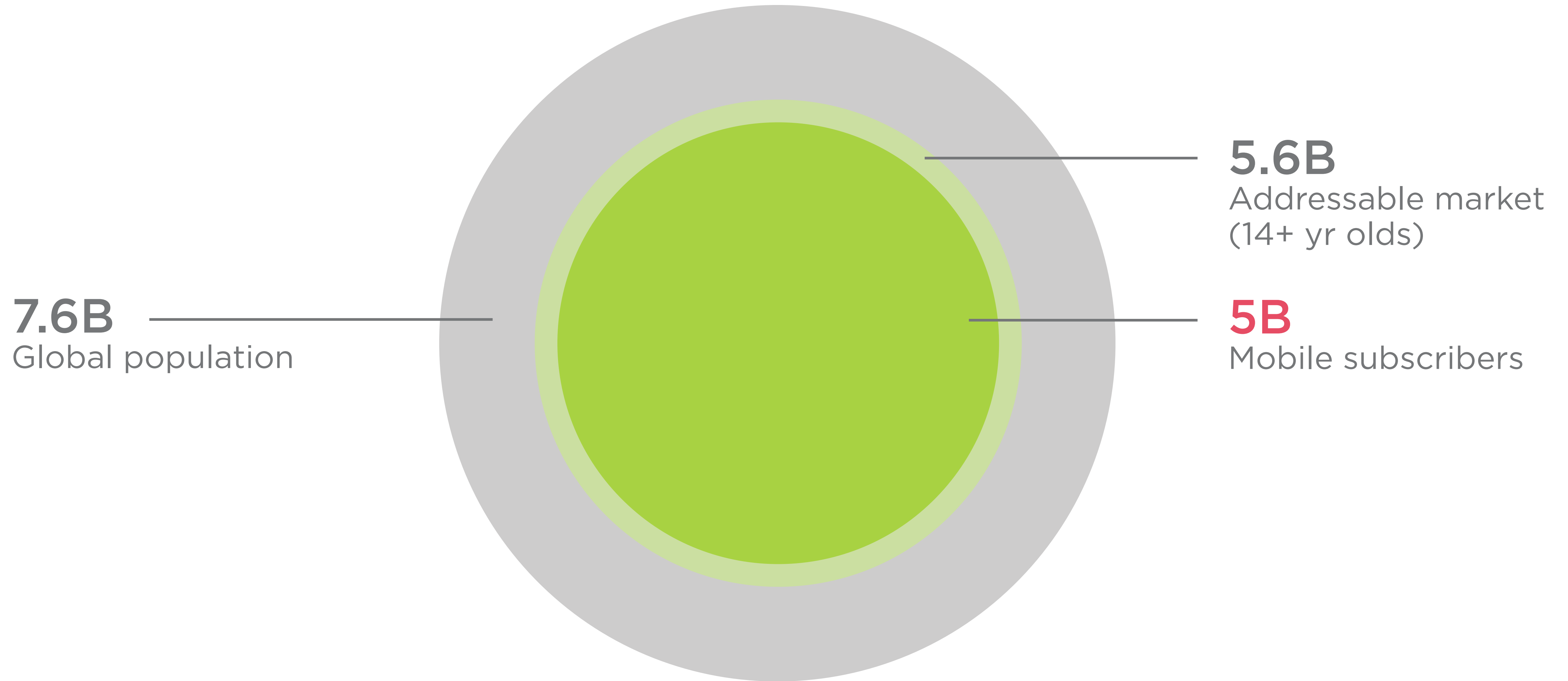
7.6B
Global population

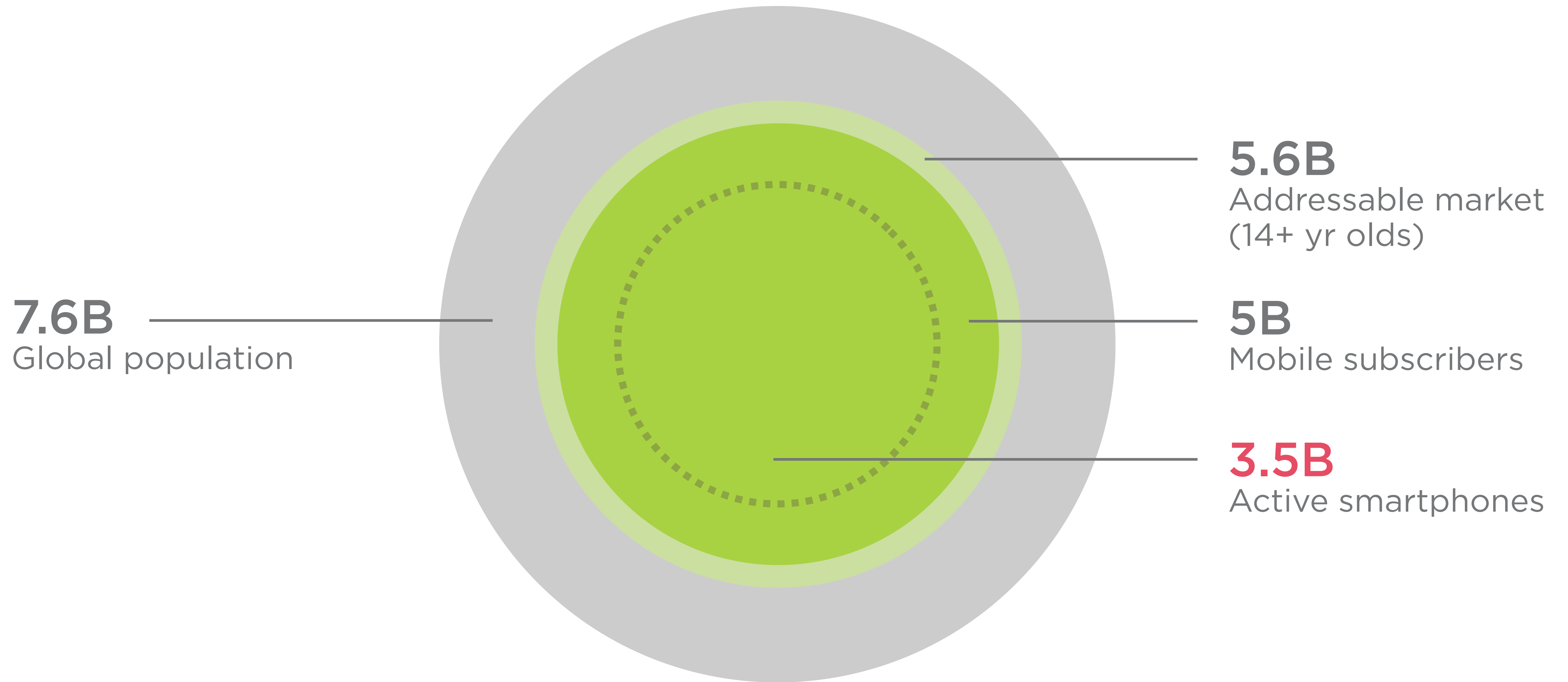


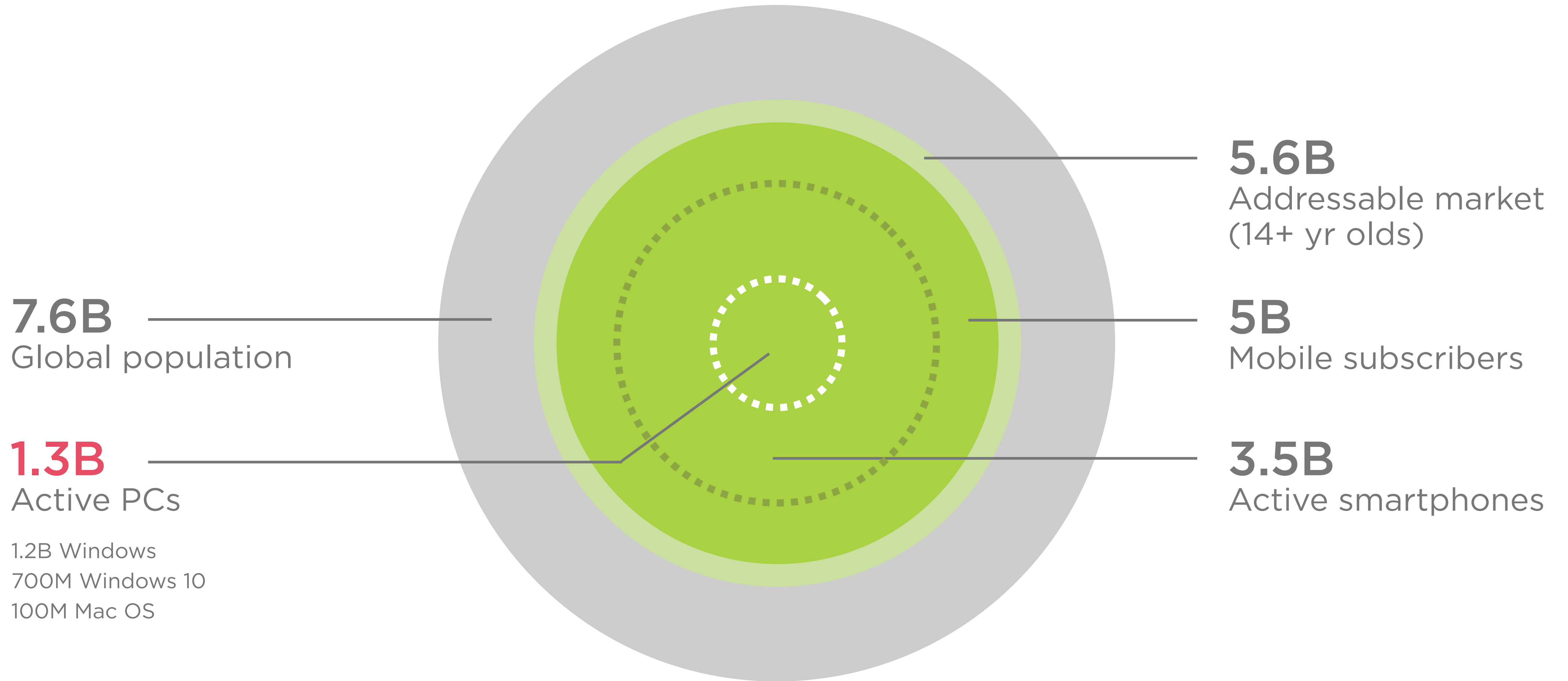
7.6B
Global population

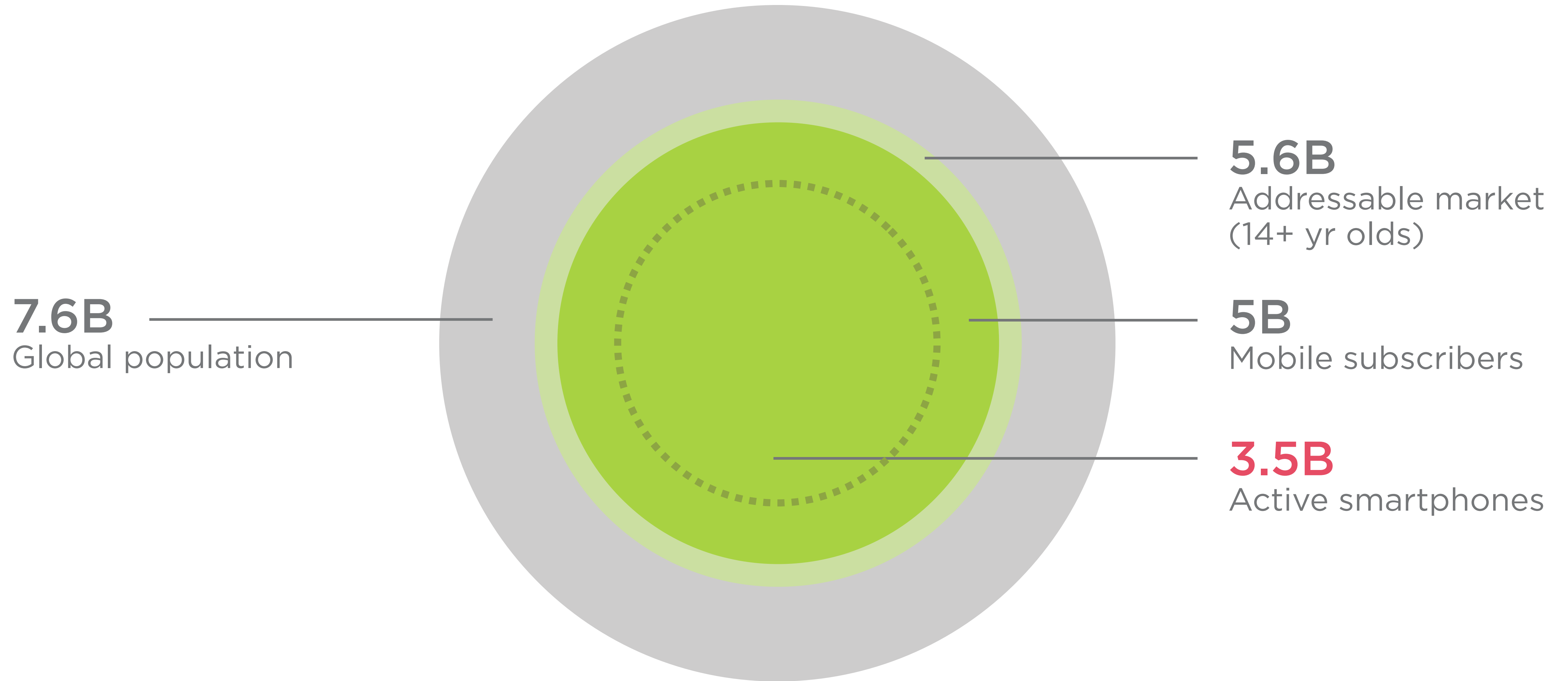


5.6B
Addressable market
(14+ yr olds)

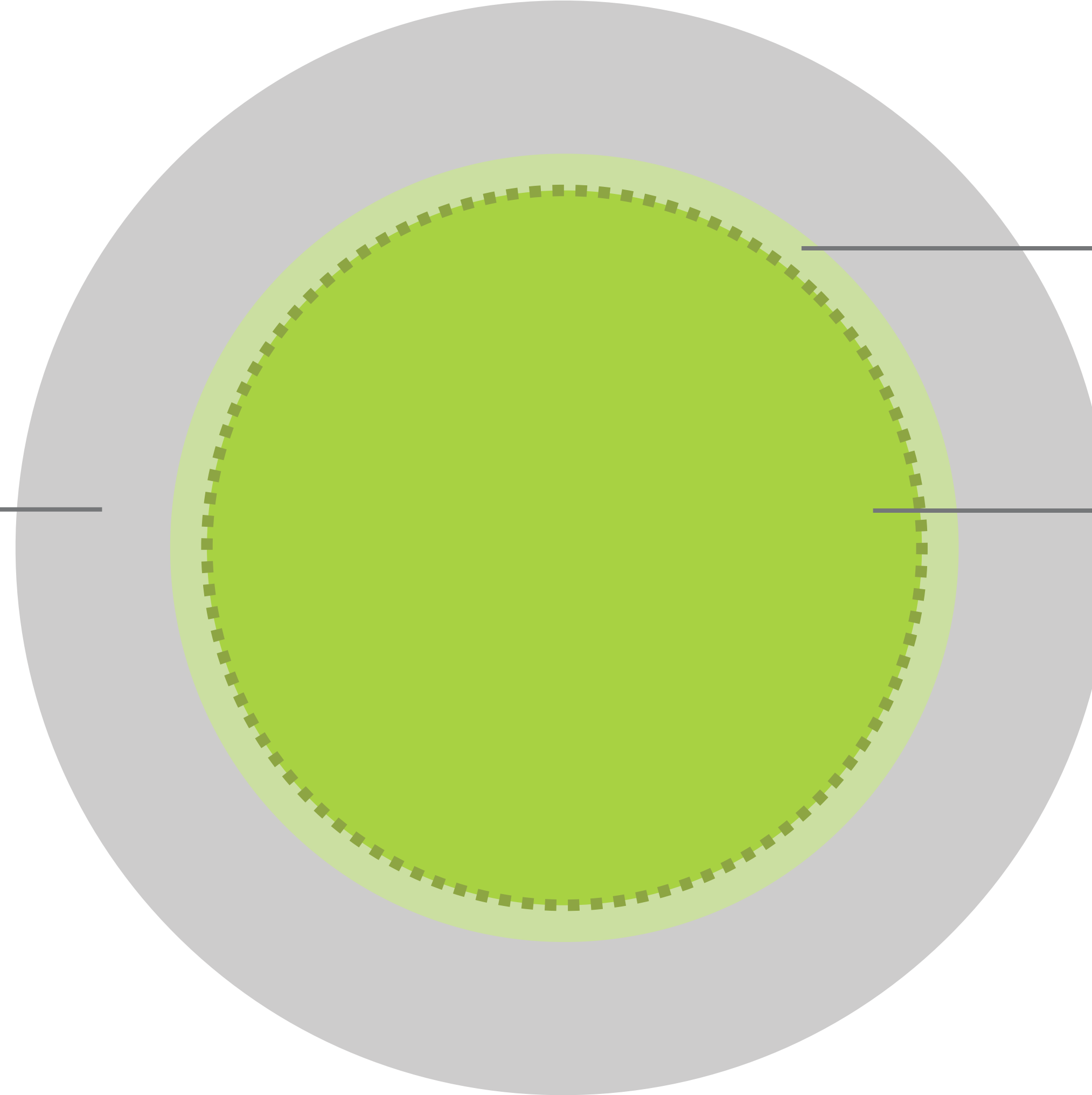








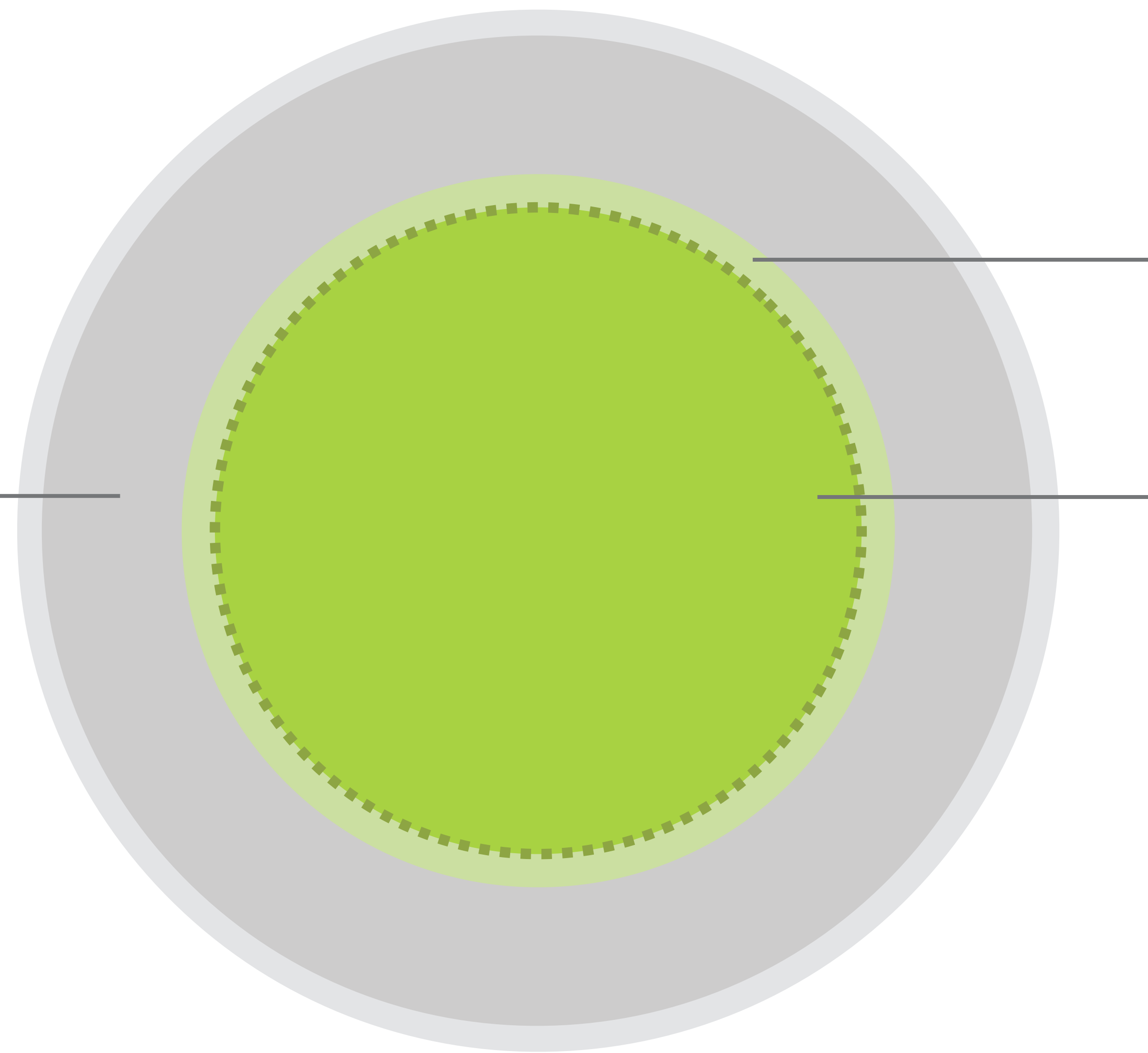
7.6B
Global population



5.6B
Addressable market
(14+ yr olds)

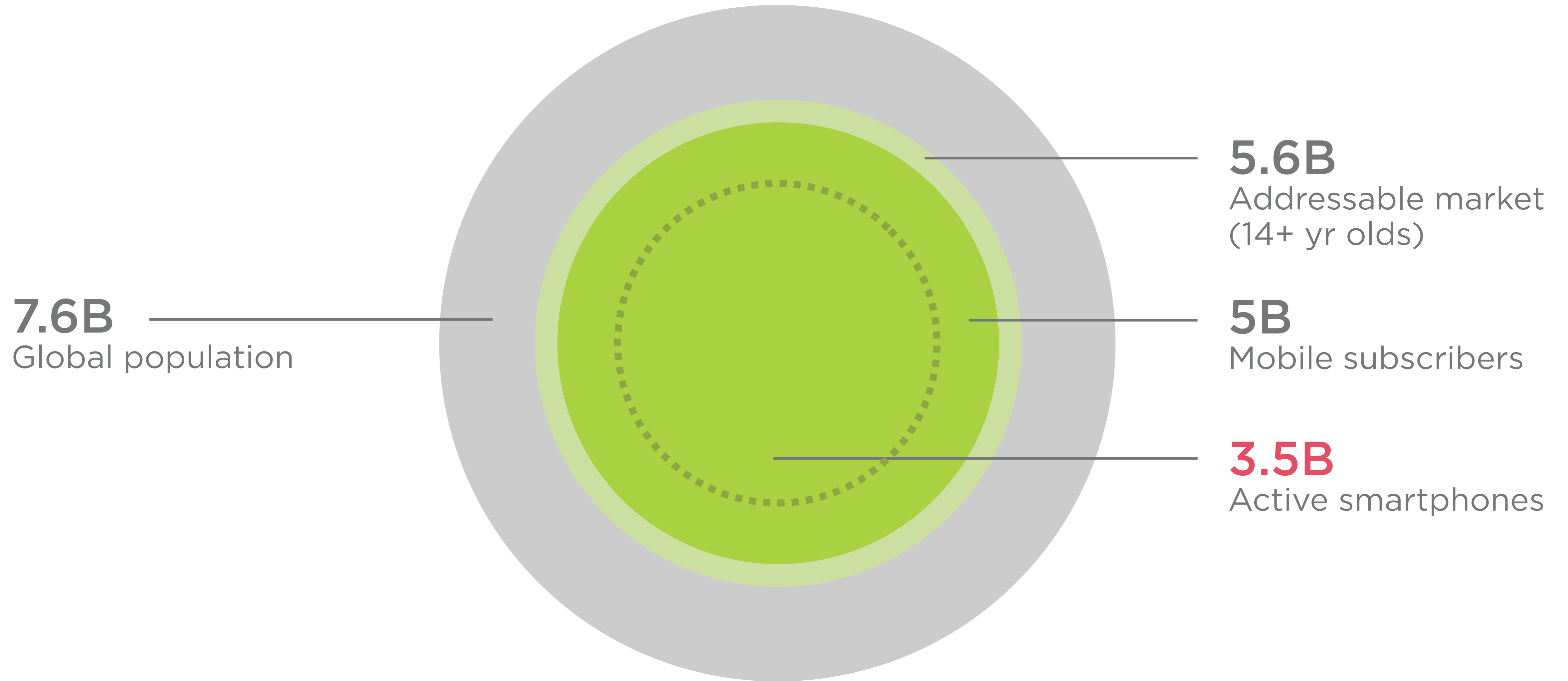
5B
Active smartphones
by 2023

8B
Global population
projected by 2023



5.8B
Addressable market
(14+ yr olds) by 2023

5B
Active smartphones
by 2023





3.5B
Active smartphones



25%
Active smartphones

1.4B active Apple devices, Q1 2019
100M Mac OS
350M iPads
950M iPhones



75%
Active smartphones

2B active Android devices, 2017
excluding China (est. 550M)
10% tablets



3.5B
Active smartphones













15%
Worldwide shipments
4.25 year lifespan, 2018



85%
Worldwide shipments
2 year lifespan, 2014

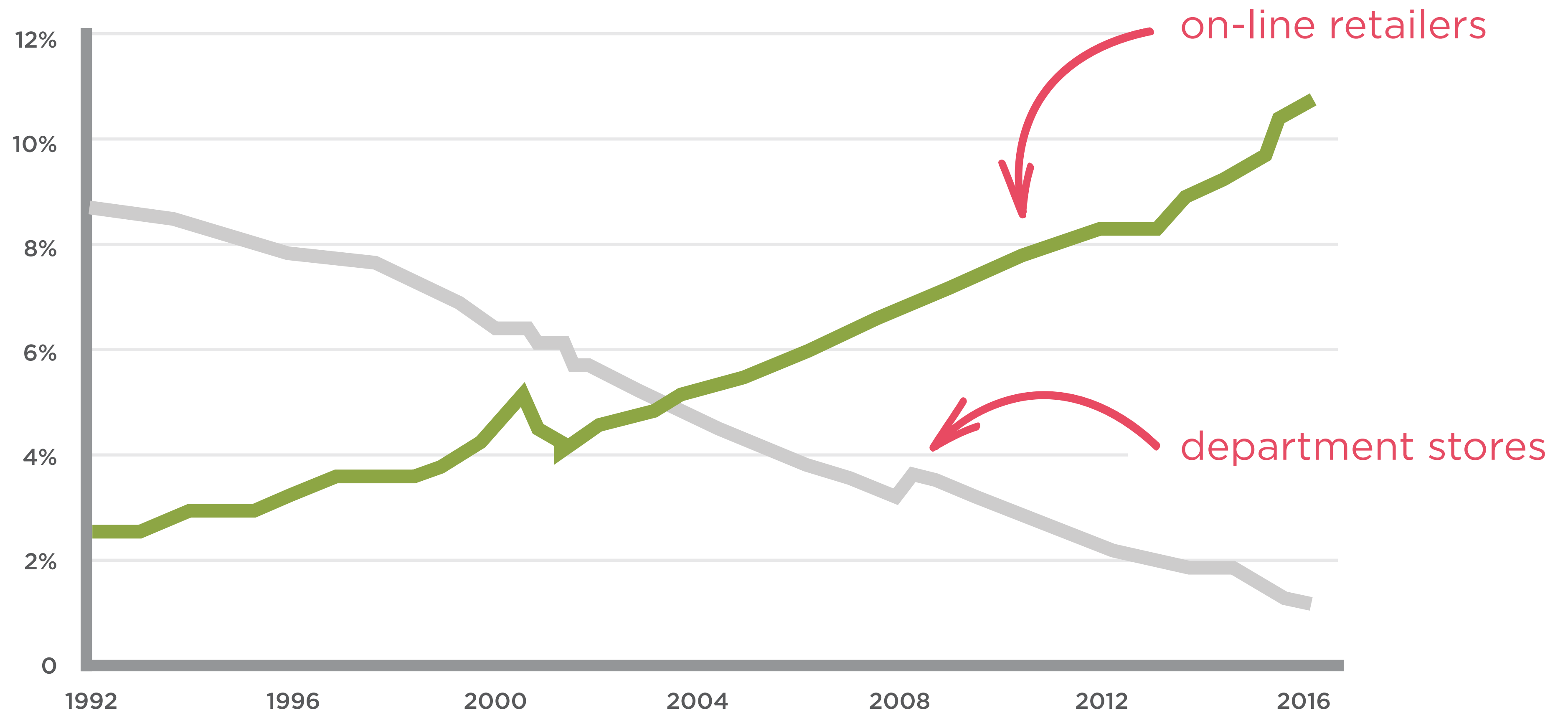


3.5B
Active smartphones

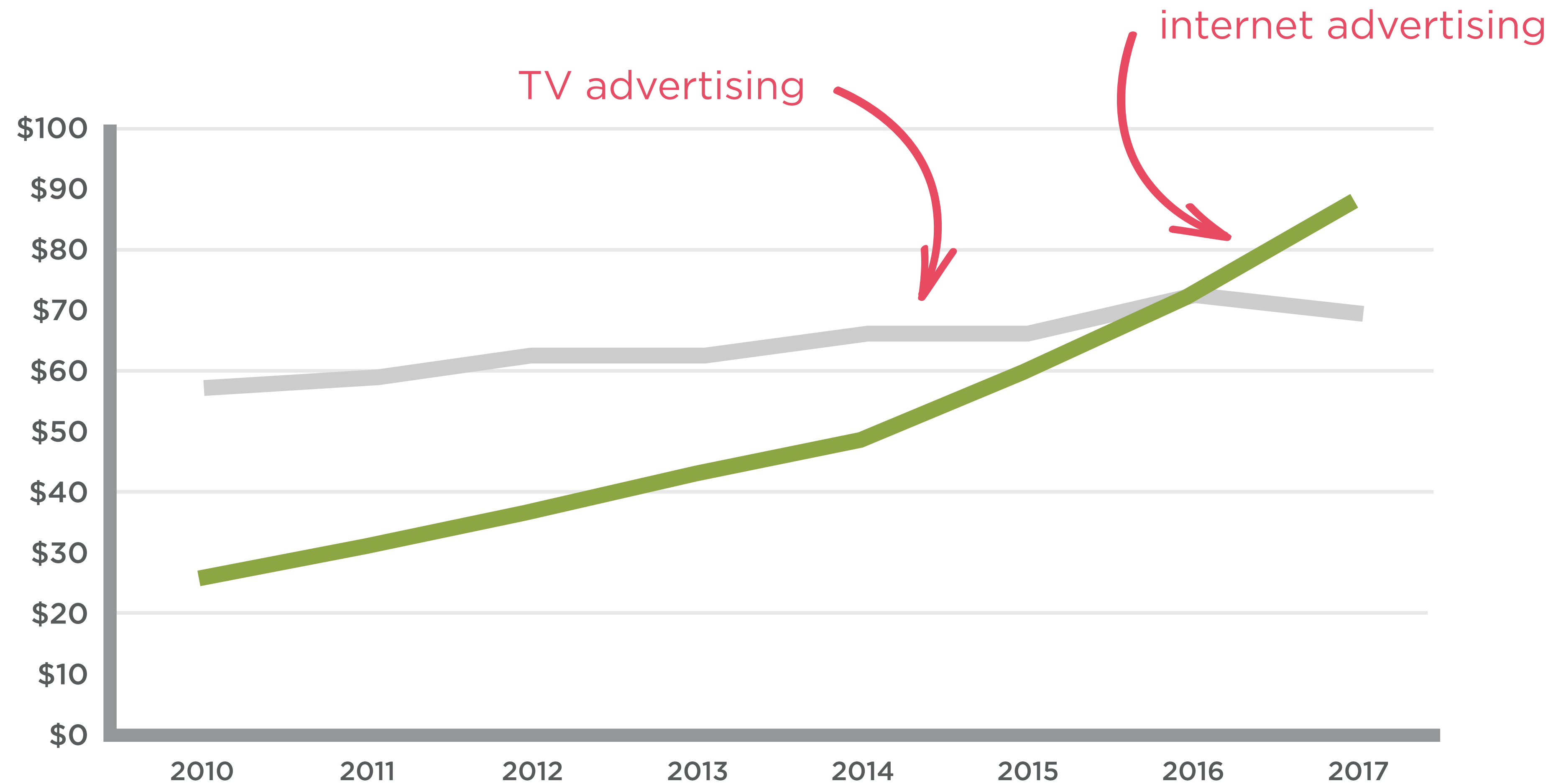
MARKET		PENETRATION
	China	52%
	India	22%
	United States	69%
	Brazil	38%
	Russian Federation	55%
	Japan	50%
	Germany	69%
	Indonesia	20%
	Mexico	41%
	United Kingdom	69%

lots more room
to grow

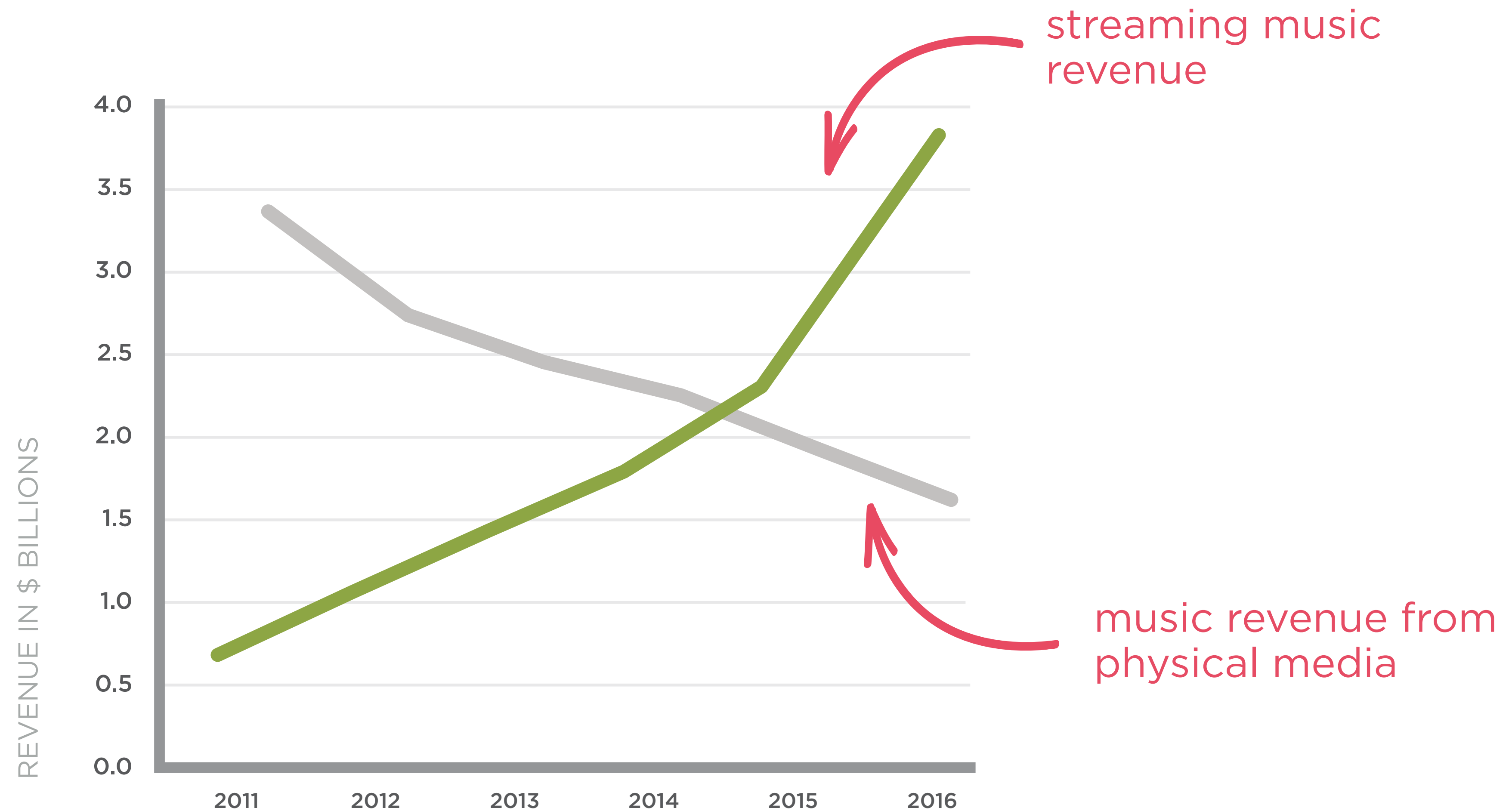
U.S. Retail Shopping



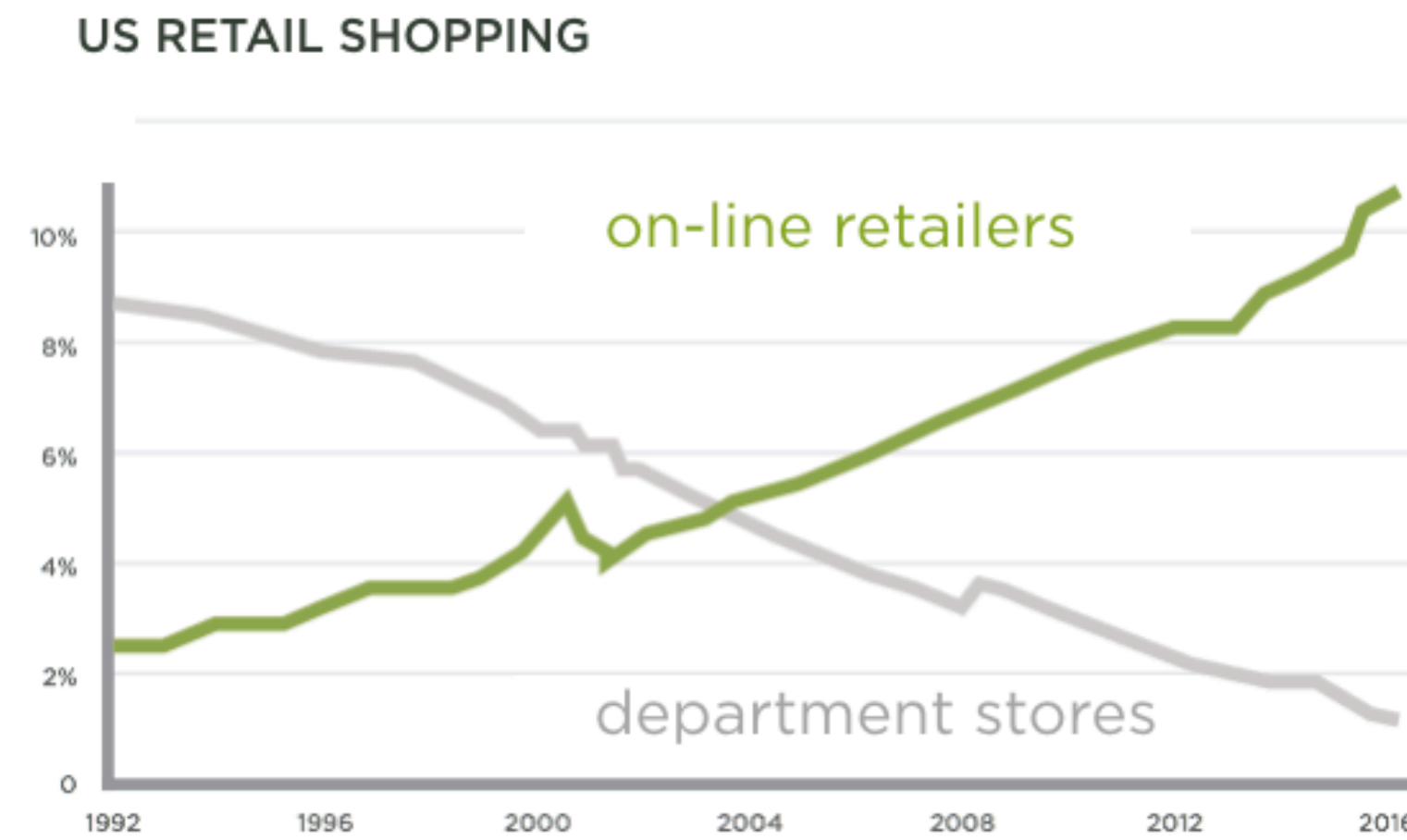
U.S. Advertising Revenue



Music Industry Revenues in U.S.



Digital Transitions





3.5B

Active smartphones

- still growing planet-scale opportunity
- with two major platforms
- shifting whole industries to digital



3.5B
Active smartphones

3HR
Spent per day

MOBILE TIME SPENT BY US ADULTS

2.3

HOURS PER DAY

Source: comScore Mobile Metrix, U.S. Age 18+, June 2017

2.8

HOURS PER DAY

Source: Nielsen Total Audience Report, U.S. Age 18+, Q1 2017

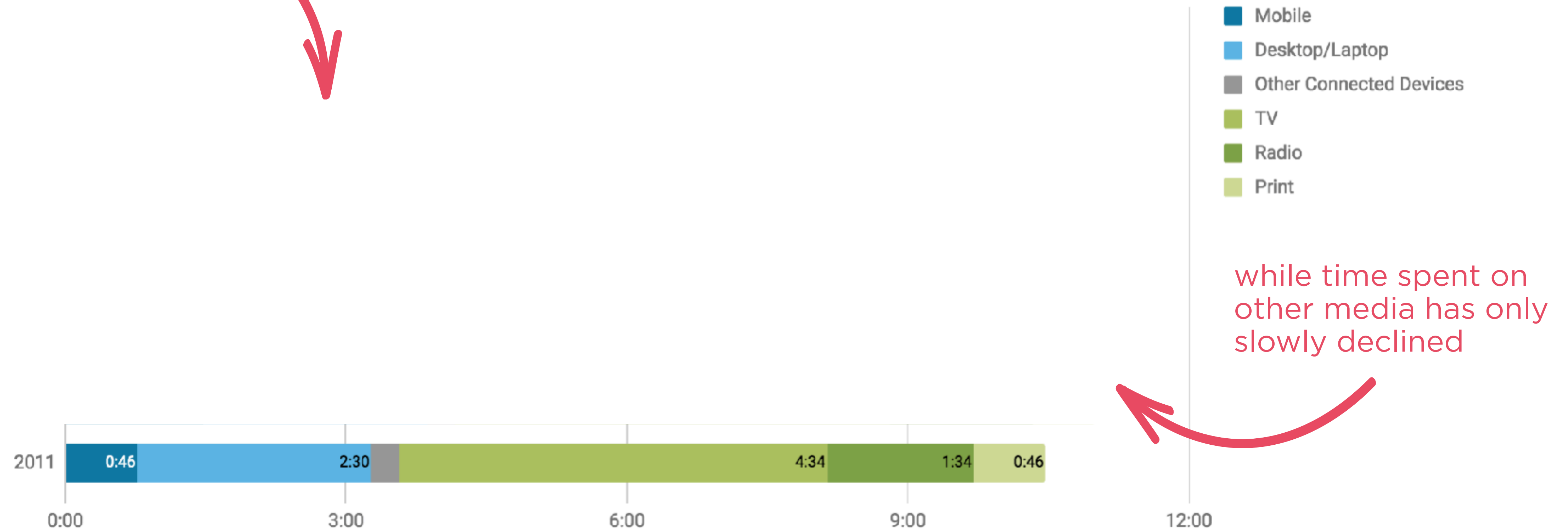
3.3

HOURS PER DAY

Source: eMarketer, U.S. Age 18+, Sept. 2017

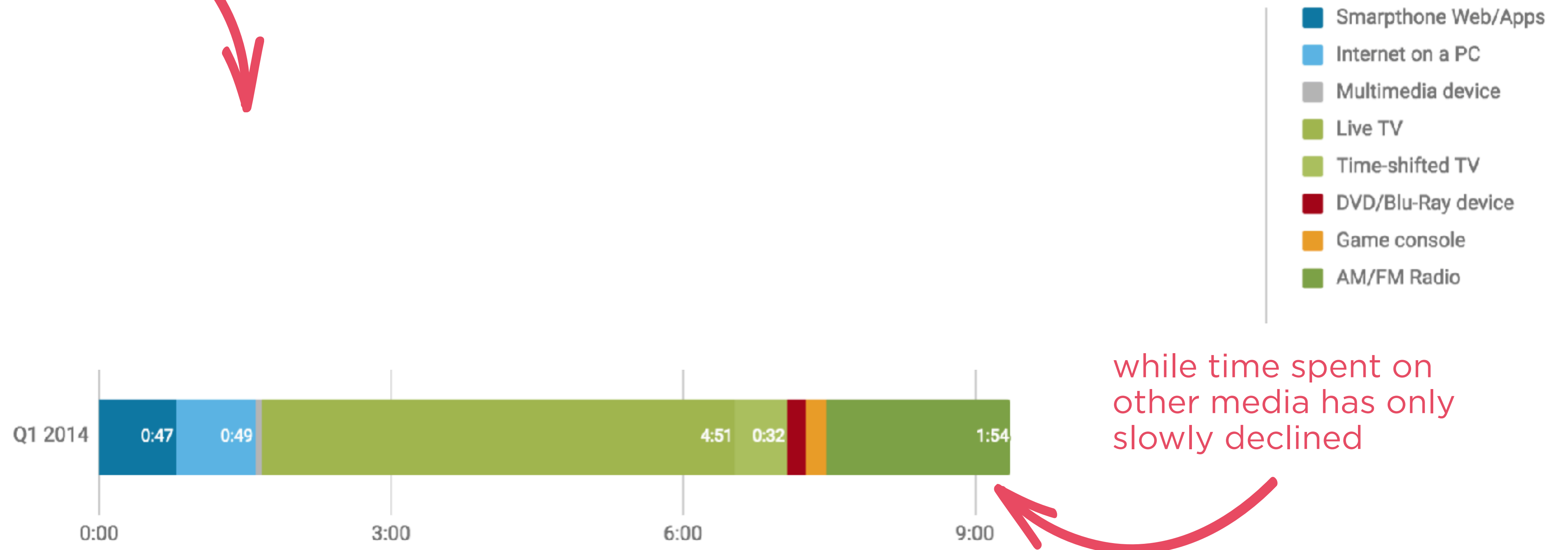
Average Time Spent Per Day by US Adults

time spent on
mobile has surged



Average Time Spent Per Day, 18+ in US

time spent on
mobile has surged

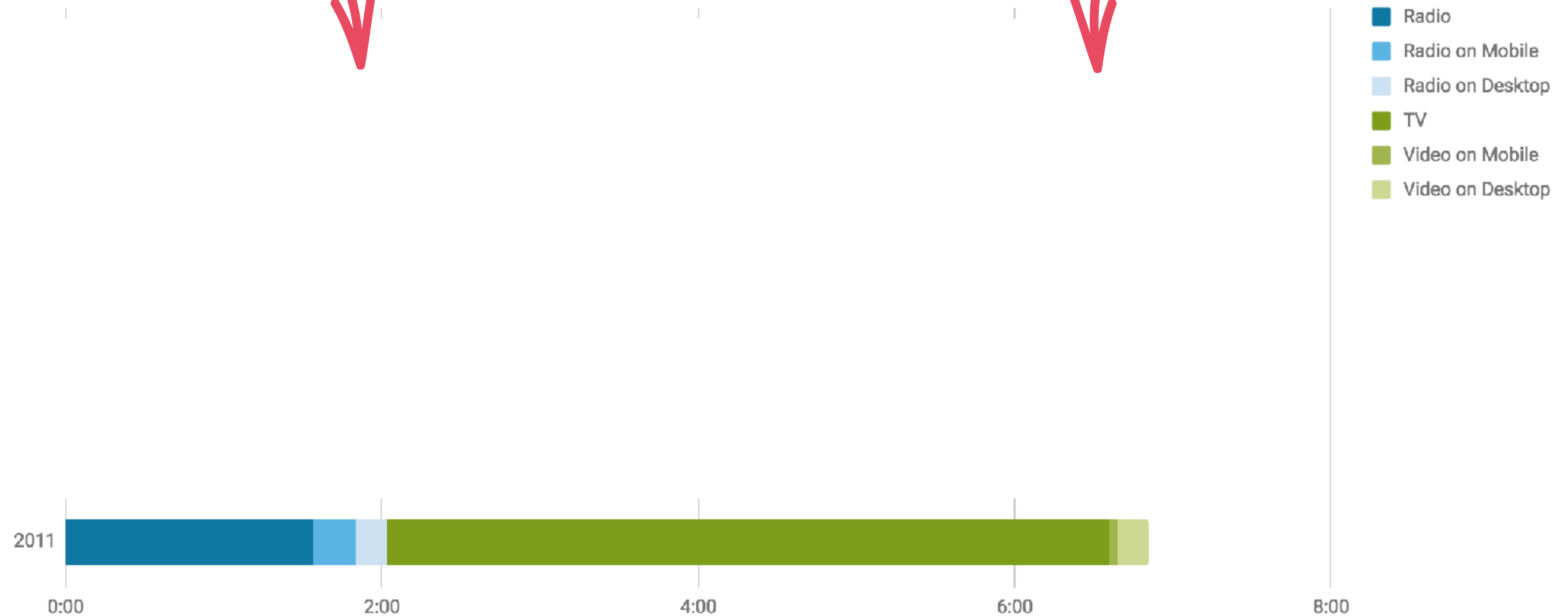


Average Time Spent Per Day by US Adults

radio listening gradually
transitioning to mobile



and perhaps video viewing
too?





3.5B
Active smartphones

3HR
Spent per day

169min



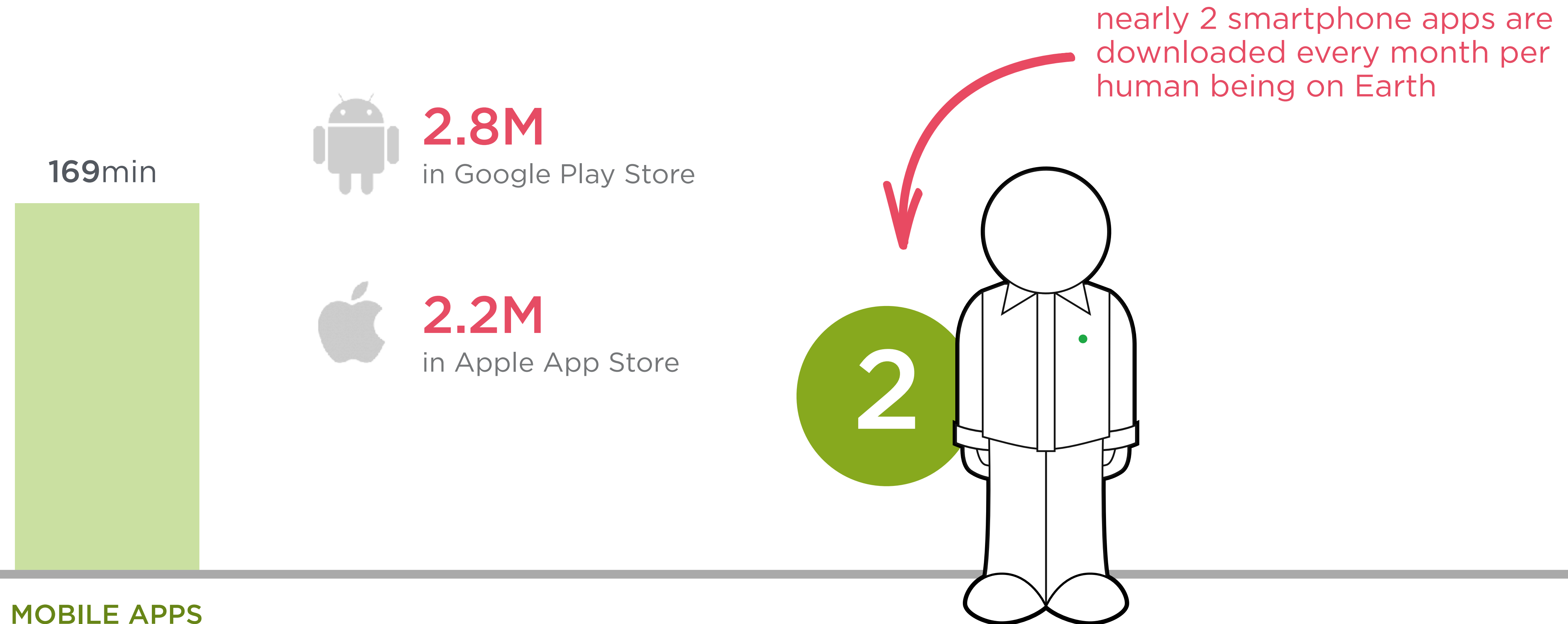
MOBILE APPS

11min



MOBILE WEB
BROWSERS

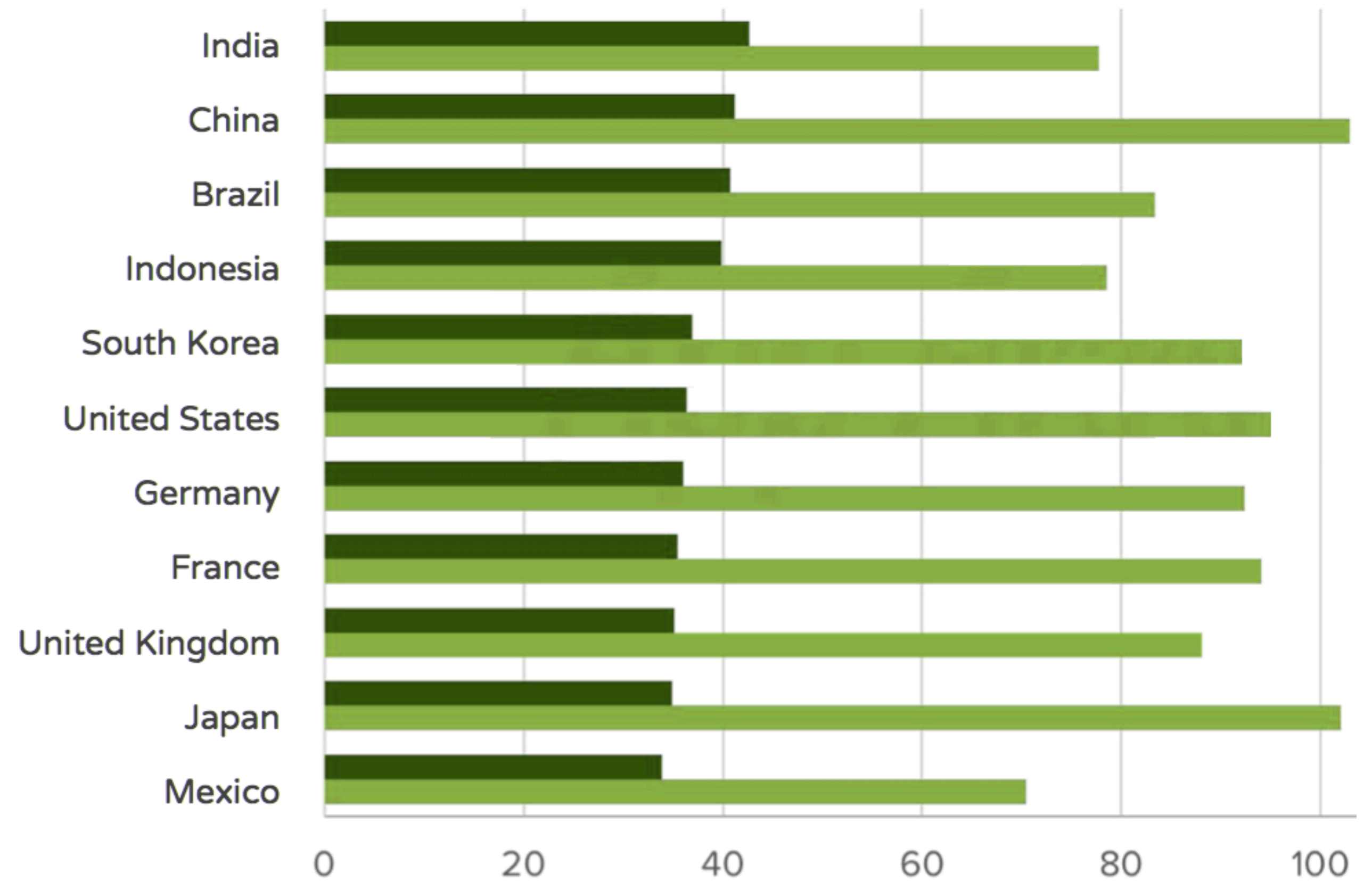
Native Mobile Apps



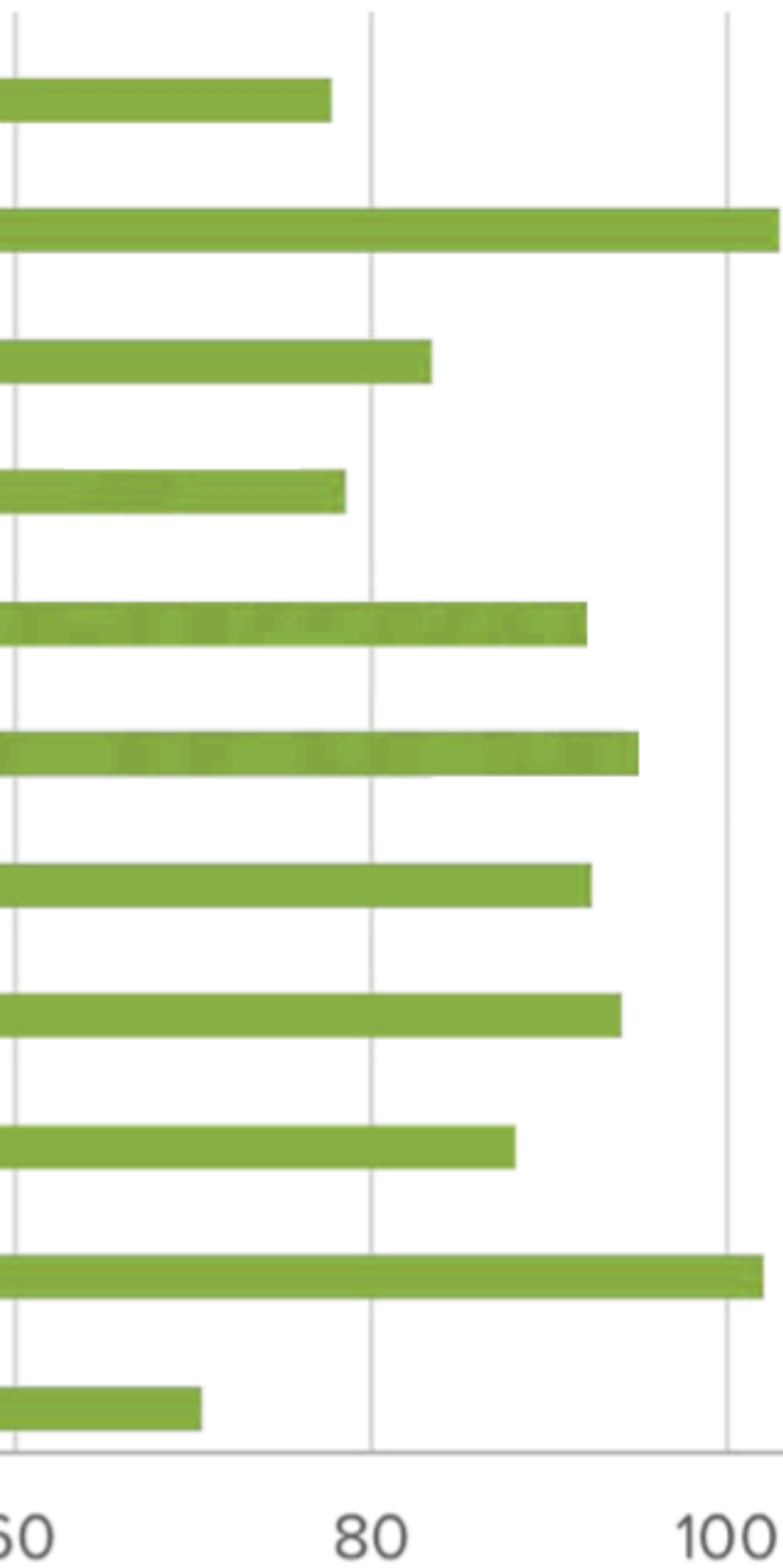
Native Mobile Apps

■ number of apps used
■ total apps on phone

but people **only** use one-third to one-half of the apps on their phone per month



Native Mobile Apps



25%

ARE ABANDONED
AFTER FIRST TIME USE

-77%

AVG. DAILY ACTIVE USER
LOSS IN 1ST 3 DAYS OF
INSTALL

34%

ARE OPENED 11 TIMES
OR MORE

-95%

AVG. DAILY ACTIVE USER
LOSS 90 DAYS AFTER
INSTALL

Native Mobile Apps

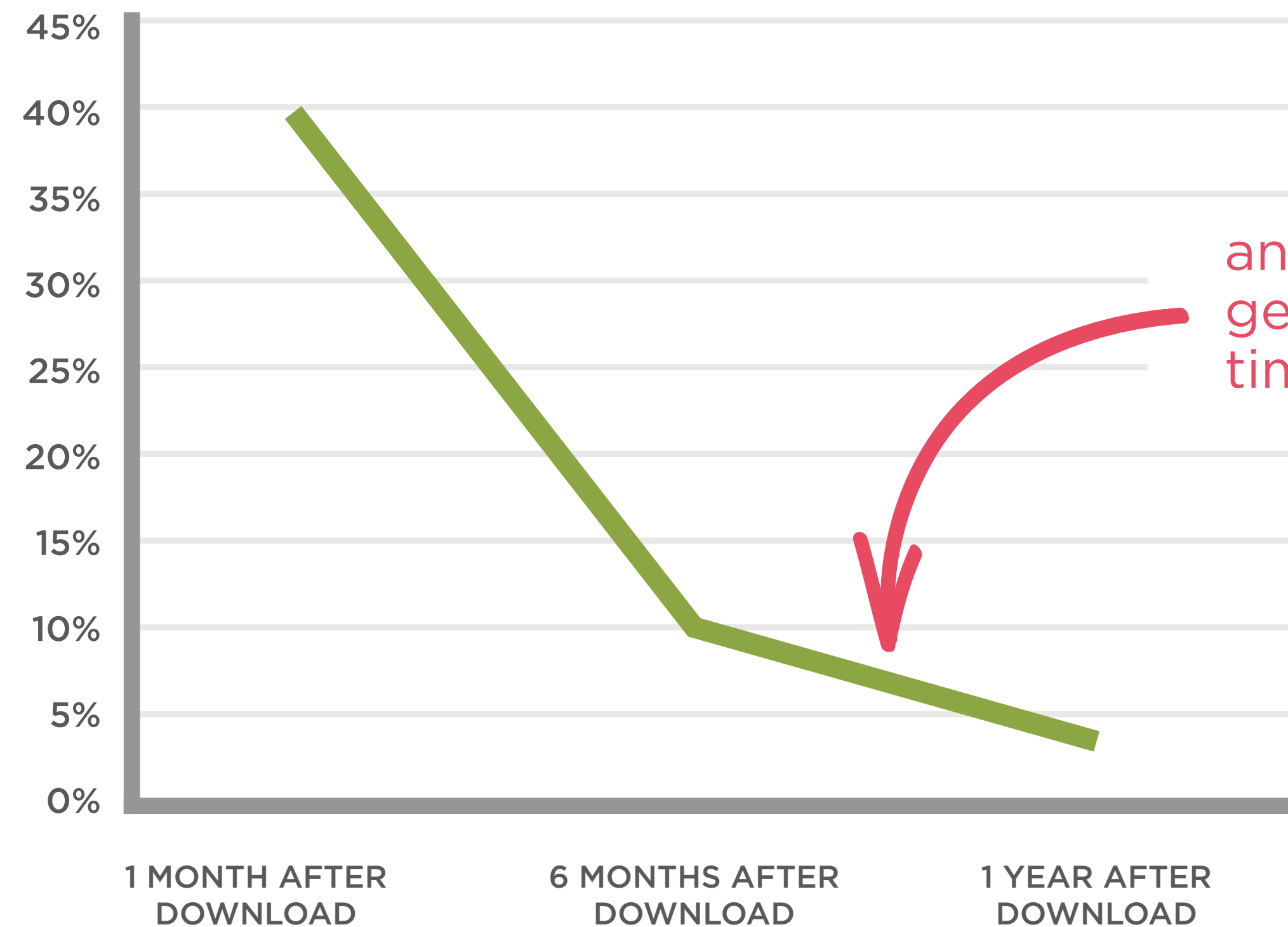
-77%

AVG. DAILY ACTIVE USER
LOSS IN 1ST 3 DAYS OF
INSTALL

-95%

AVG. DAILY ACTIVE USER
LOSS 90 DAYS AFTER
INSTALL

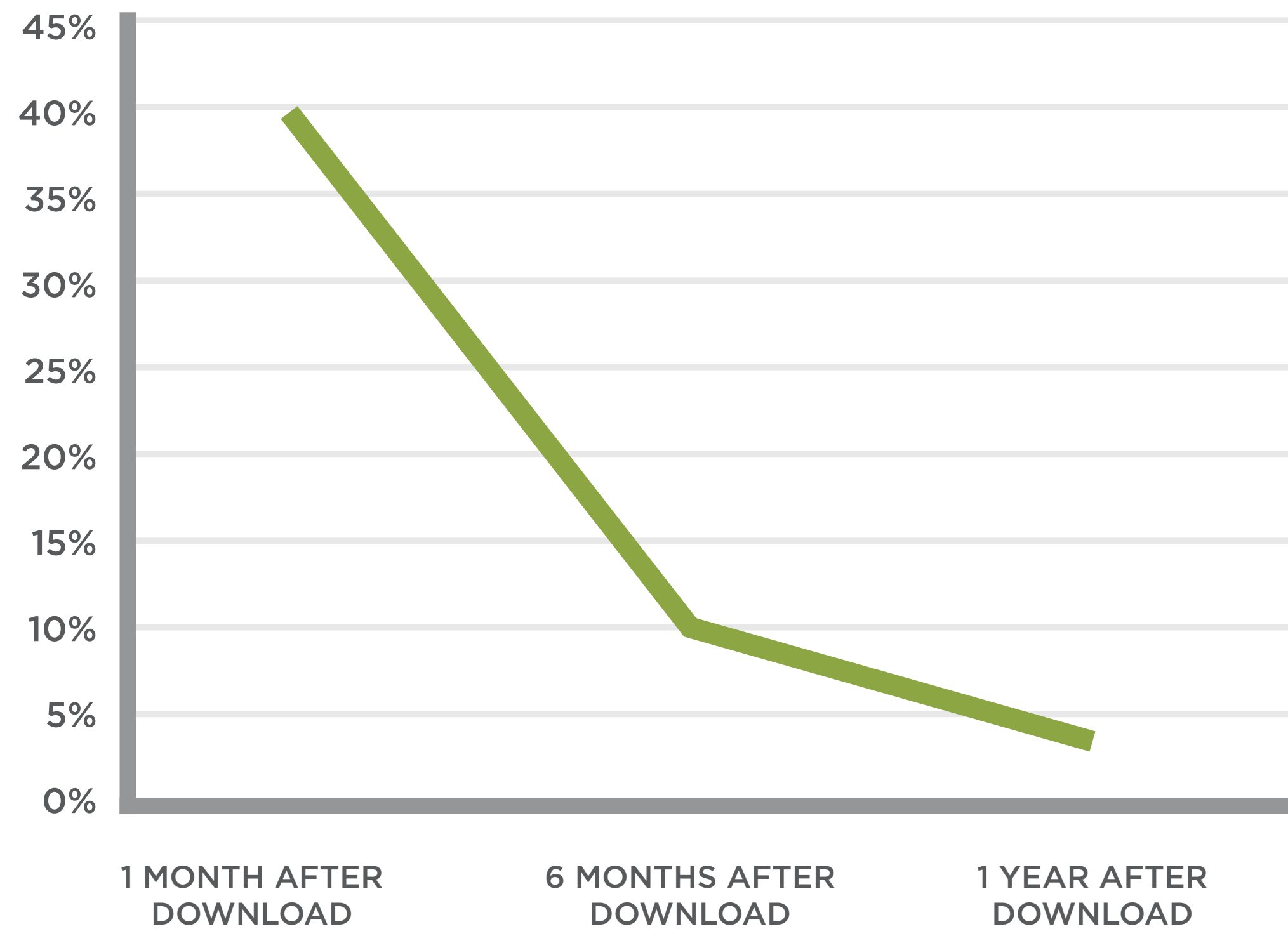
MOBILE APP RETENTION



and the situation
gets worse over
time

Native Mobile Apps

MOBILE APP RETENTION



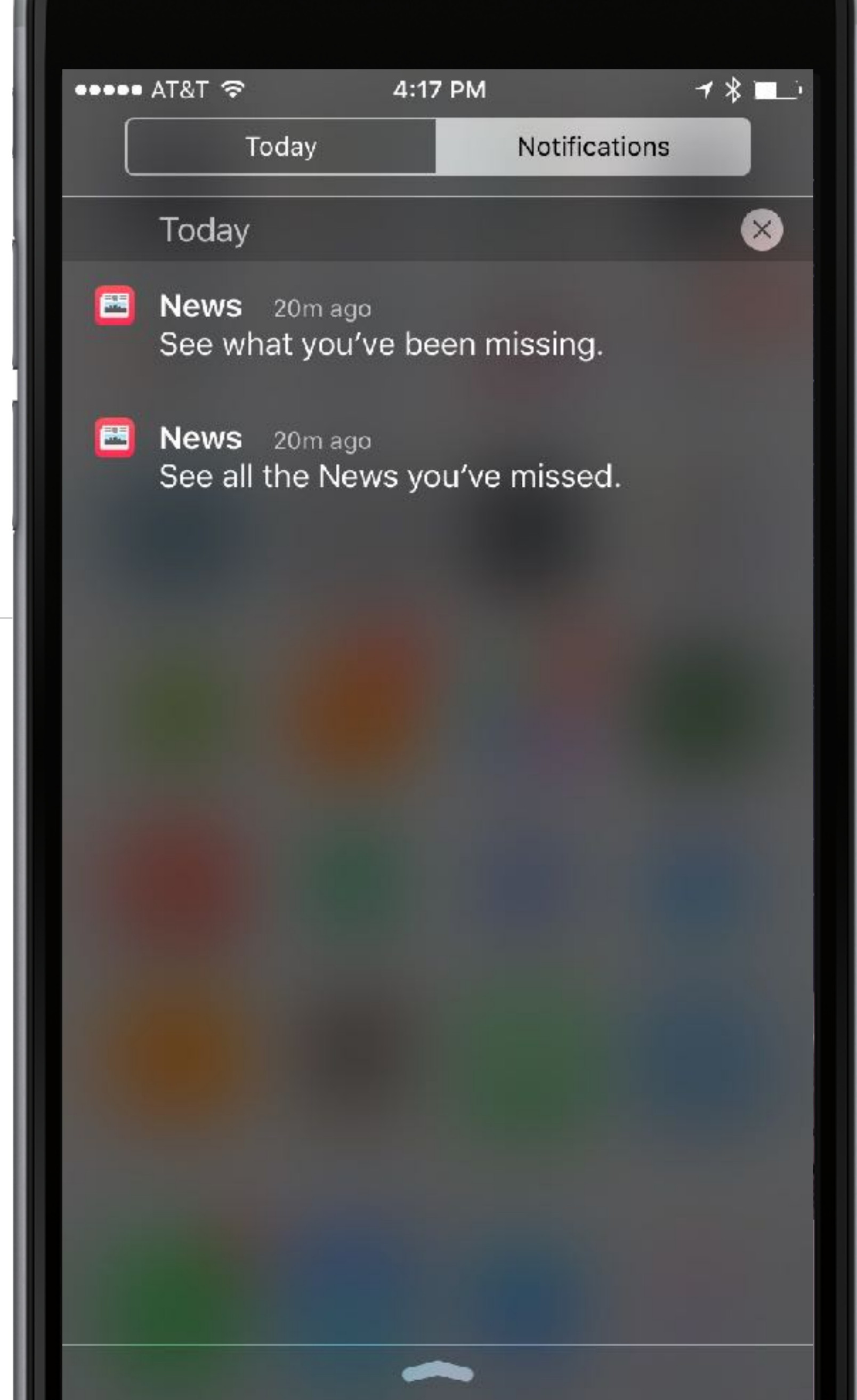
so to improve retention apps
usually turn to...

PUSH NOTIFICATIONS

APP ONBOARDING

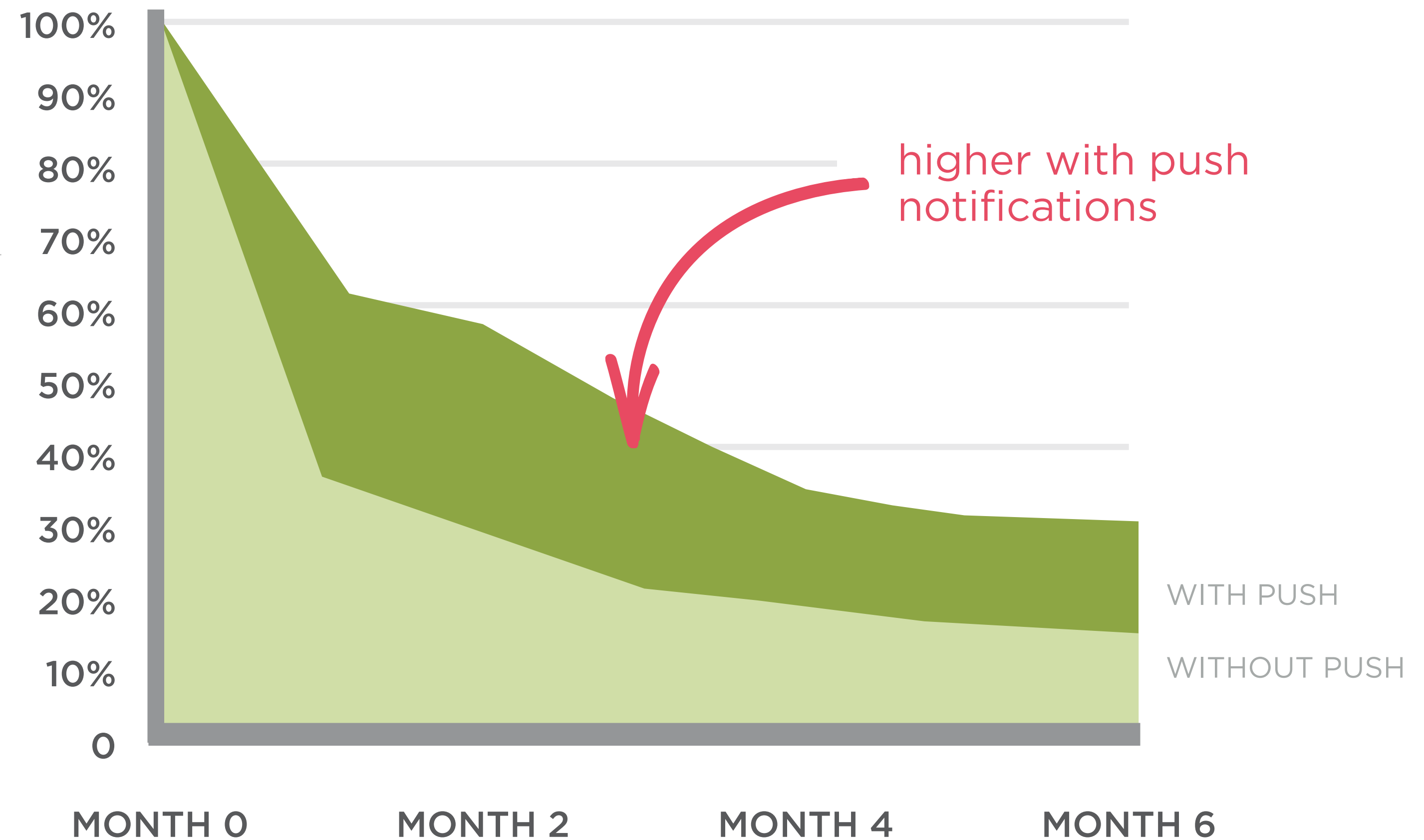
PUSH NOTIFICATIONS

Messages that pop up on a mobile device. Can be sent any time as people don't have to be in on app/device to receive them.



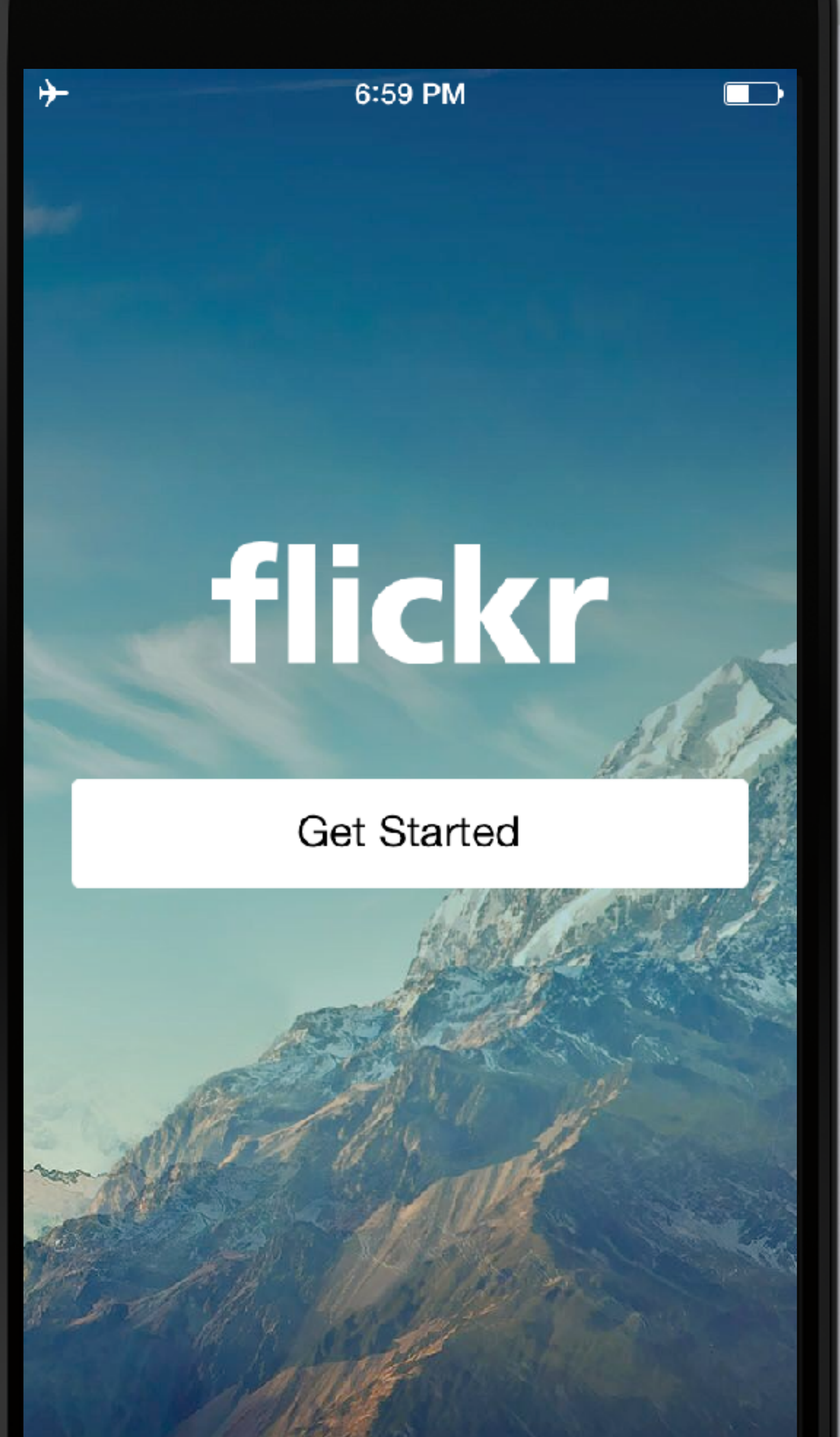
PUSH NOTIFICATIONS

SIX MONTH APP RETENTION RATES



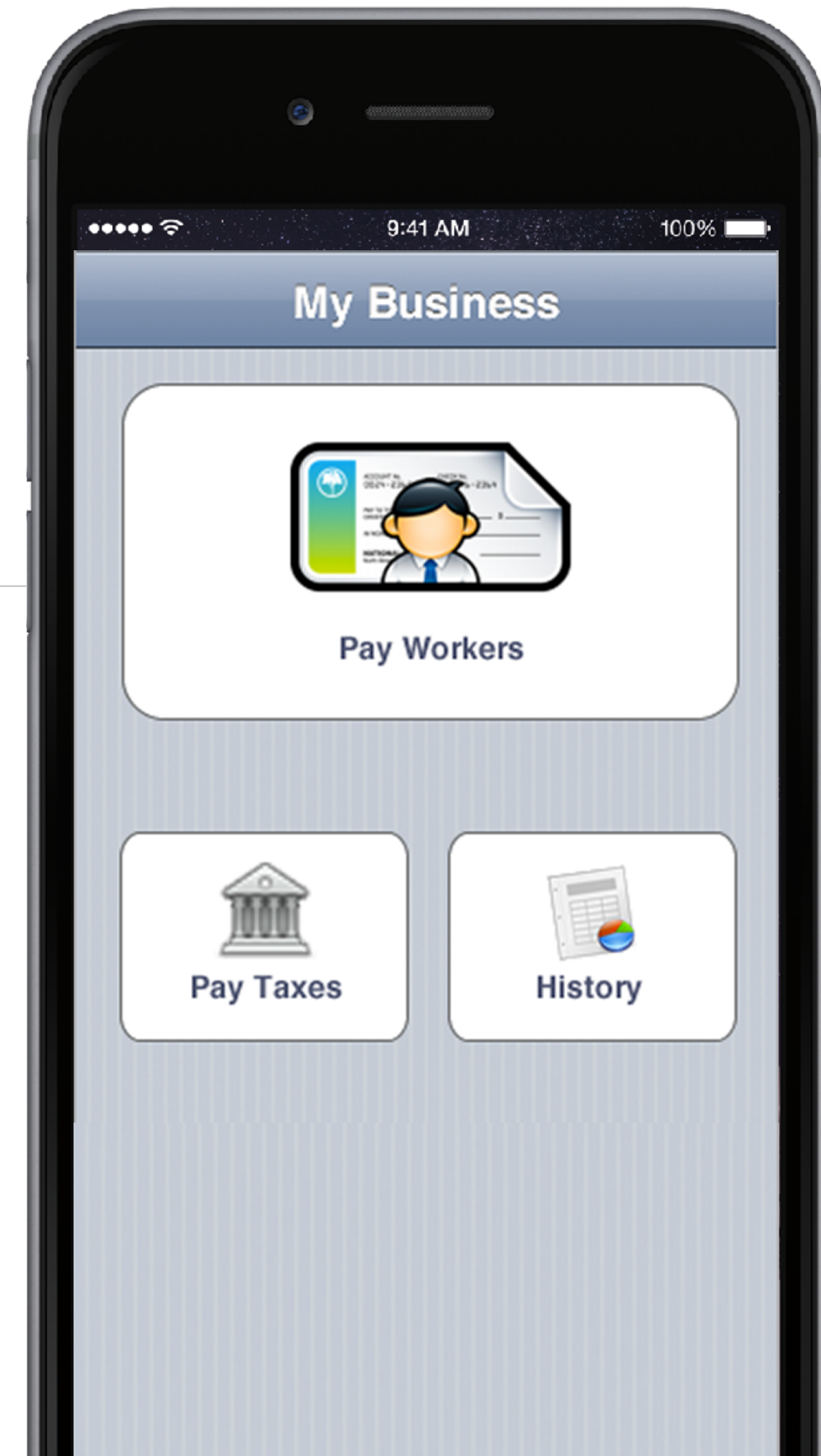
APP ONBOARDING

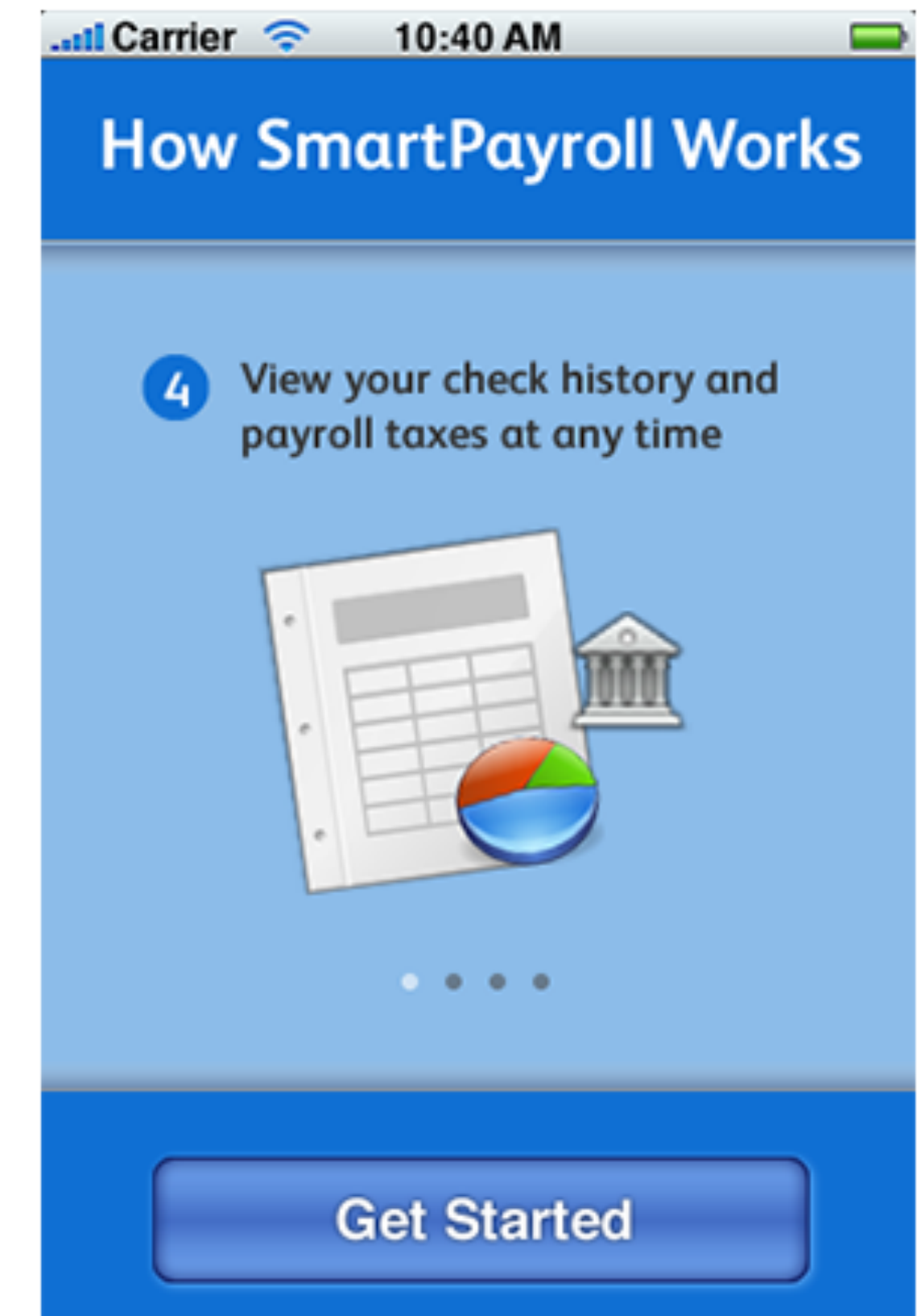
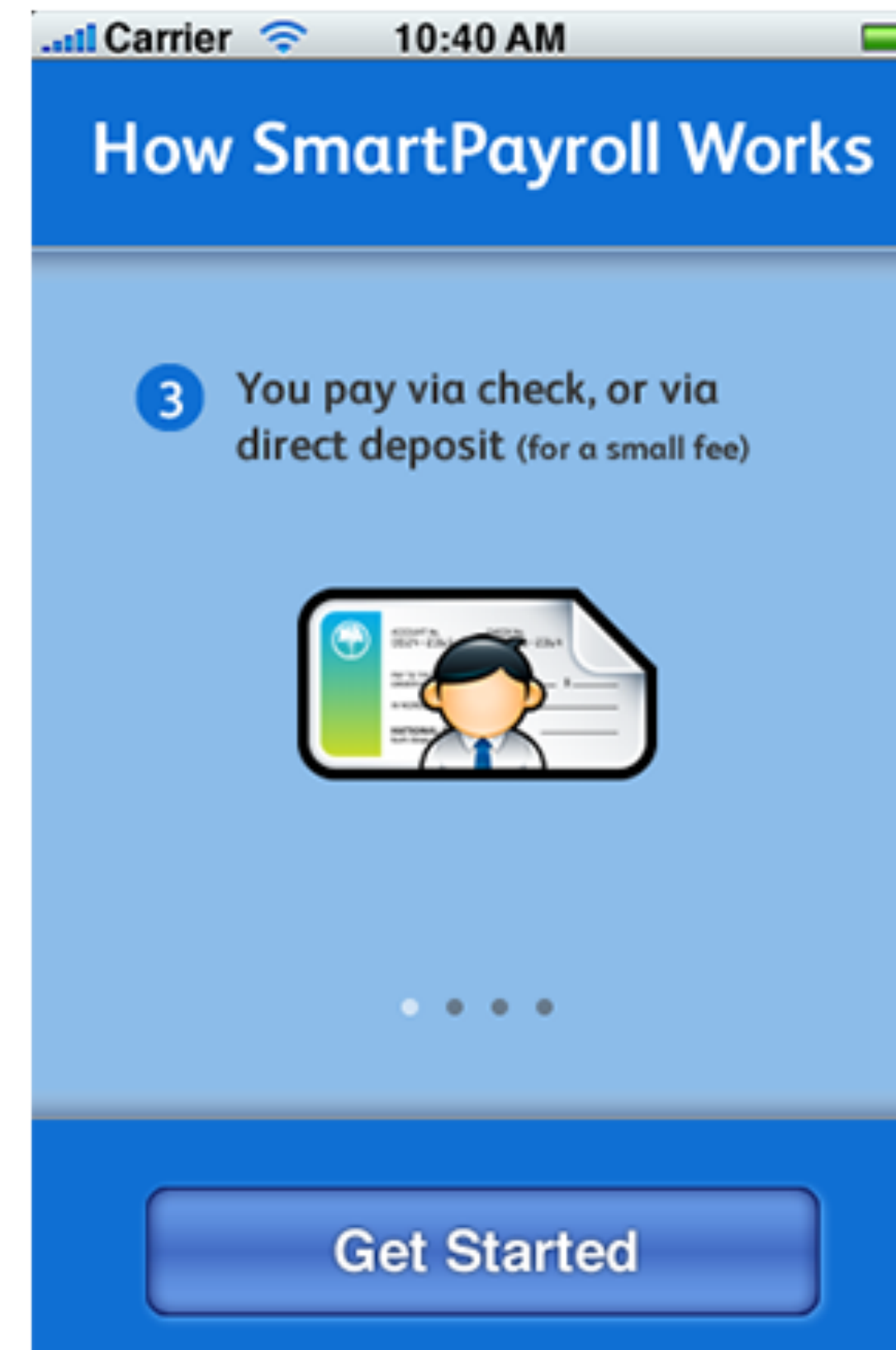
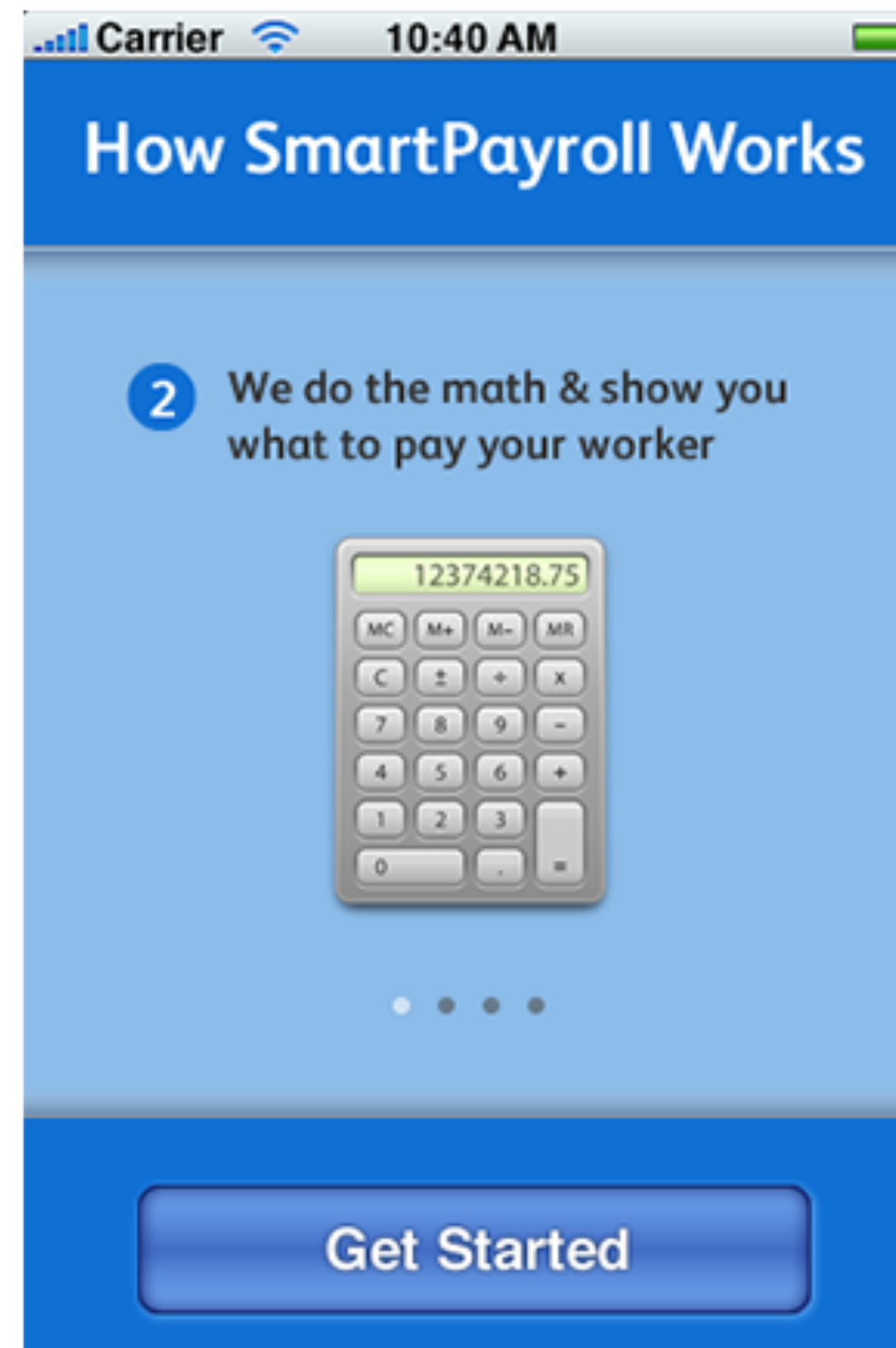
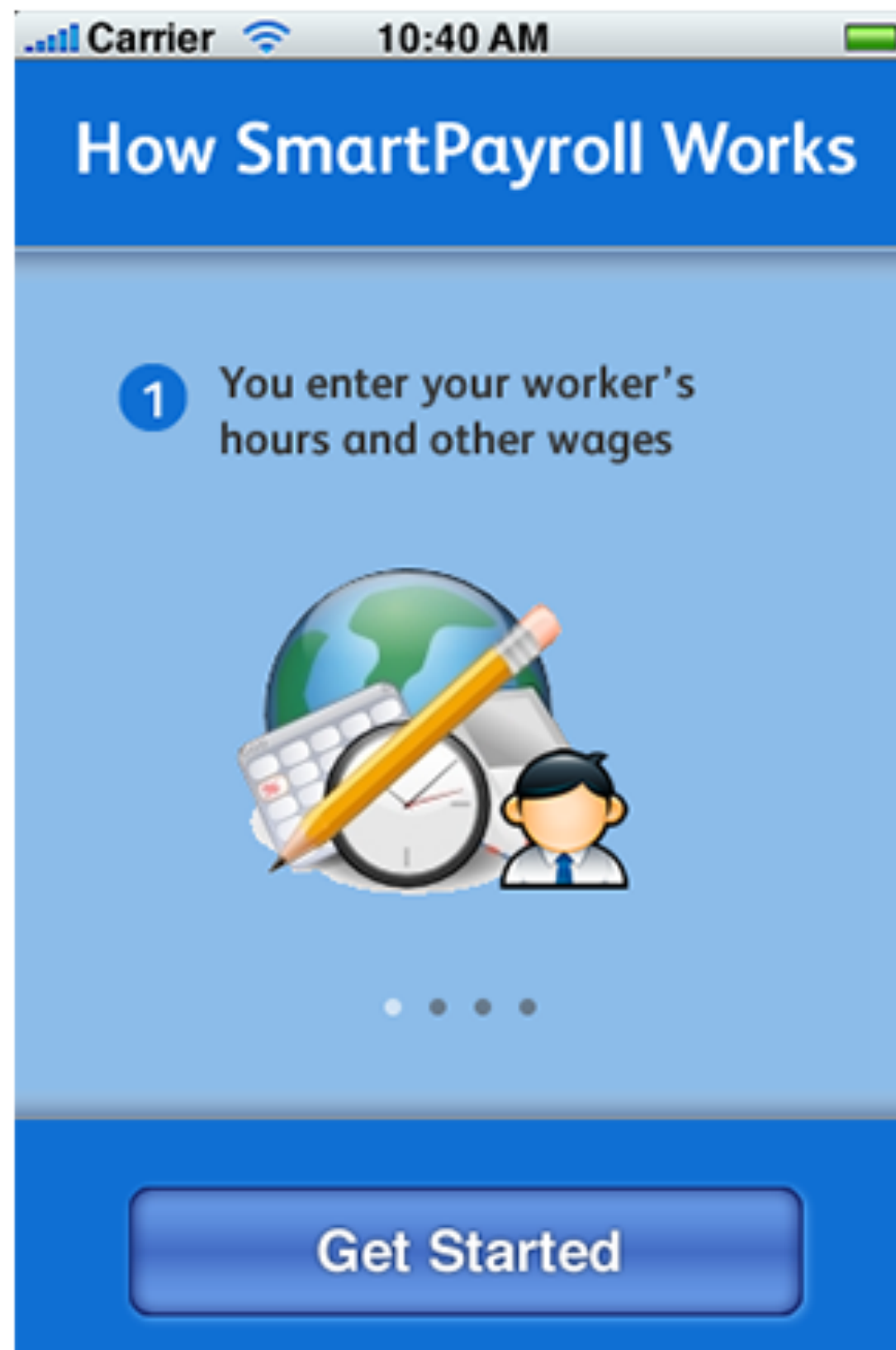
Overview of features and/or
list of benefits



DROPPED IN

Customers felt lost & weren't sure which option they should choose first.

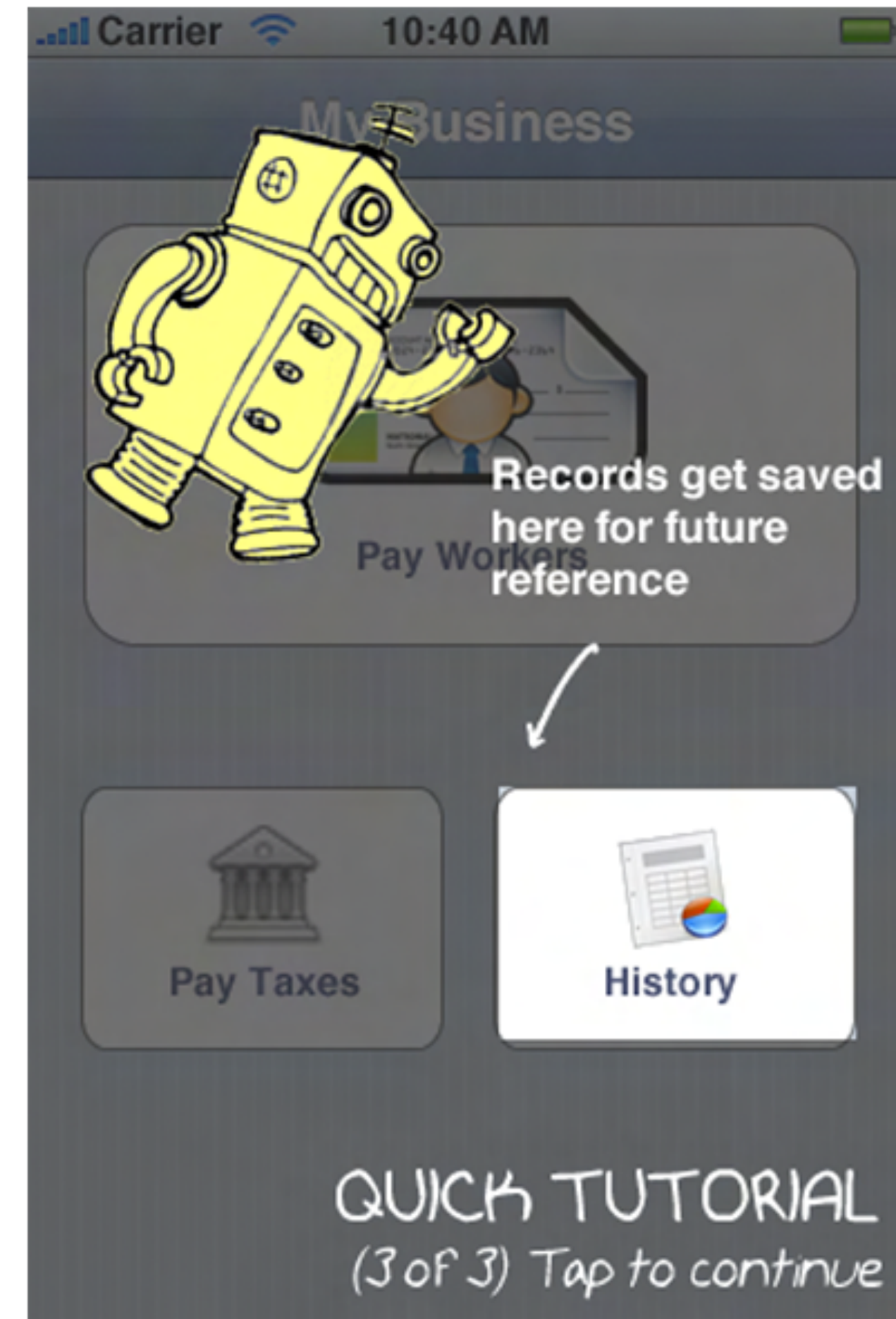
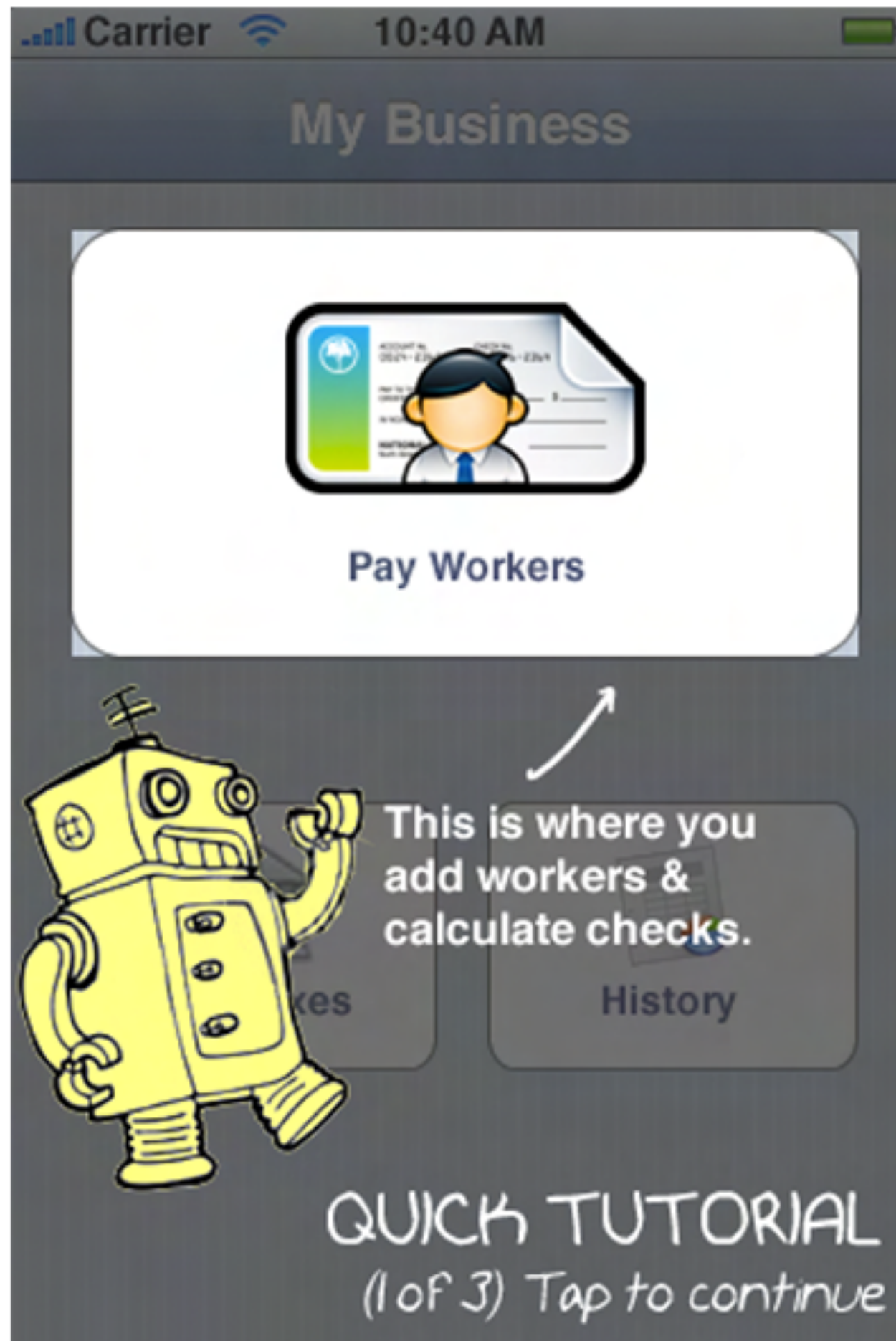


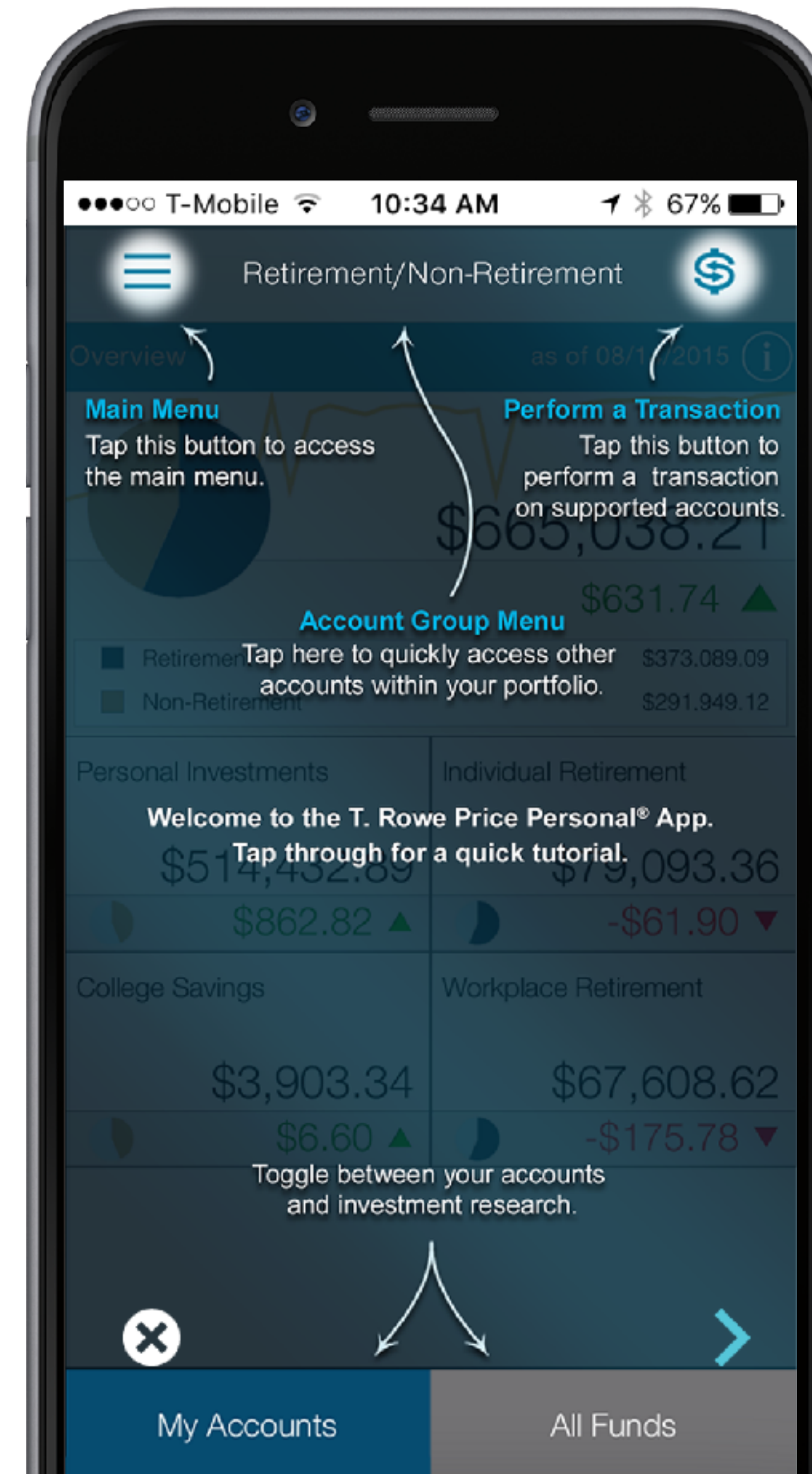
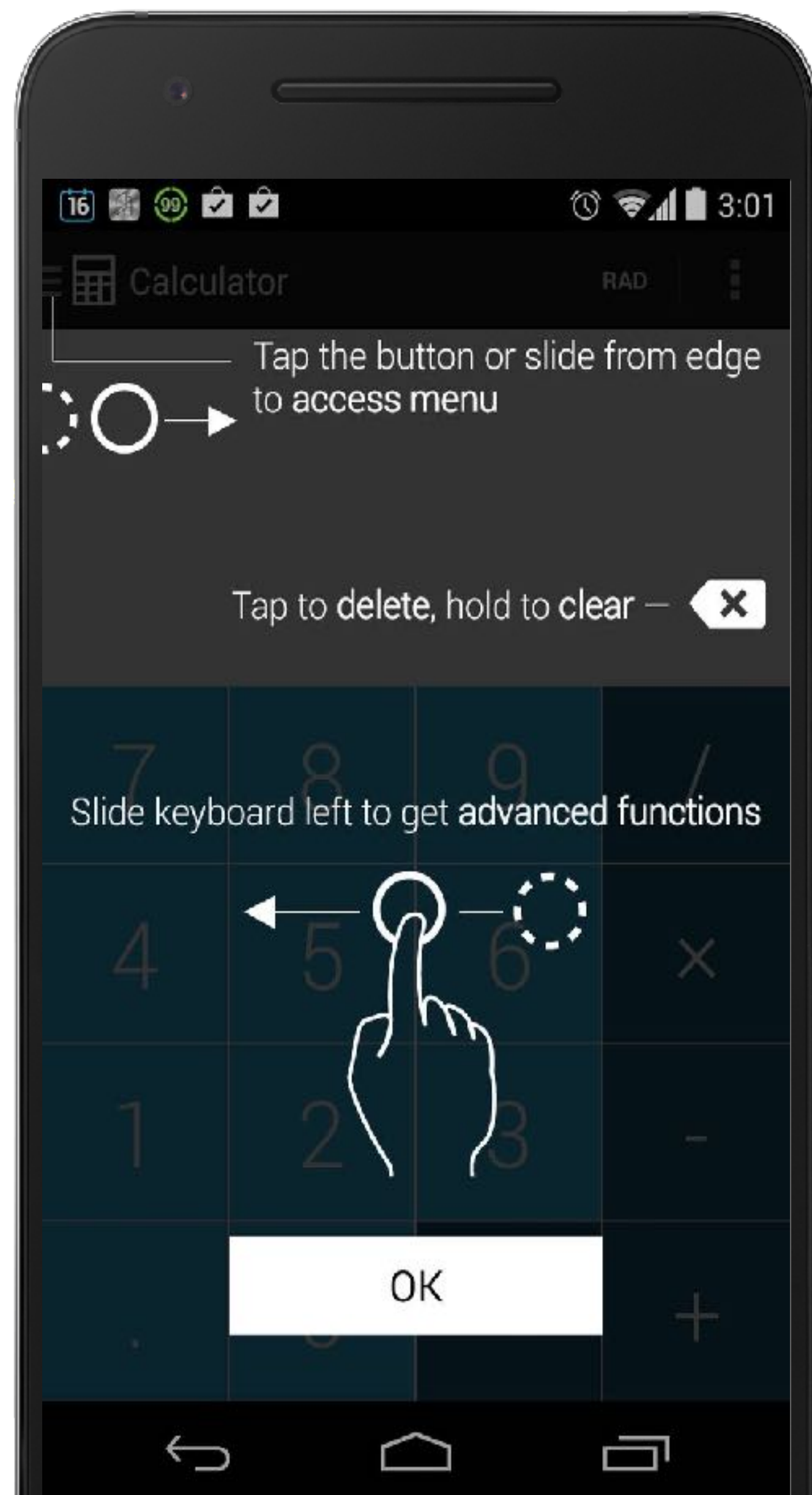


INTRO TOUR

No one read the screens. They immediately skipped over them.

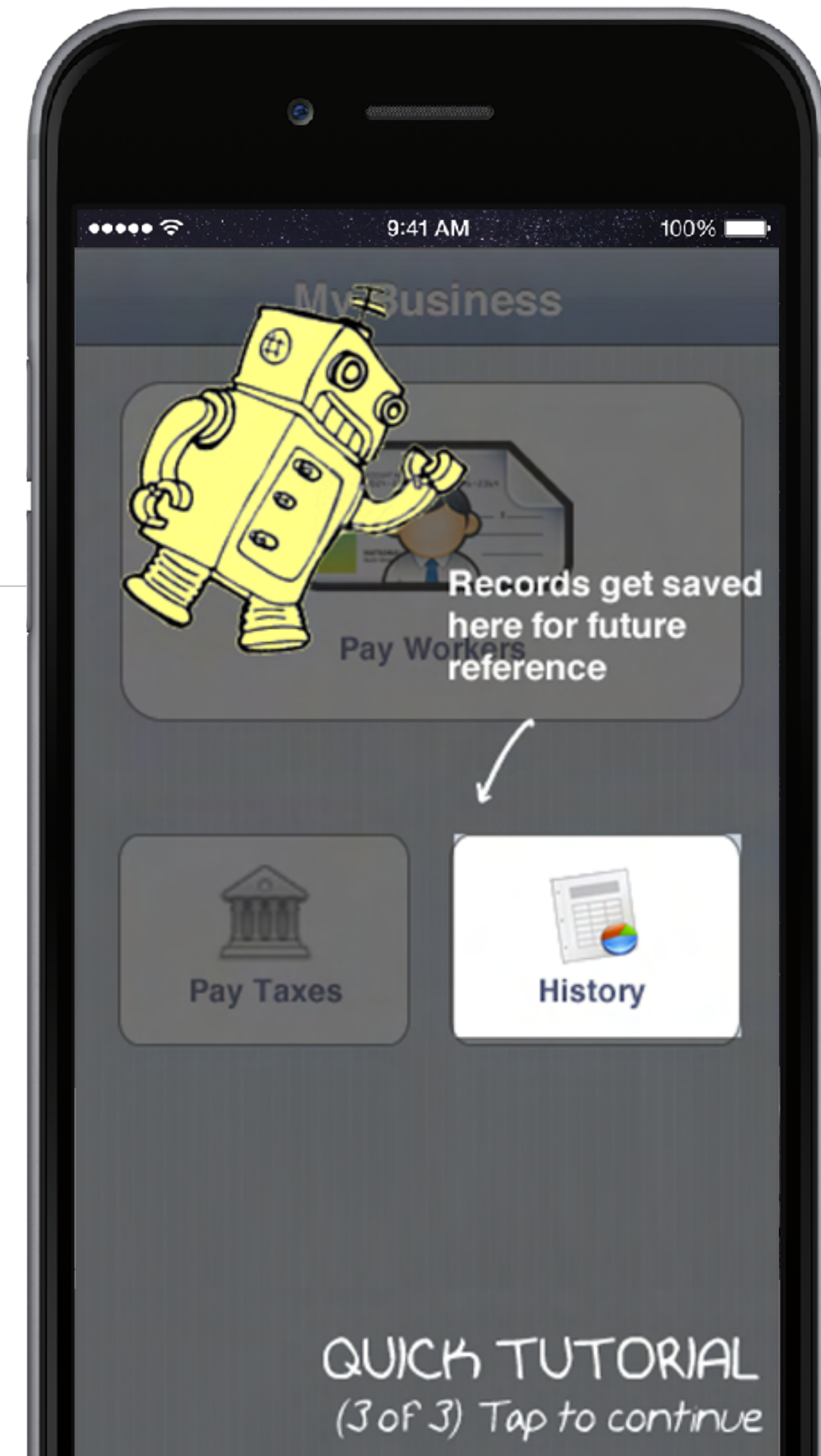






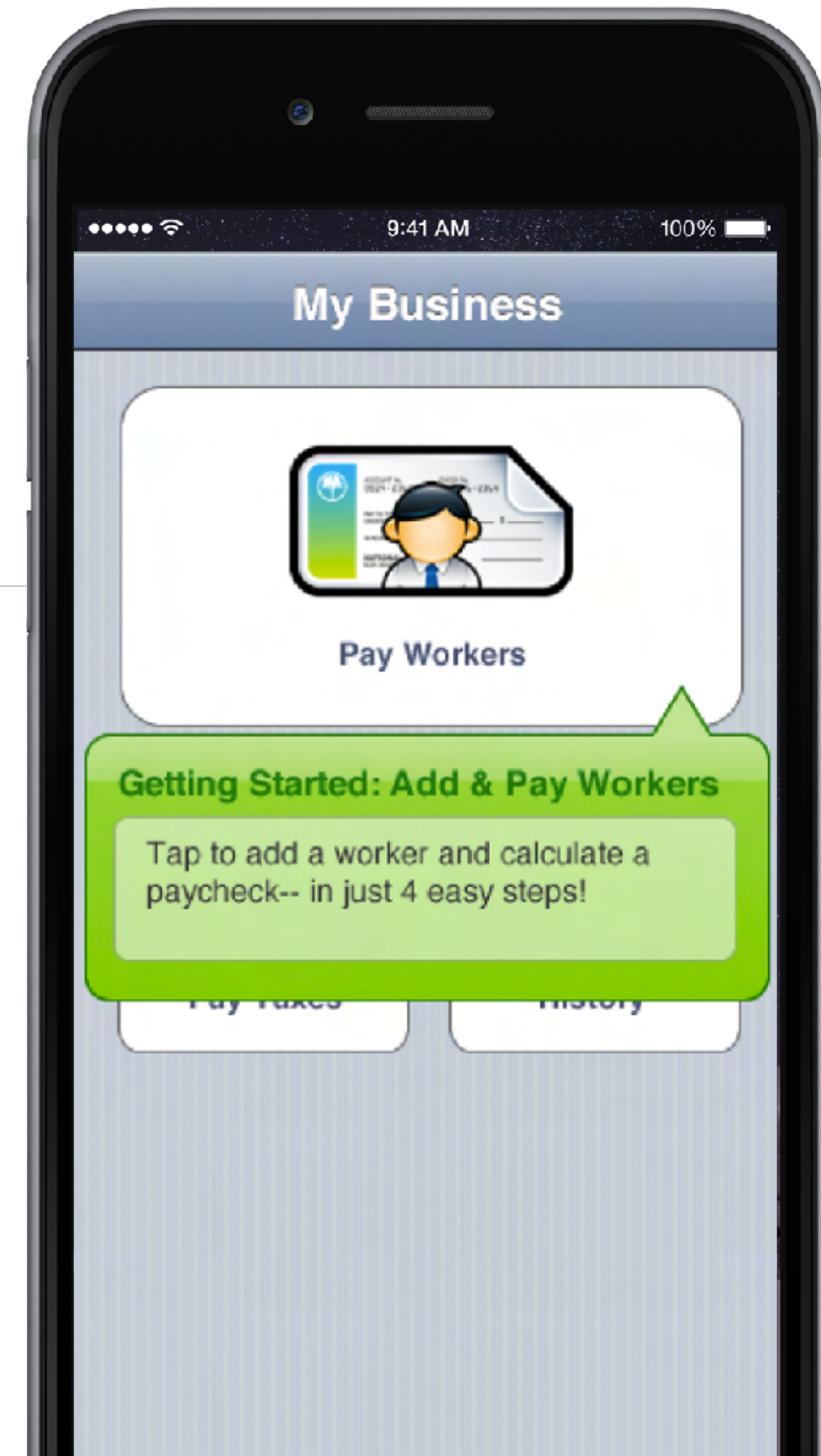
IN-CONTEXT

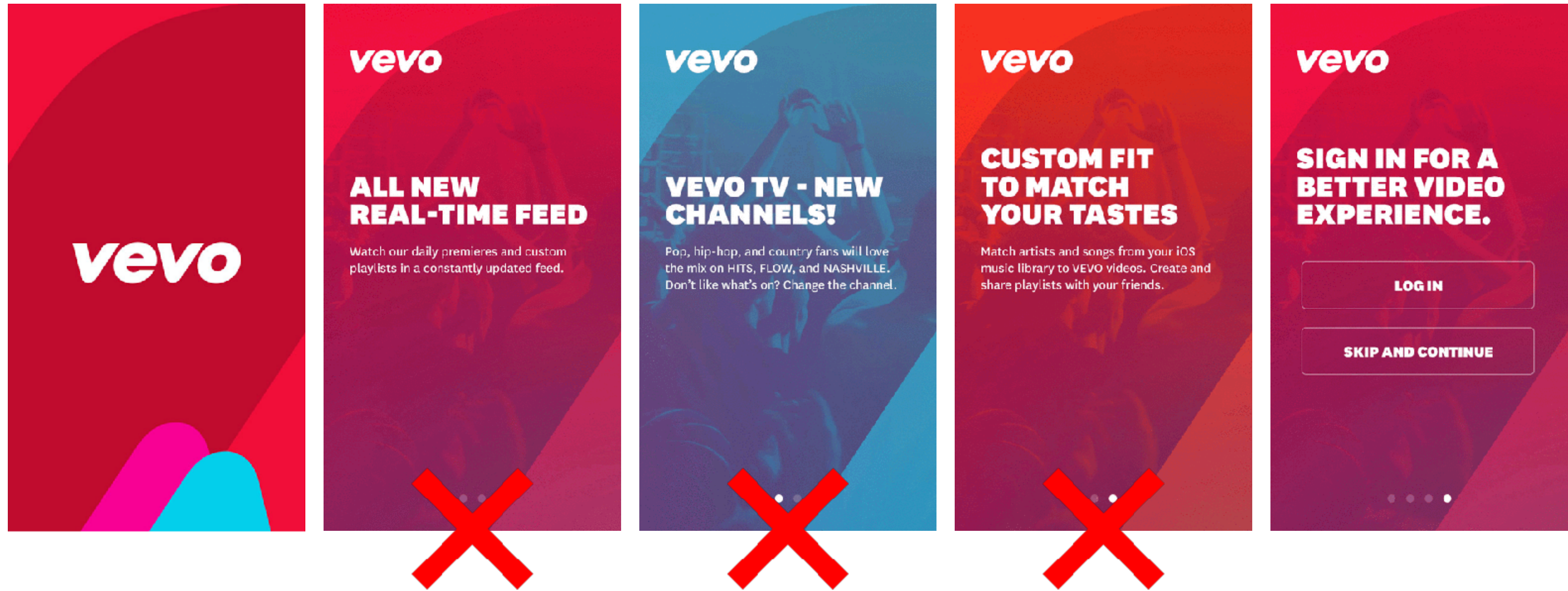
Comments included: “I just want to make this get out of my way.”



JUST-IN-TIME TIP

Customers had a good sense of what was available to them and a clear first step.

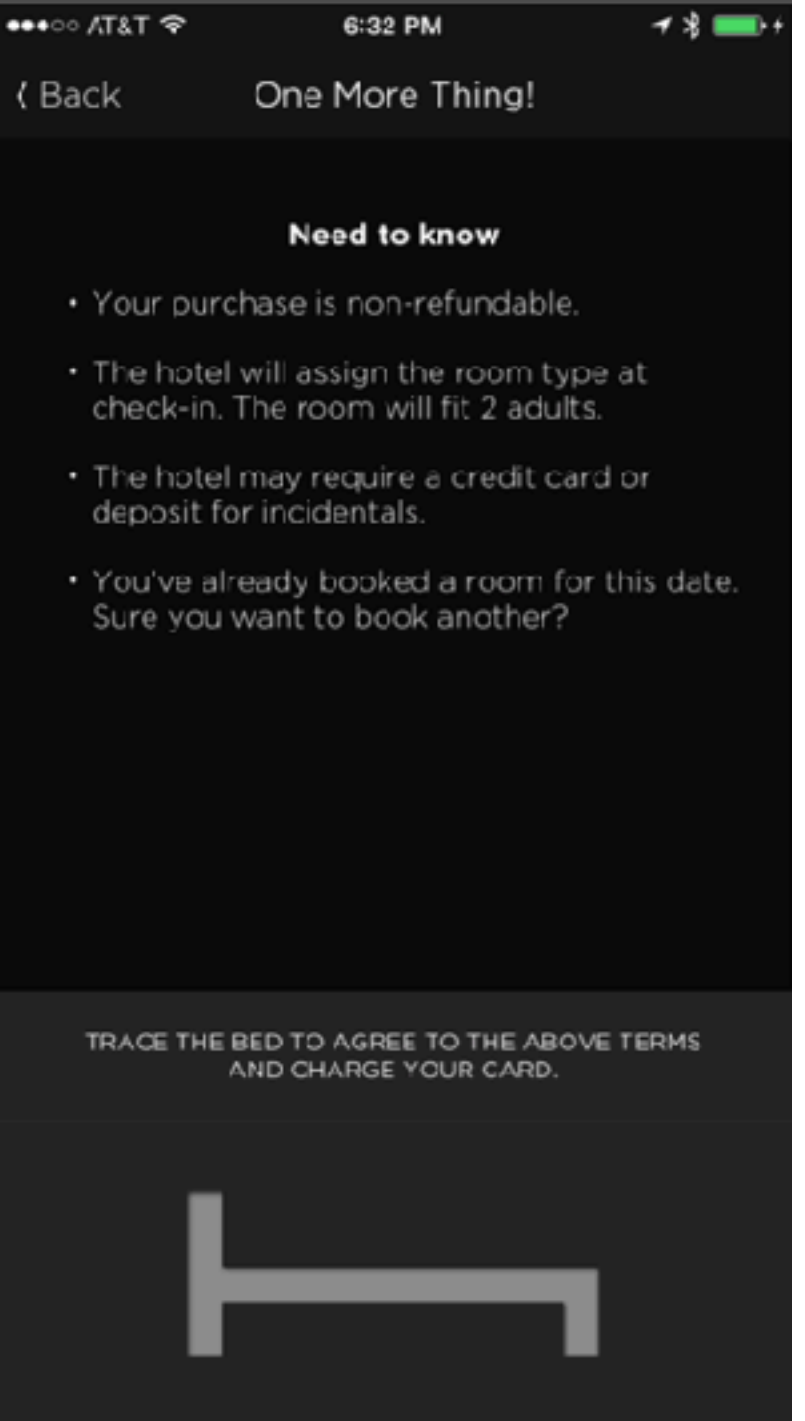
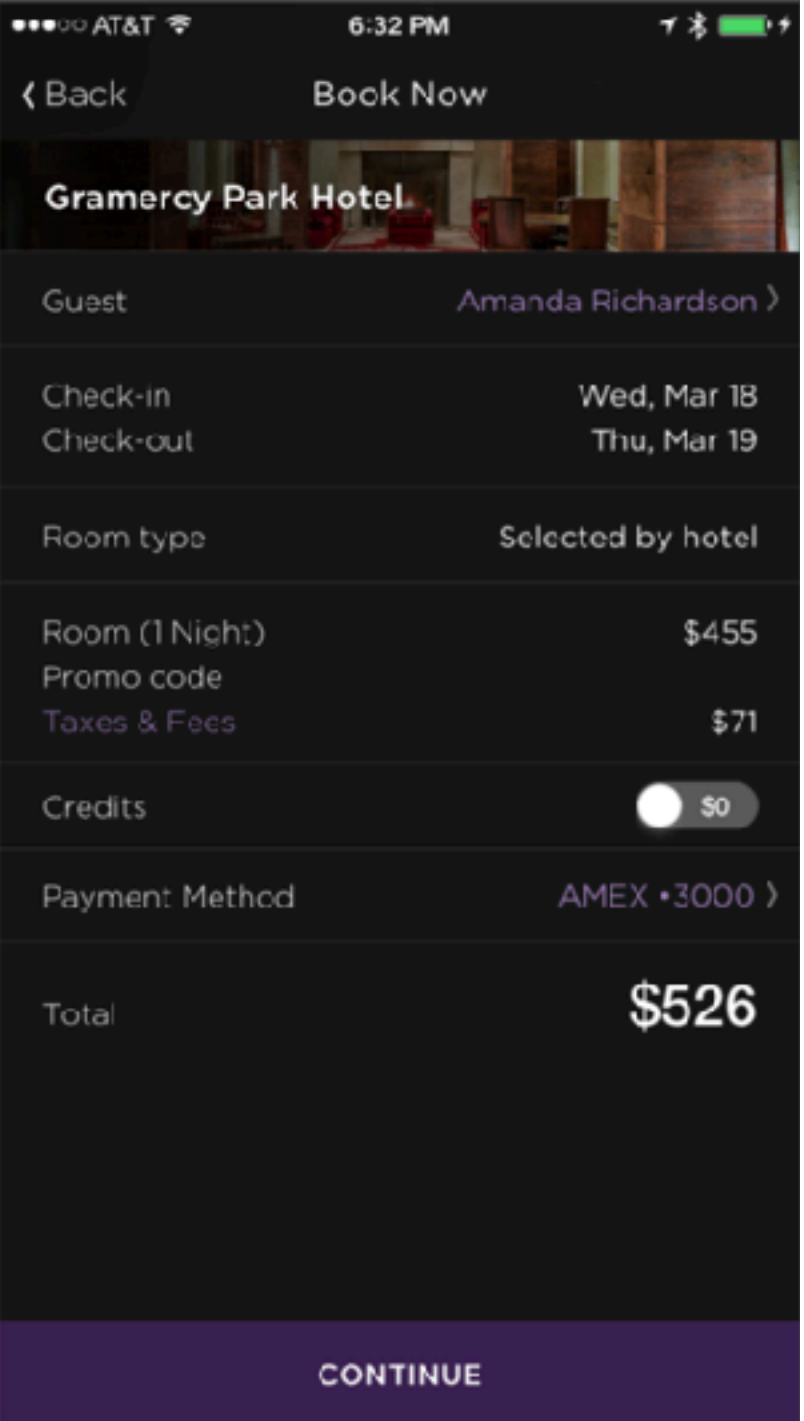
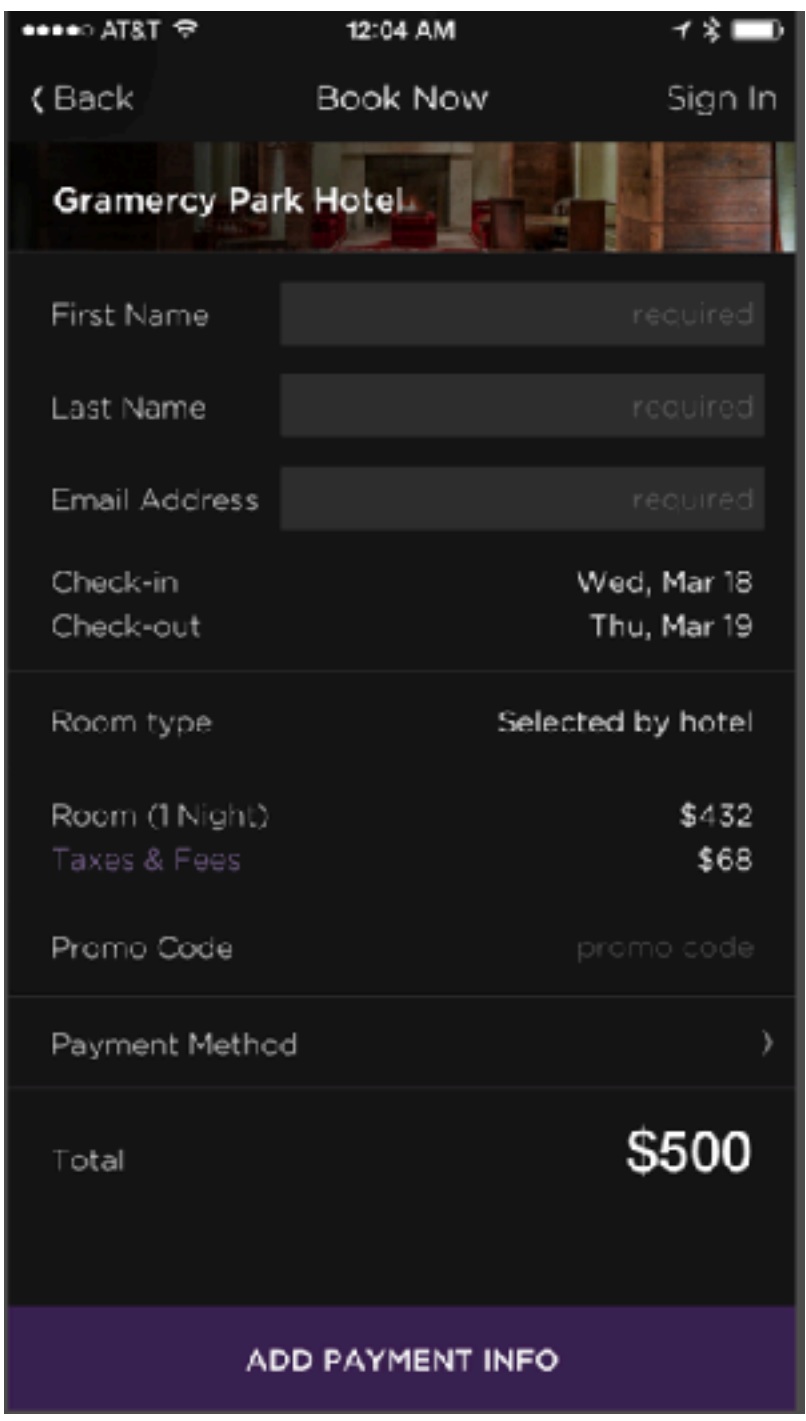
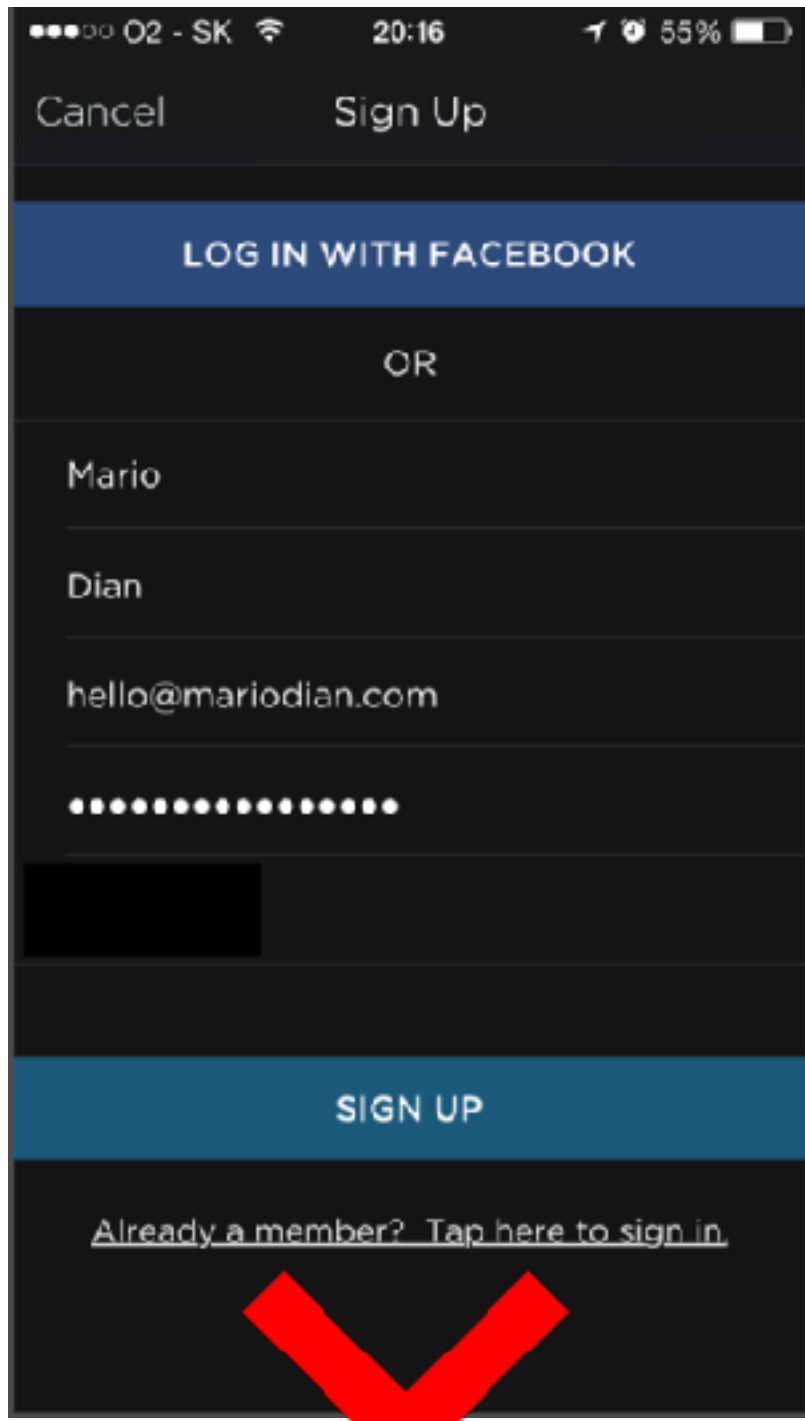
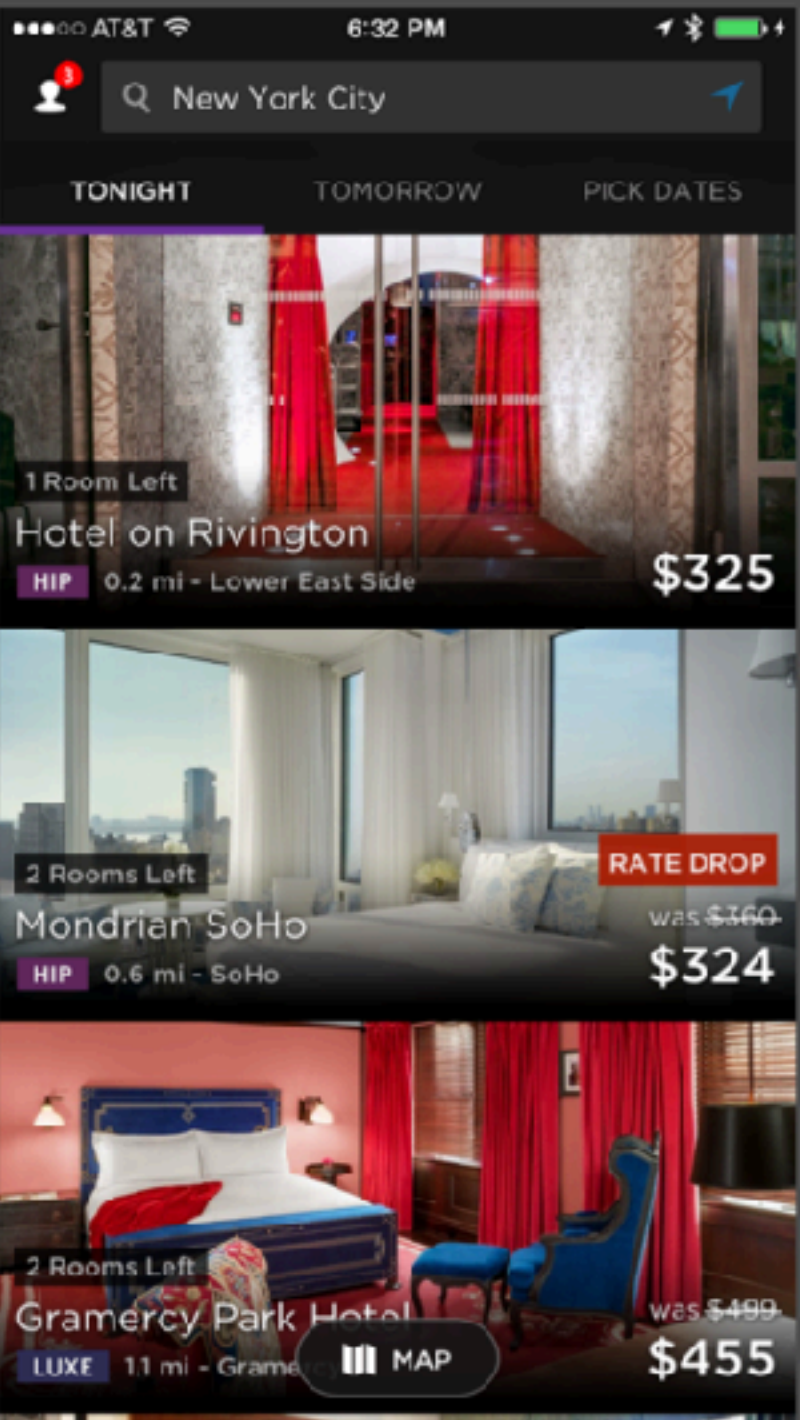




INCREASE IN
SUCCESSFUL LOG INS



INCREASE IN
COMPLETED SIGN UPS



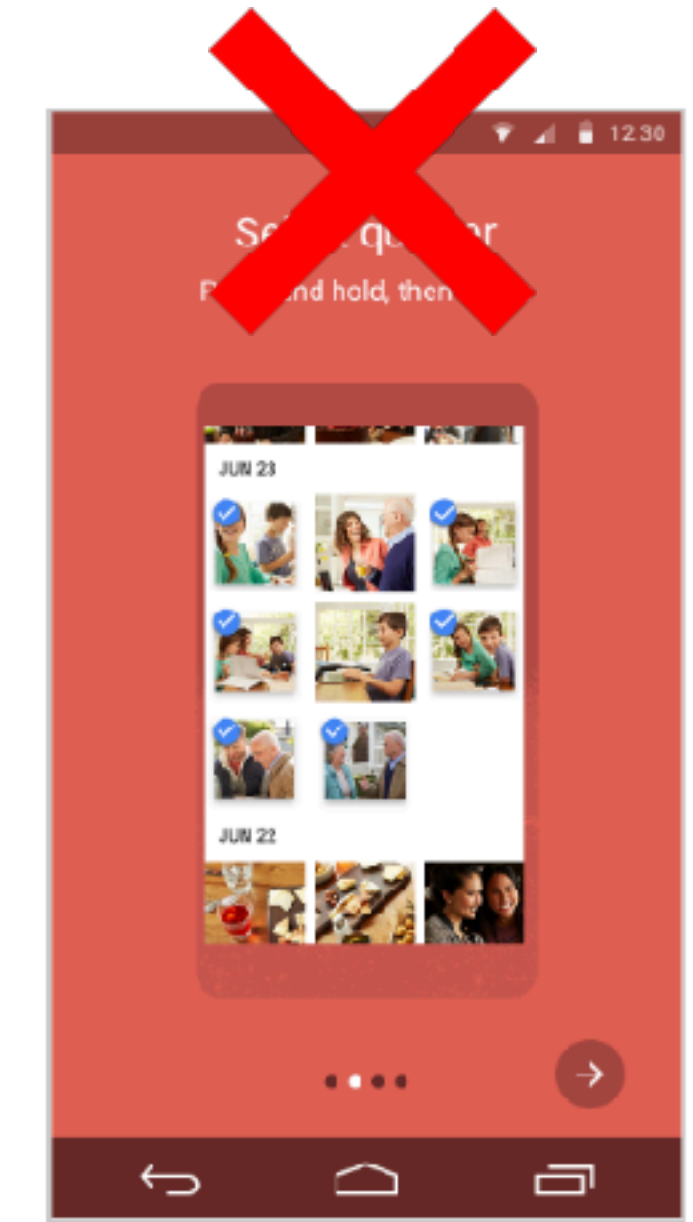
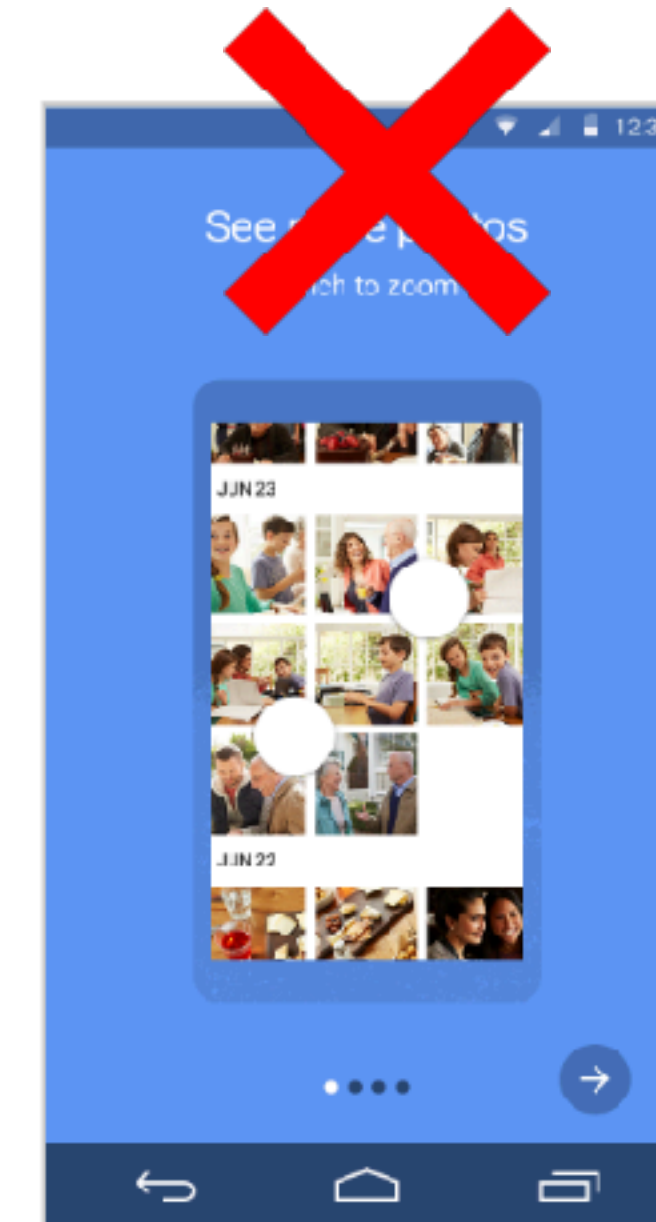
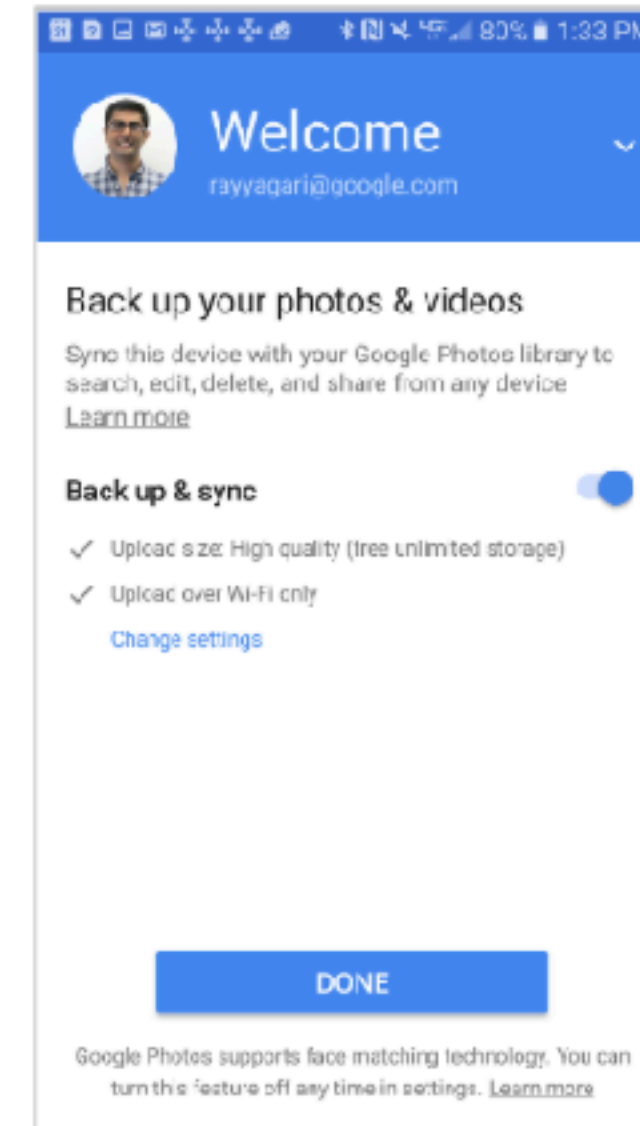
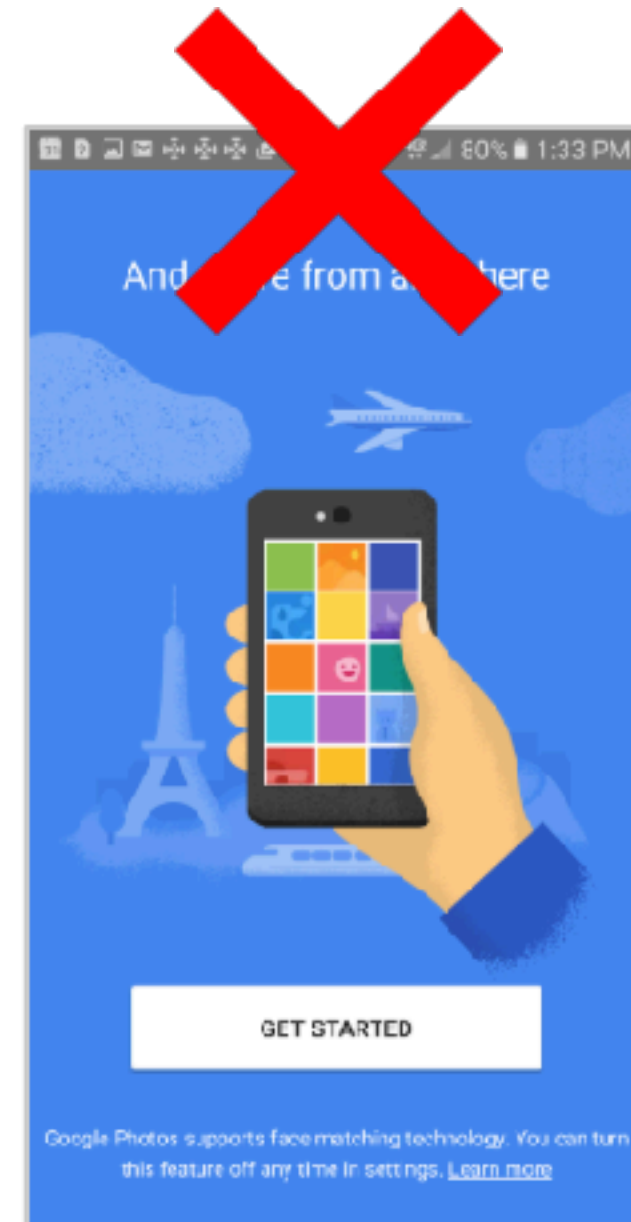
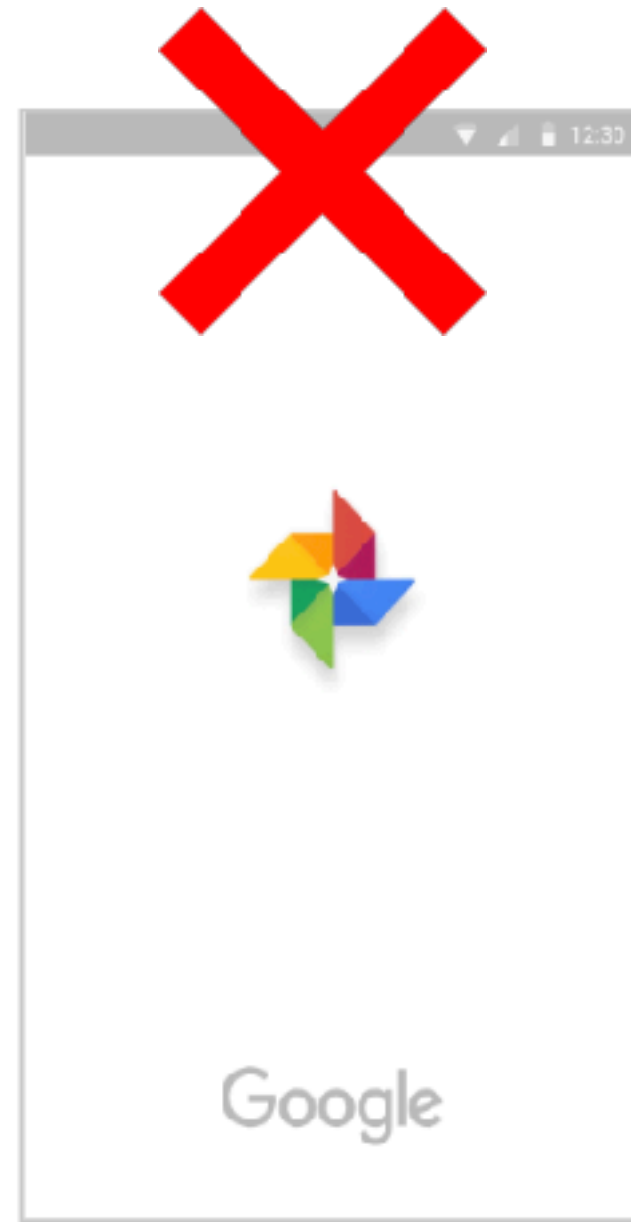
15%

INCREASE IN CONVERSIONS

Ruthlessly edit. Even when you have the slimmest funnel, cut again.

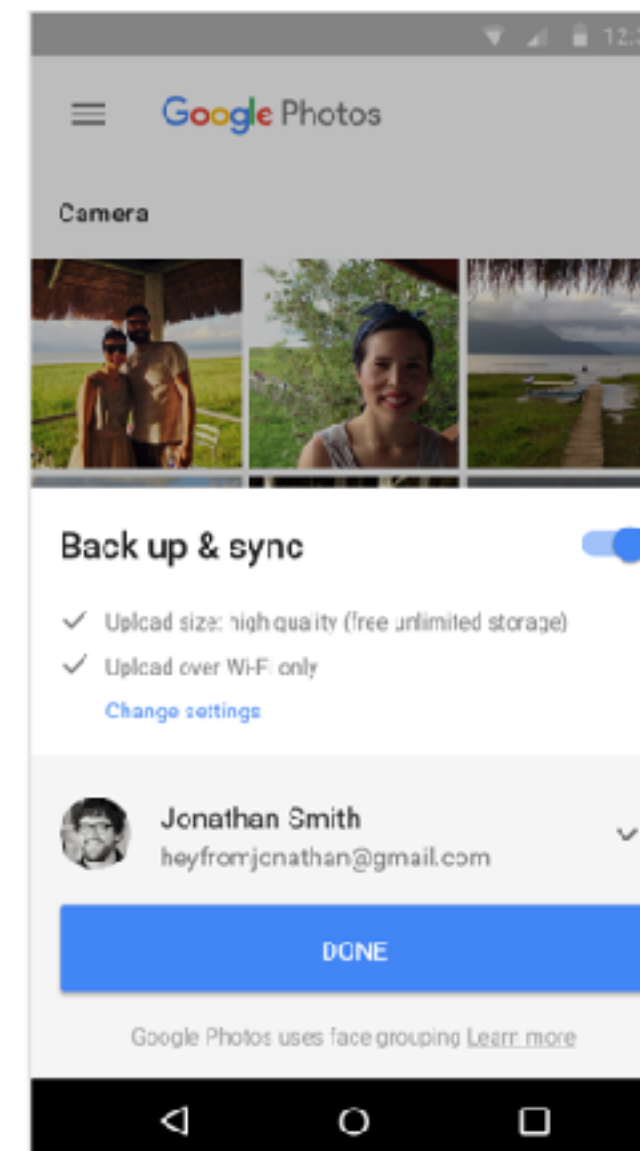
Amanda Richardson, Hotel Tonight

BEFORE

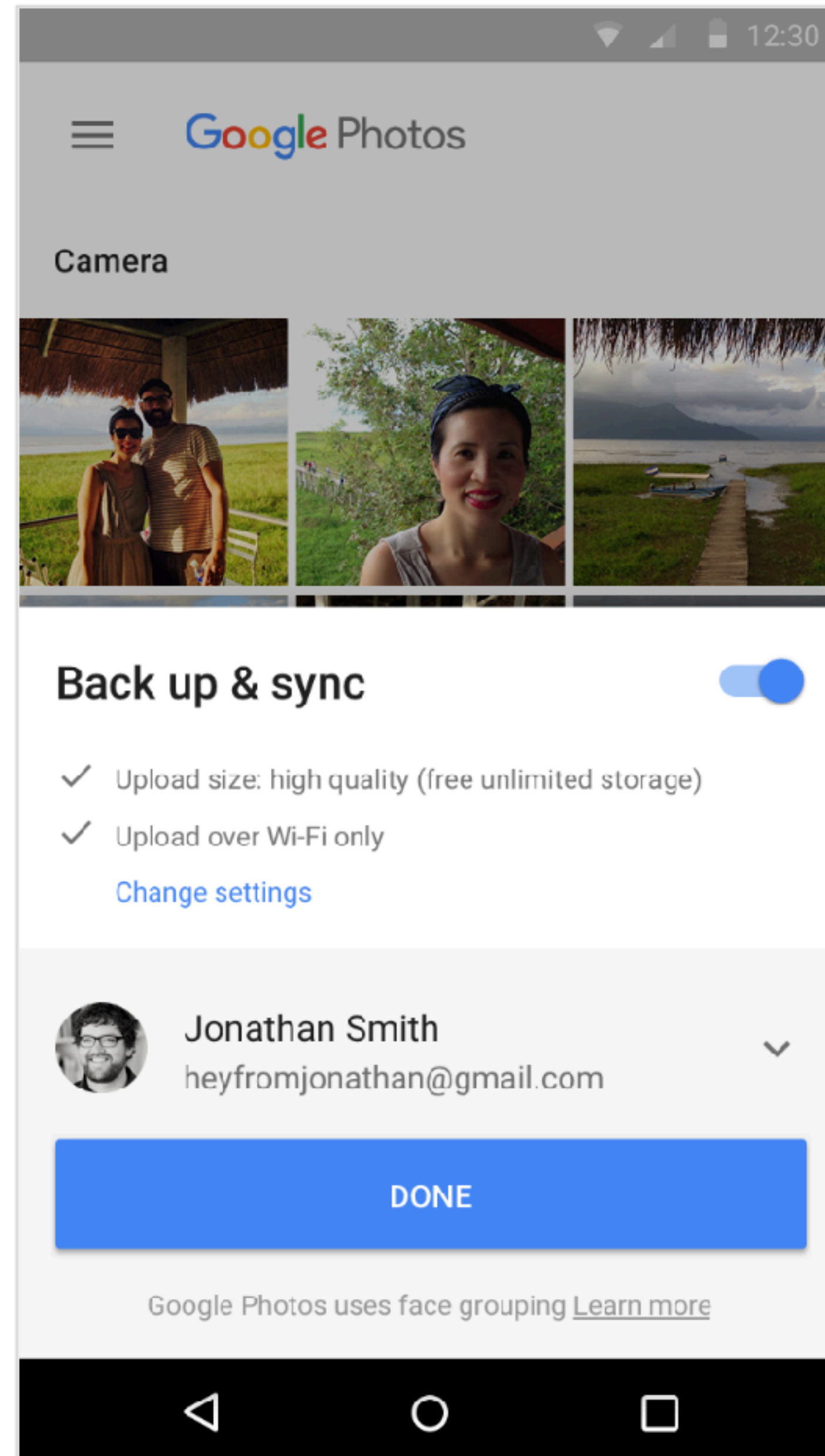


AFTER

get people to core value
as soon as possible

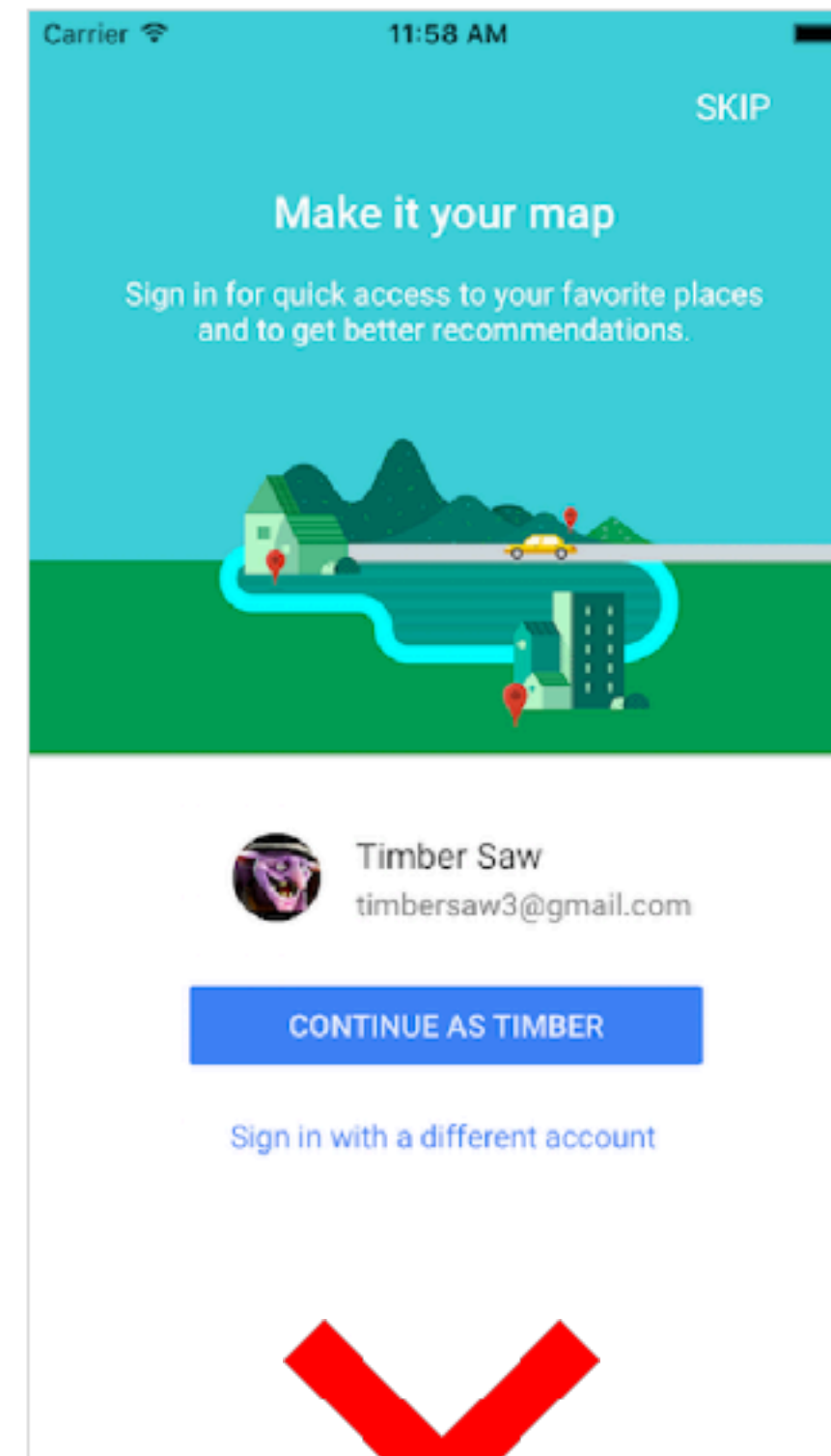
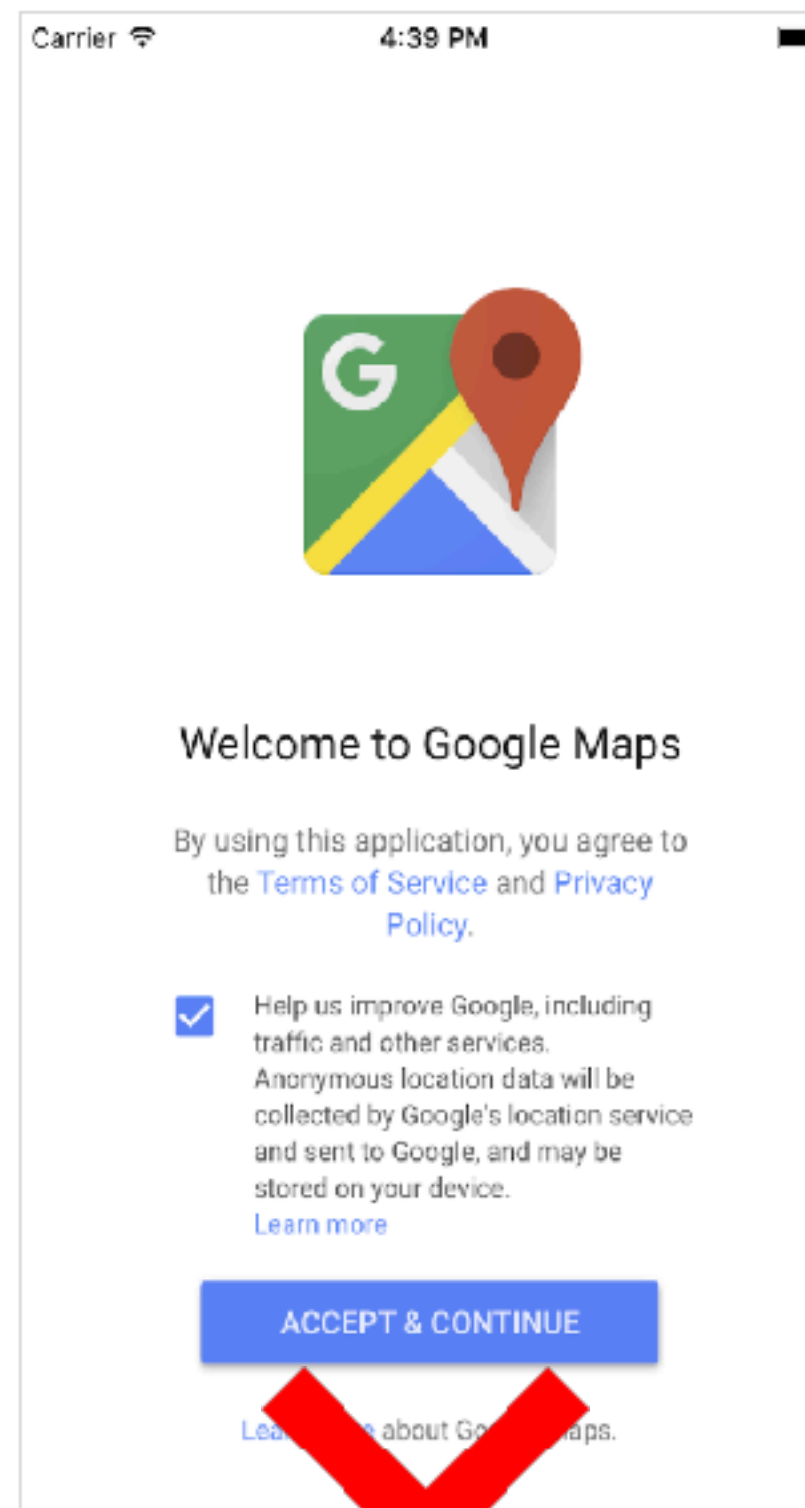


get people to core value
as soon as possible



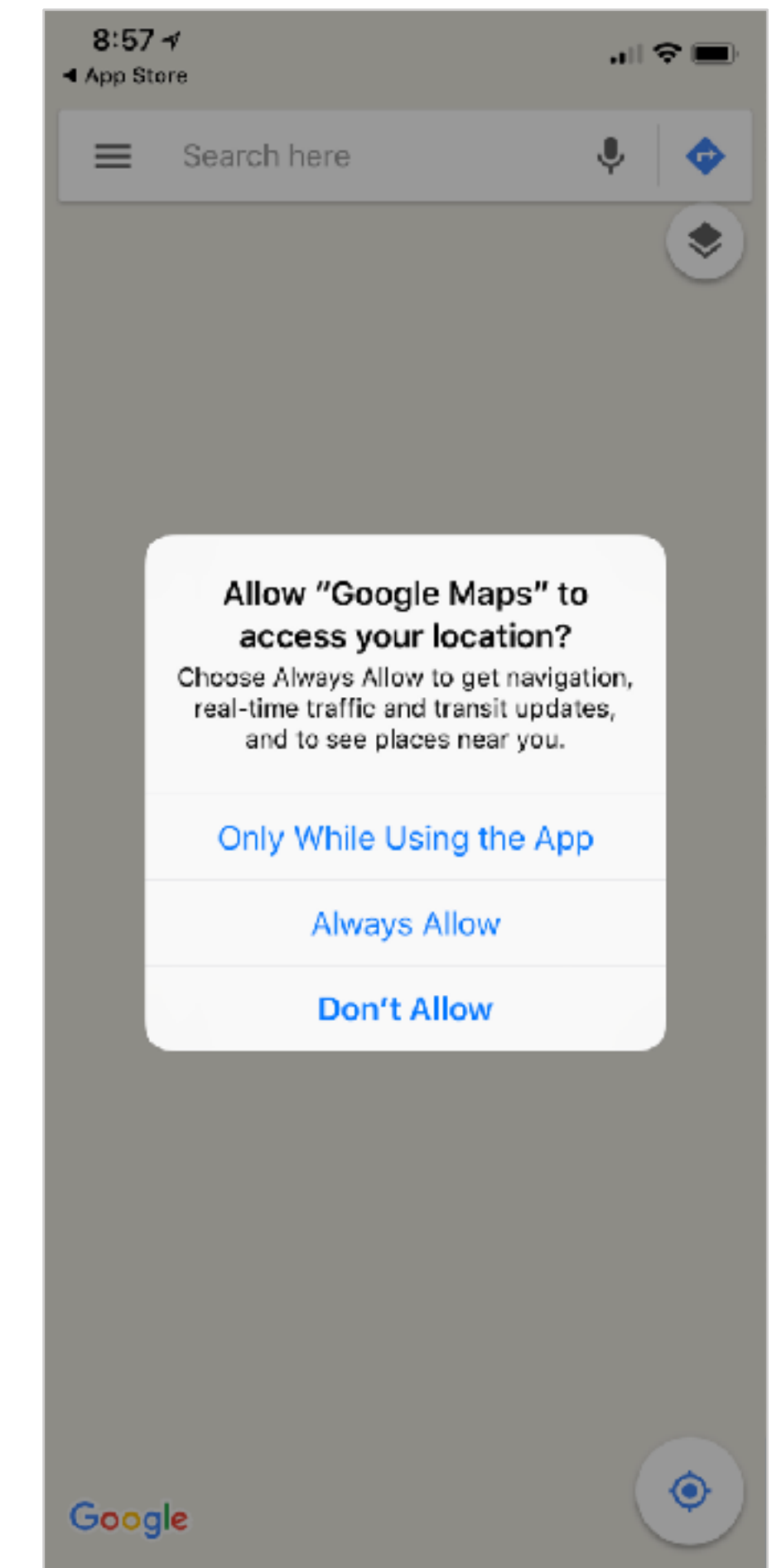
this, of course, requires
knowing what your core
value/action is

BEFORE



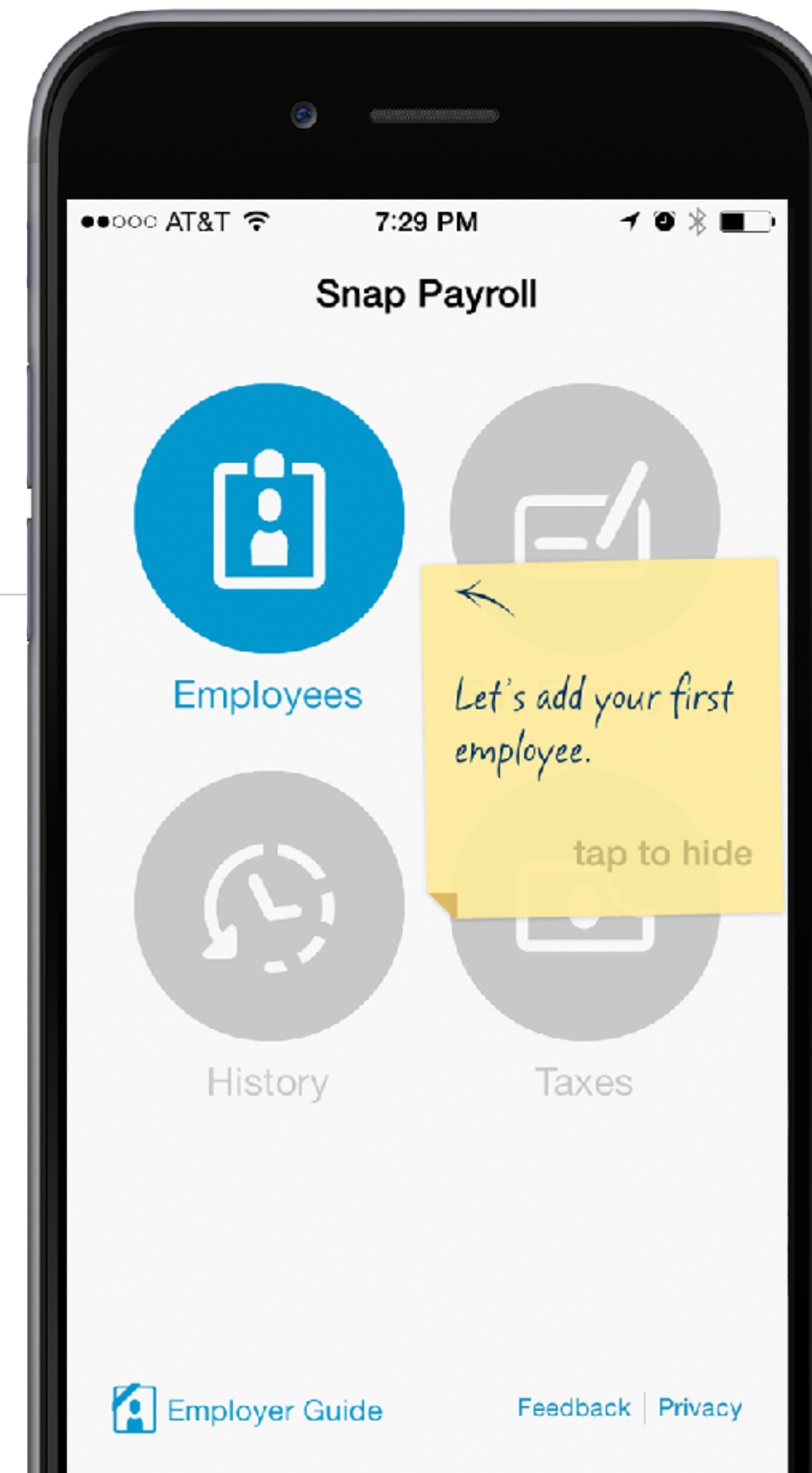
AFTER

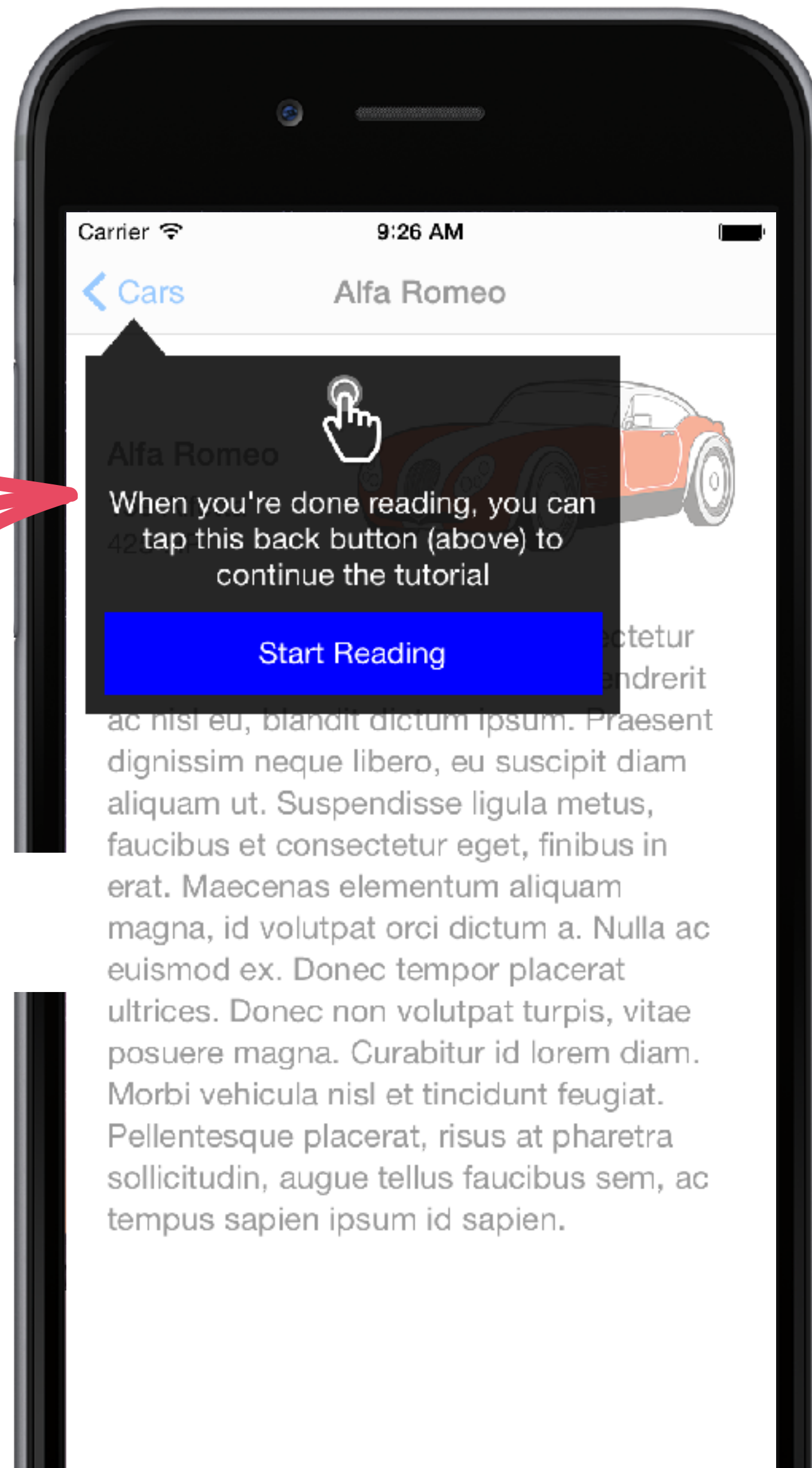
get people to core value
as soon as possible



JUST-IN-TIME TIP

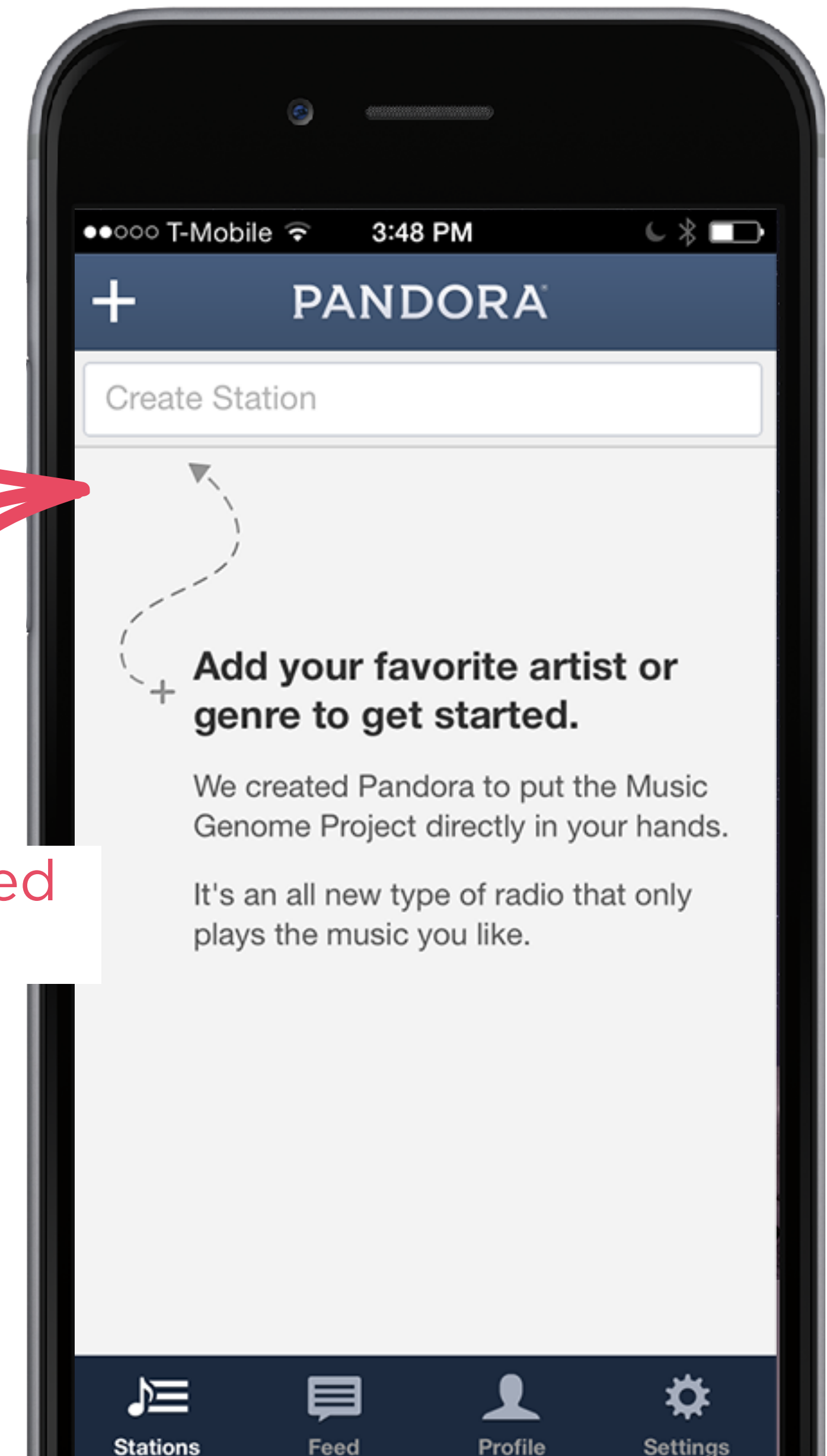
Customers had a good sense of what was available to them and a clear first step.





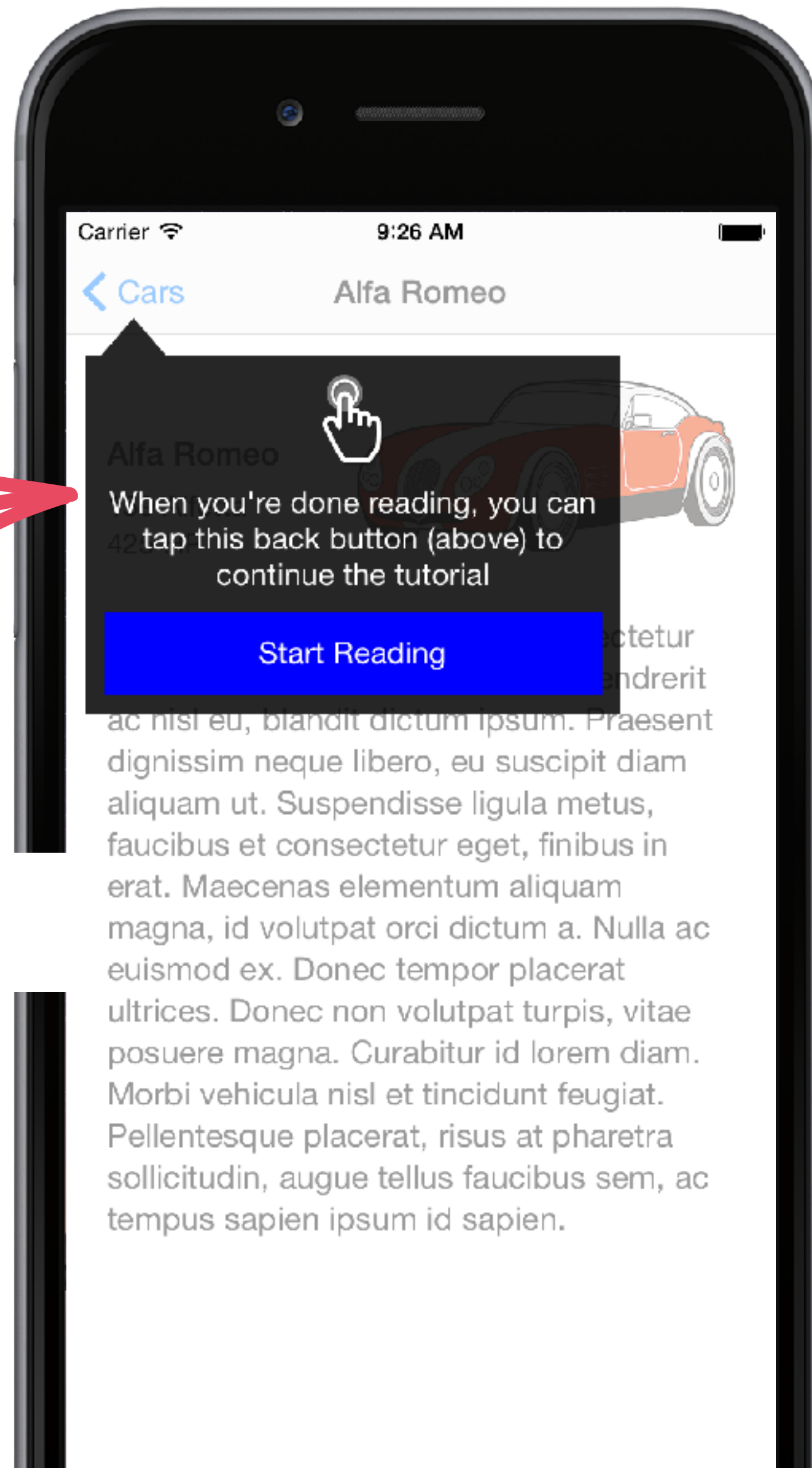
tooltip
overlay

VS



integrated
UI

tooltip
overlay



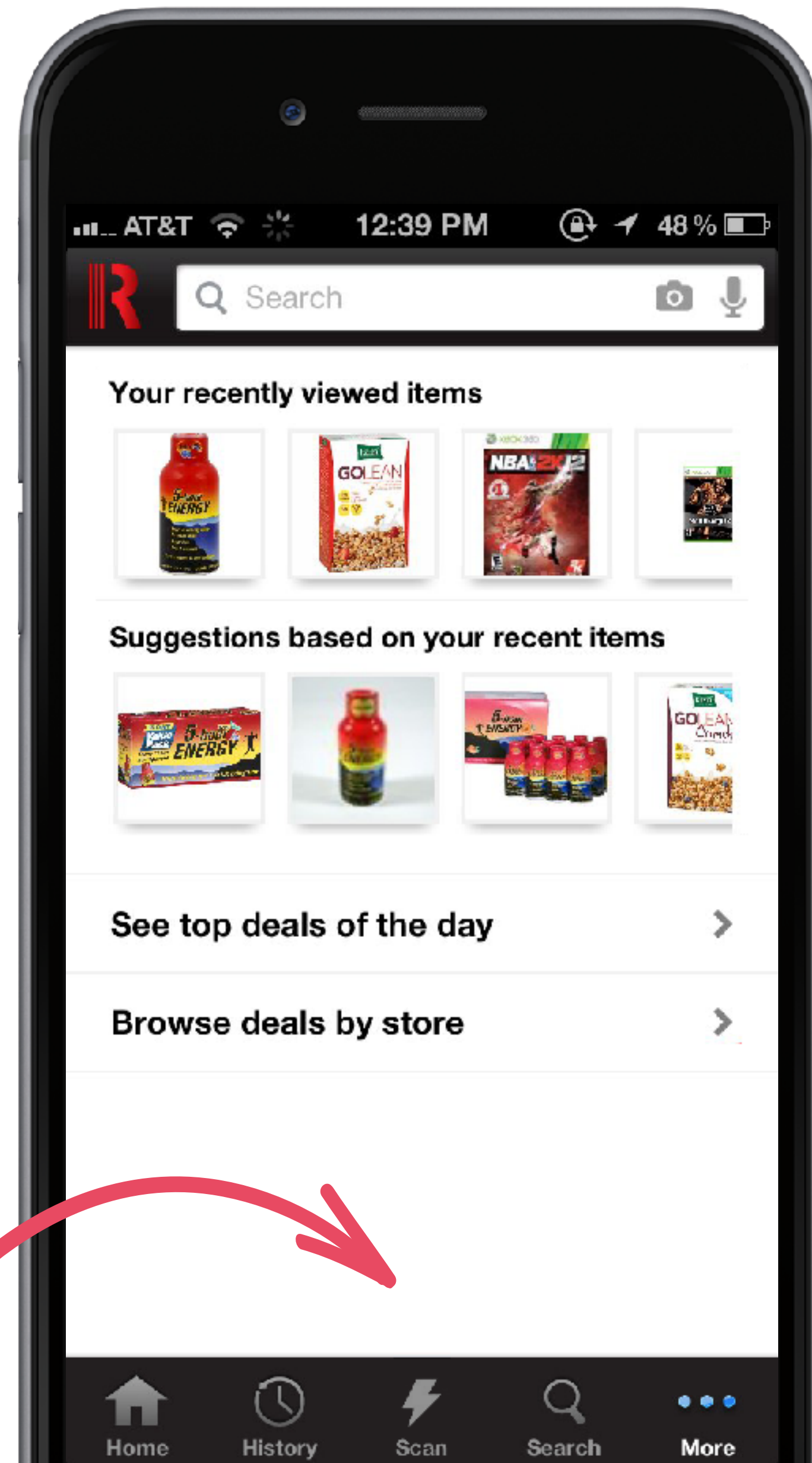
“ We see **overlay avoidance** consistently in the research we conduct with mobile users. Especially when people are task focussed. Then when they do come to use a new function they can't find the help and don't recall seeing the help previously.”

Lisa Duddington
Co-founder, Keep It Usable



“ We saw this all the time at Facebook. People **very often, instinctively, dismiss tooltips**. On occasion even accidentally. By the time they realize the message may have been helpful, it's already gone and there's no way to recover it. ”

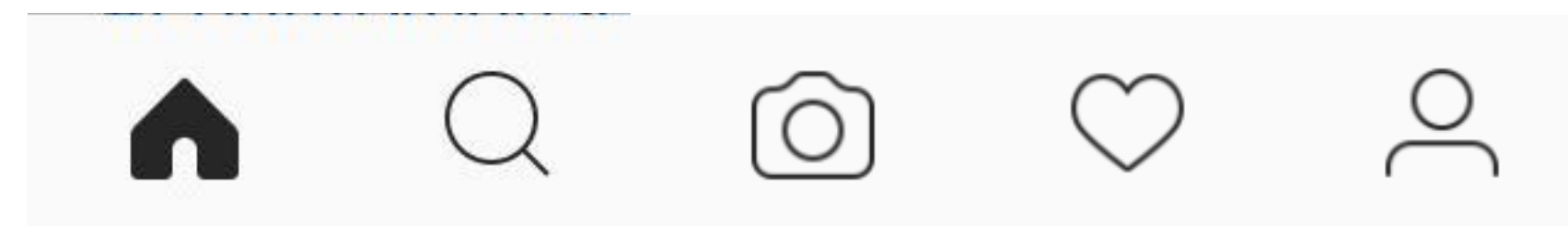
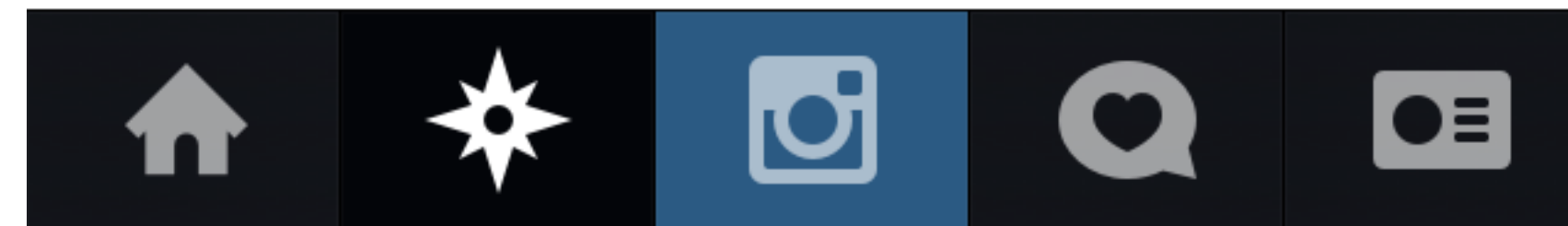
Tanner Christensen
Product Designer, Facebook



“ We made our “scan” button huge and different color from the rest of the nav menu and **users entirely ignored it.** ”

Miles Skorpen

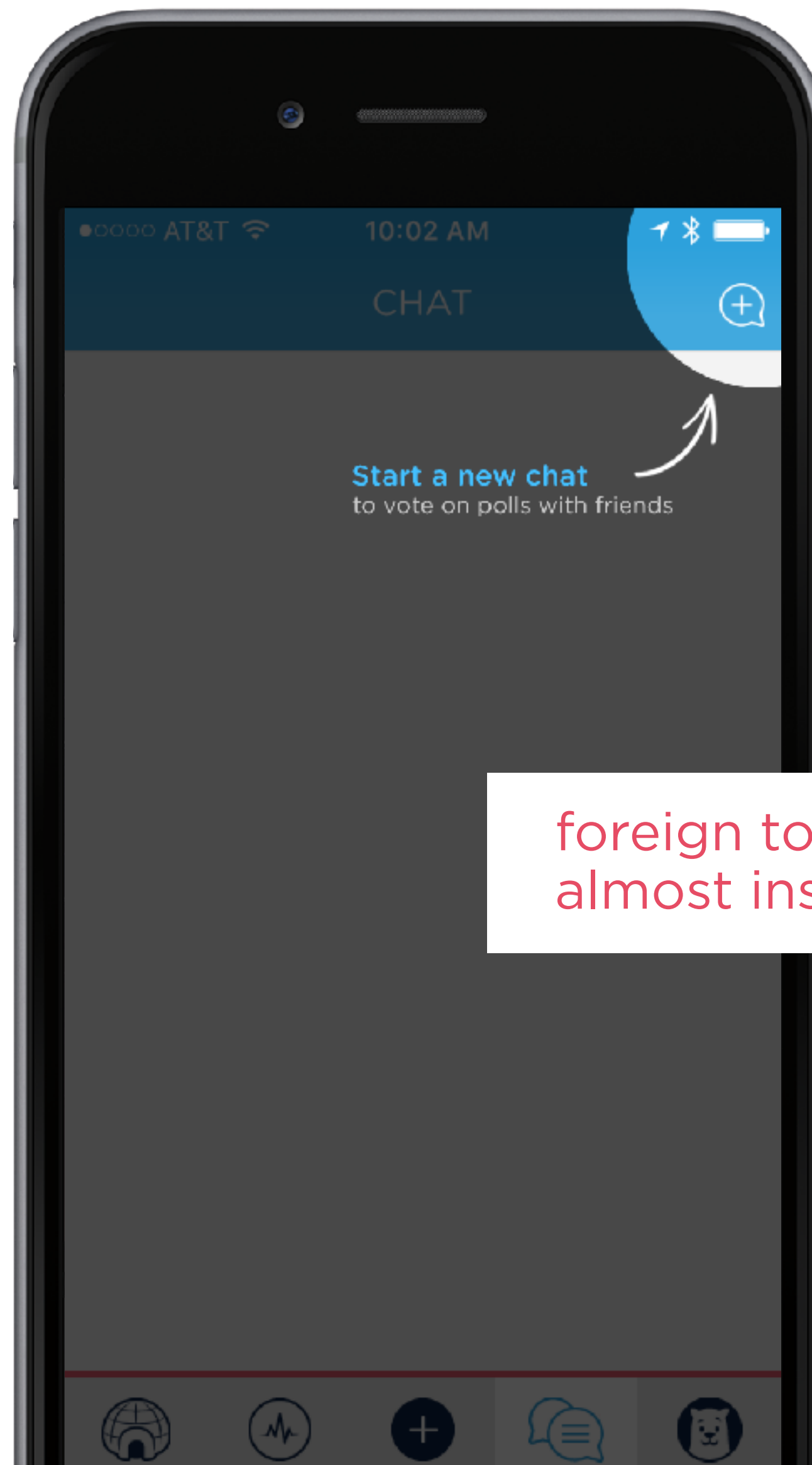
Head of Business Development, Red Laser



make primary
action “pop”

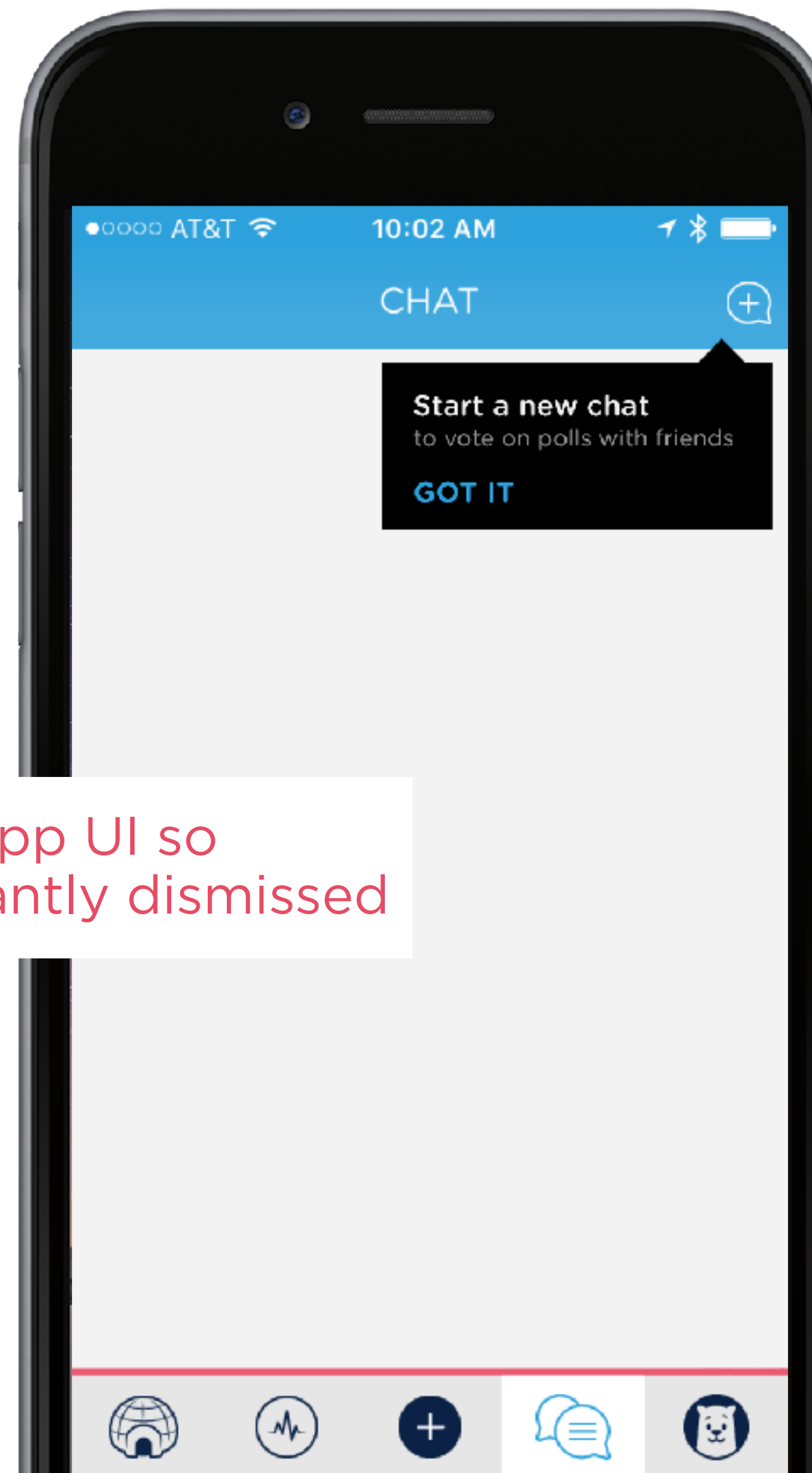
primary action
integrated with UI

OVERLAY

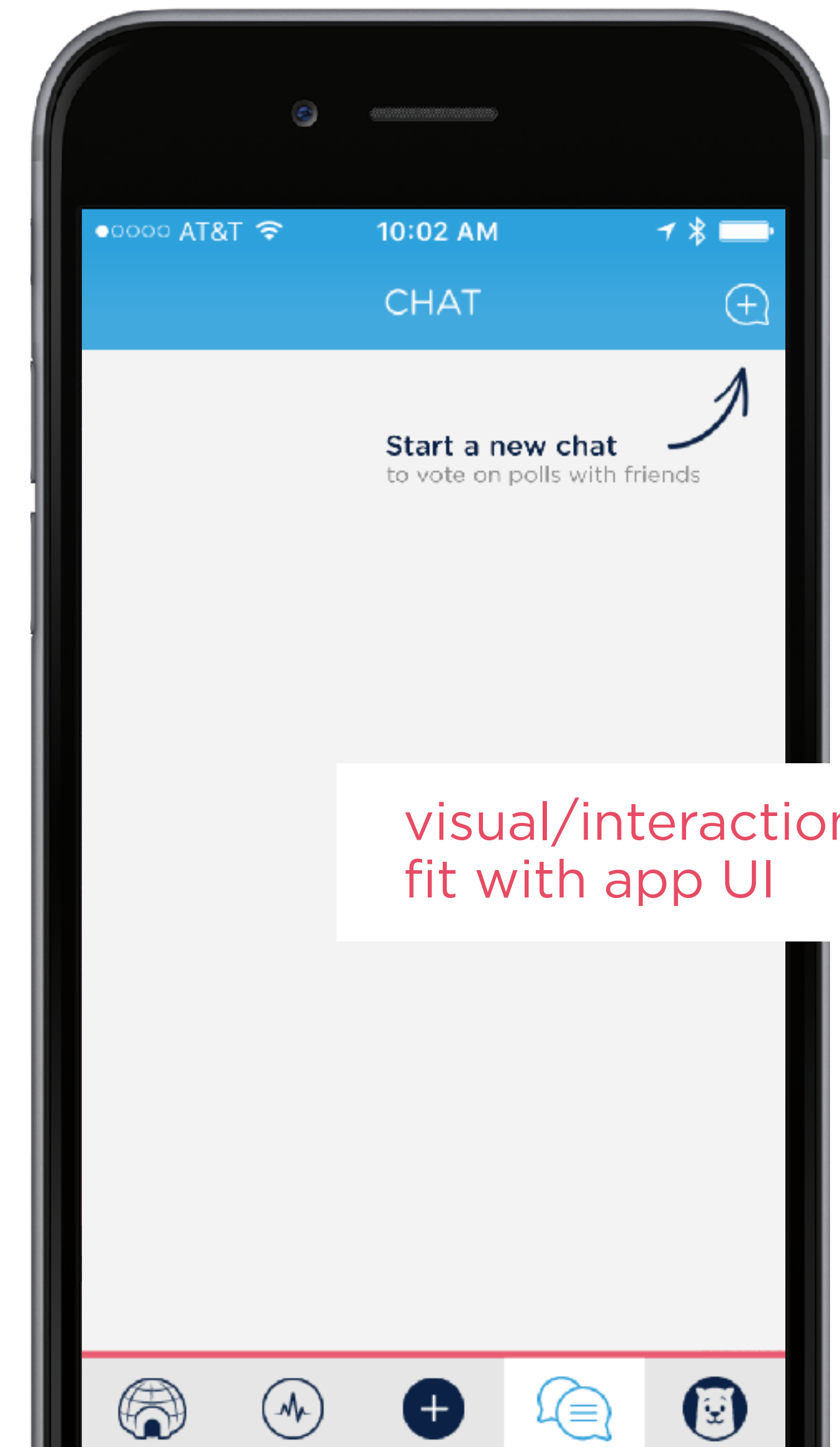


foreign to app UI so
almost instantly dismissed

TOOLTIP



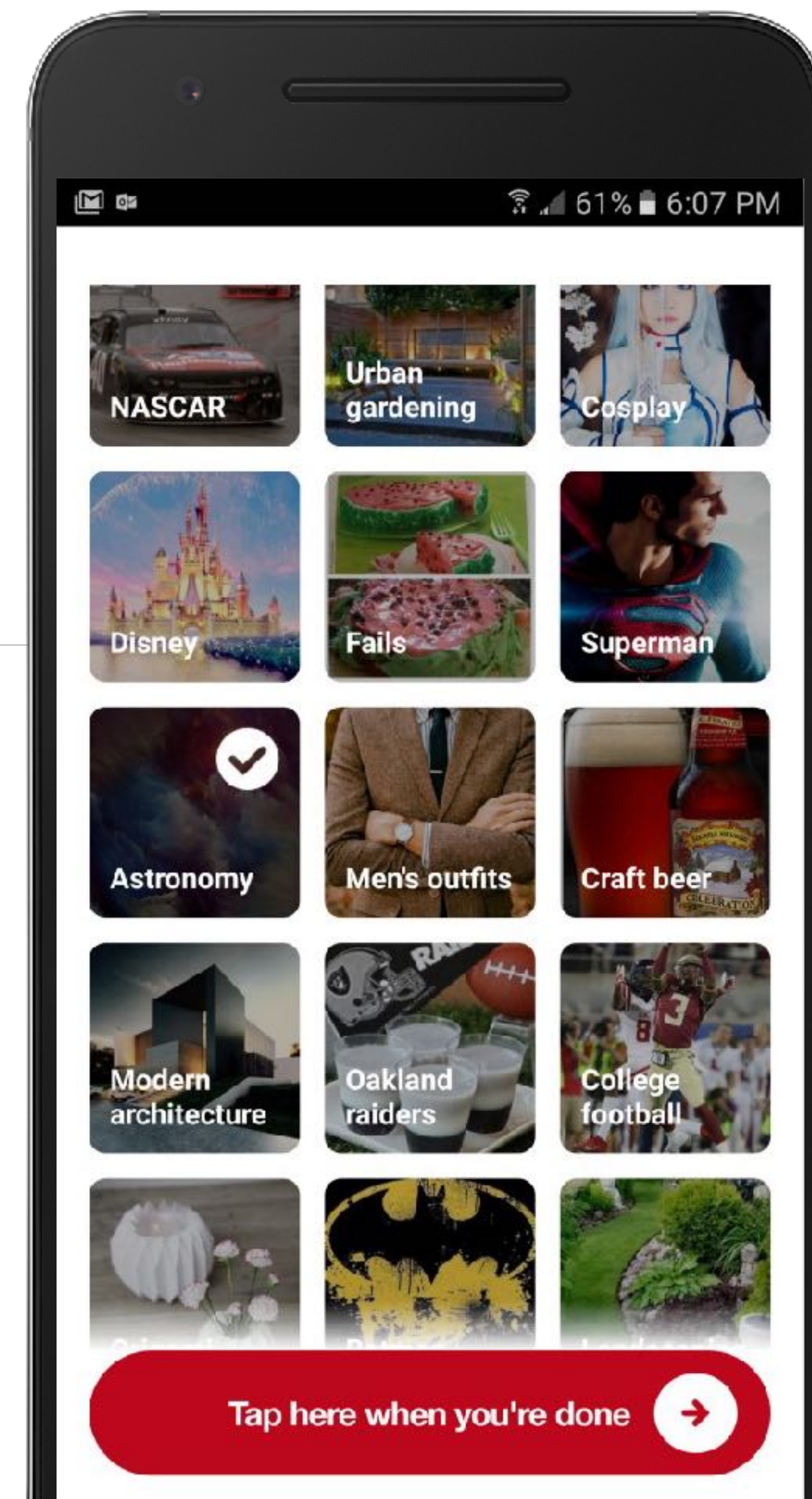
INTEGRATED



visual/interaction
fit with app UI

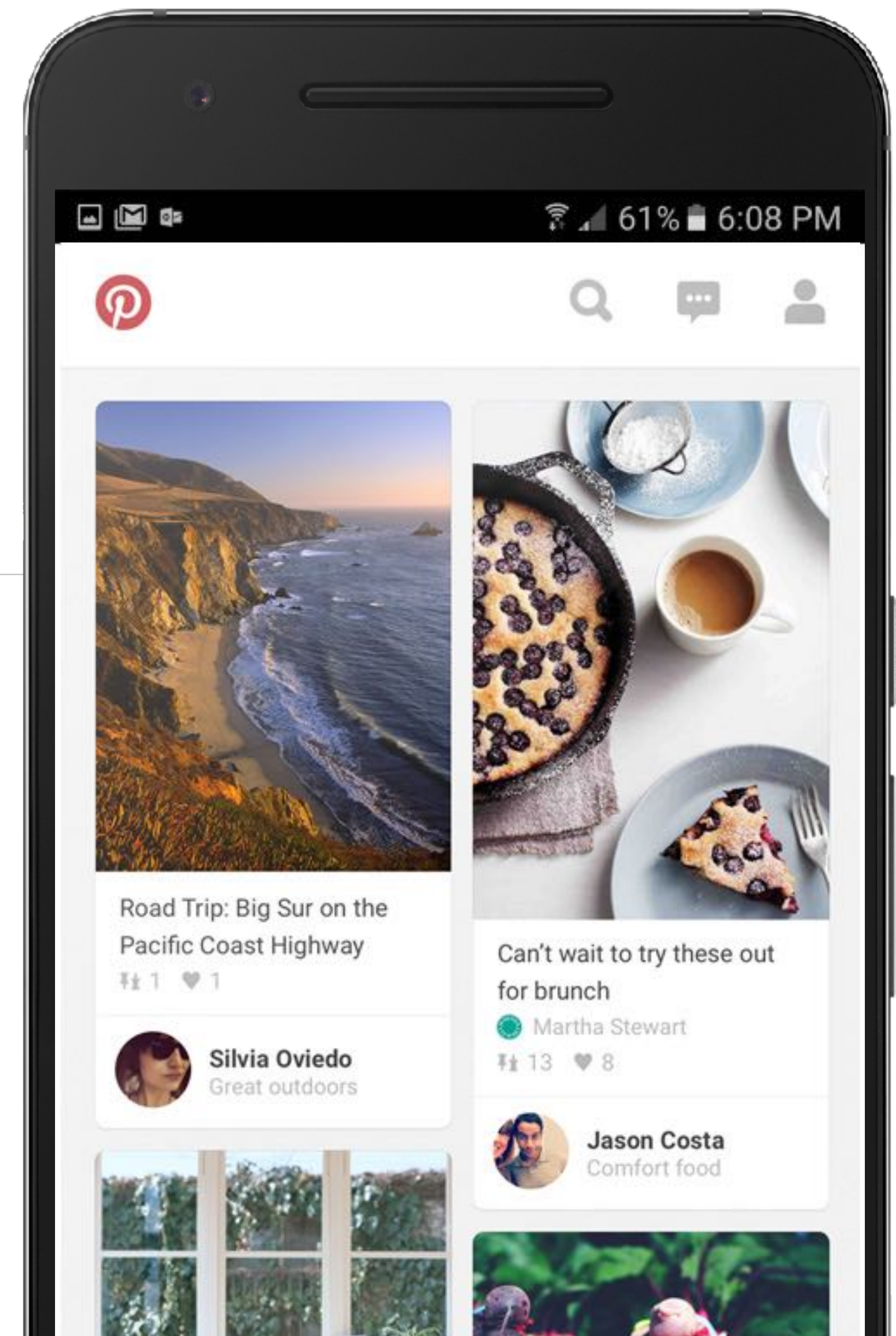
SUCCESSFUL ONBOARDING

Get to product value as fast as possible—but not faster



SUCCESSFUL ONBOARDING

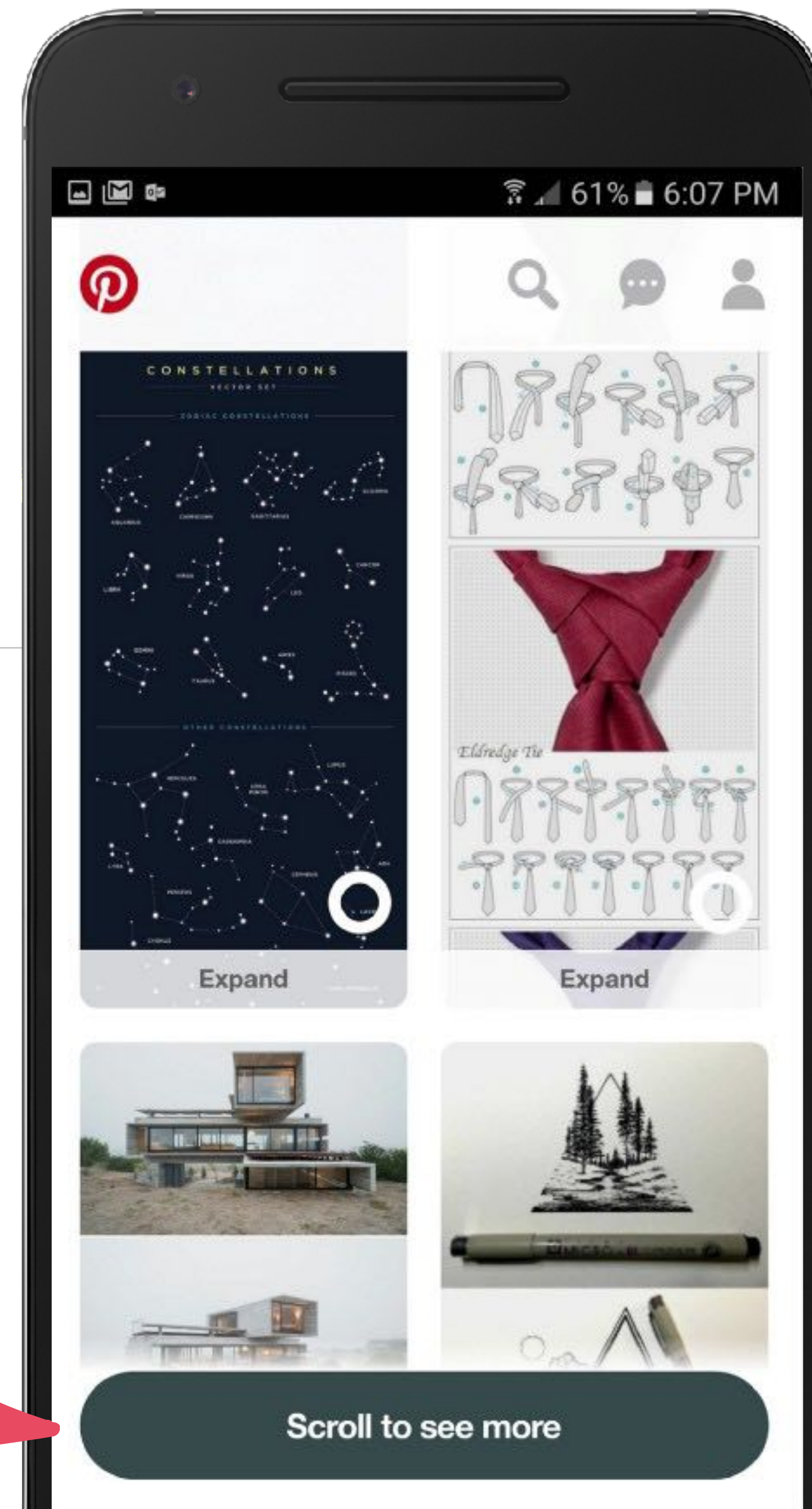
Remove all friction that distracts the user from experiencing product value



SUCCESSFUL ONBOARDING

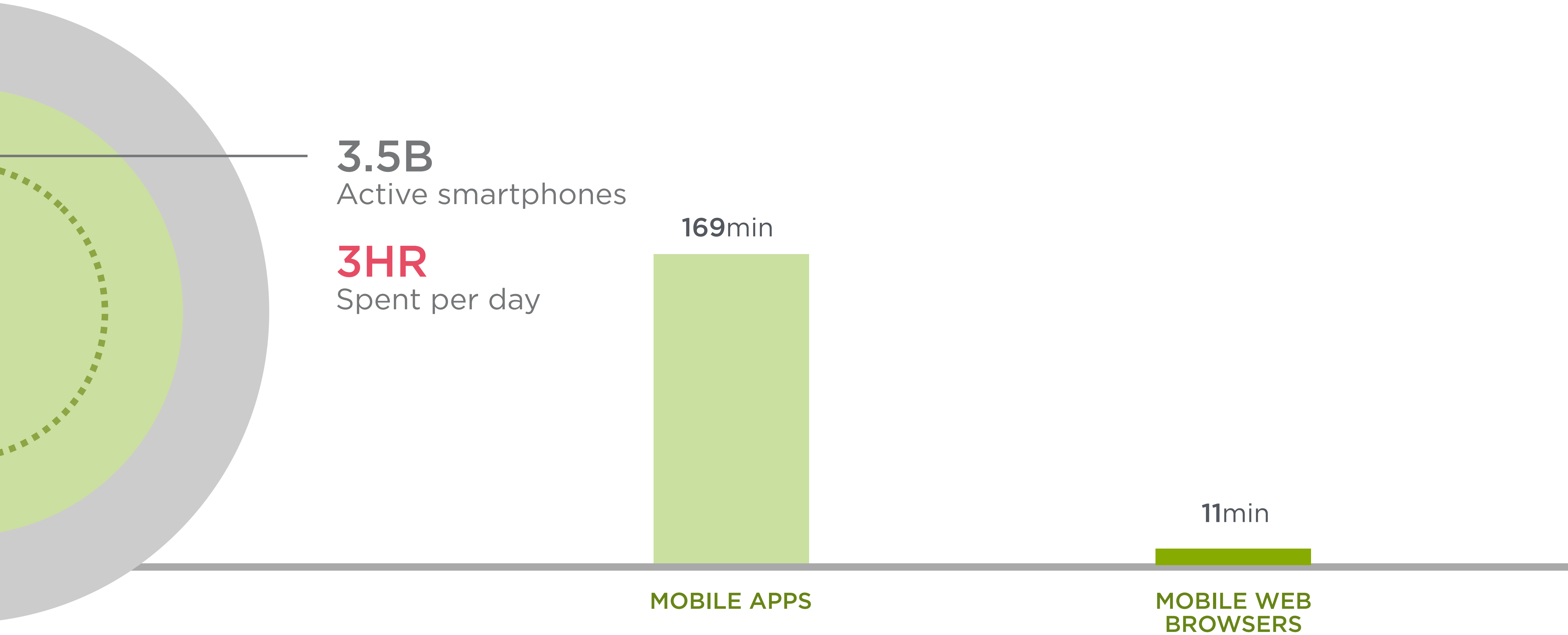
Don't be afraid to educate contextually

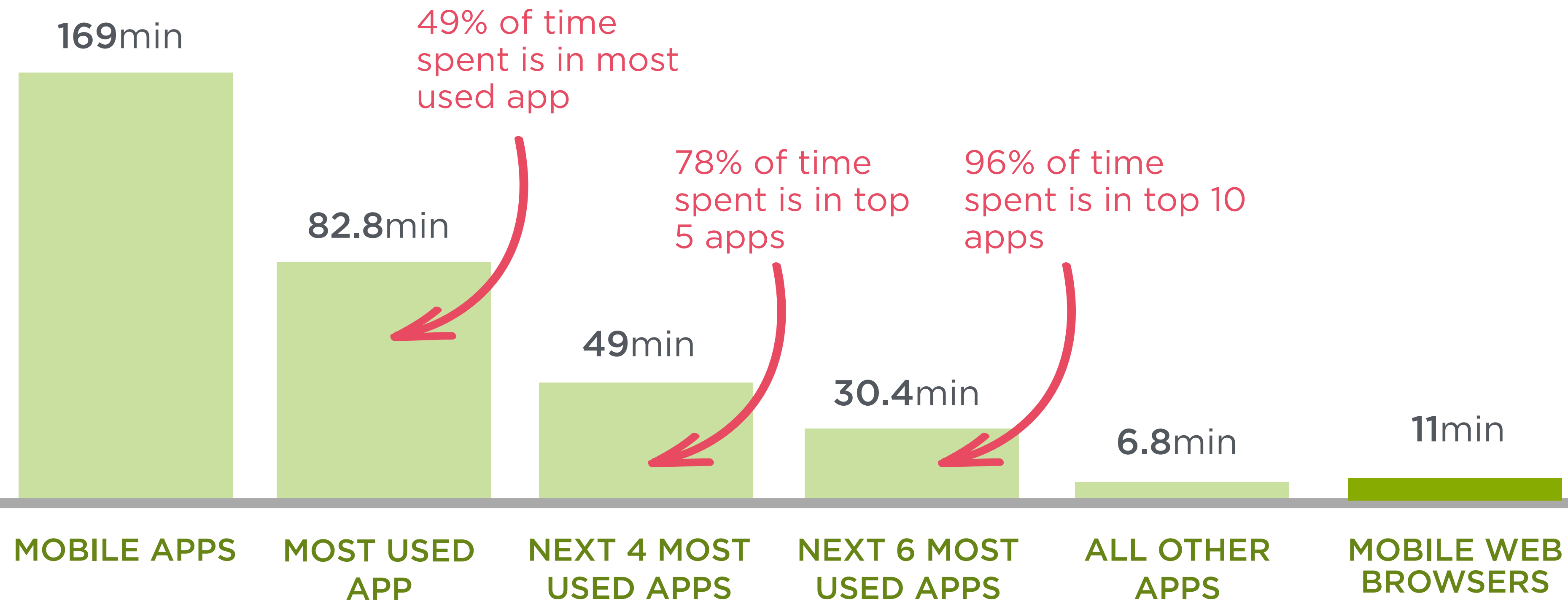
but do so with integrated UI



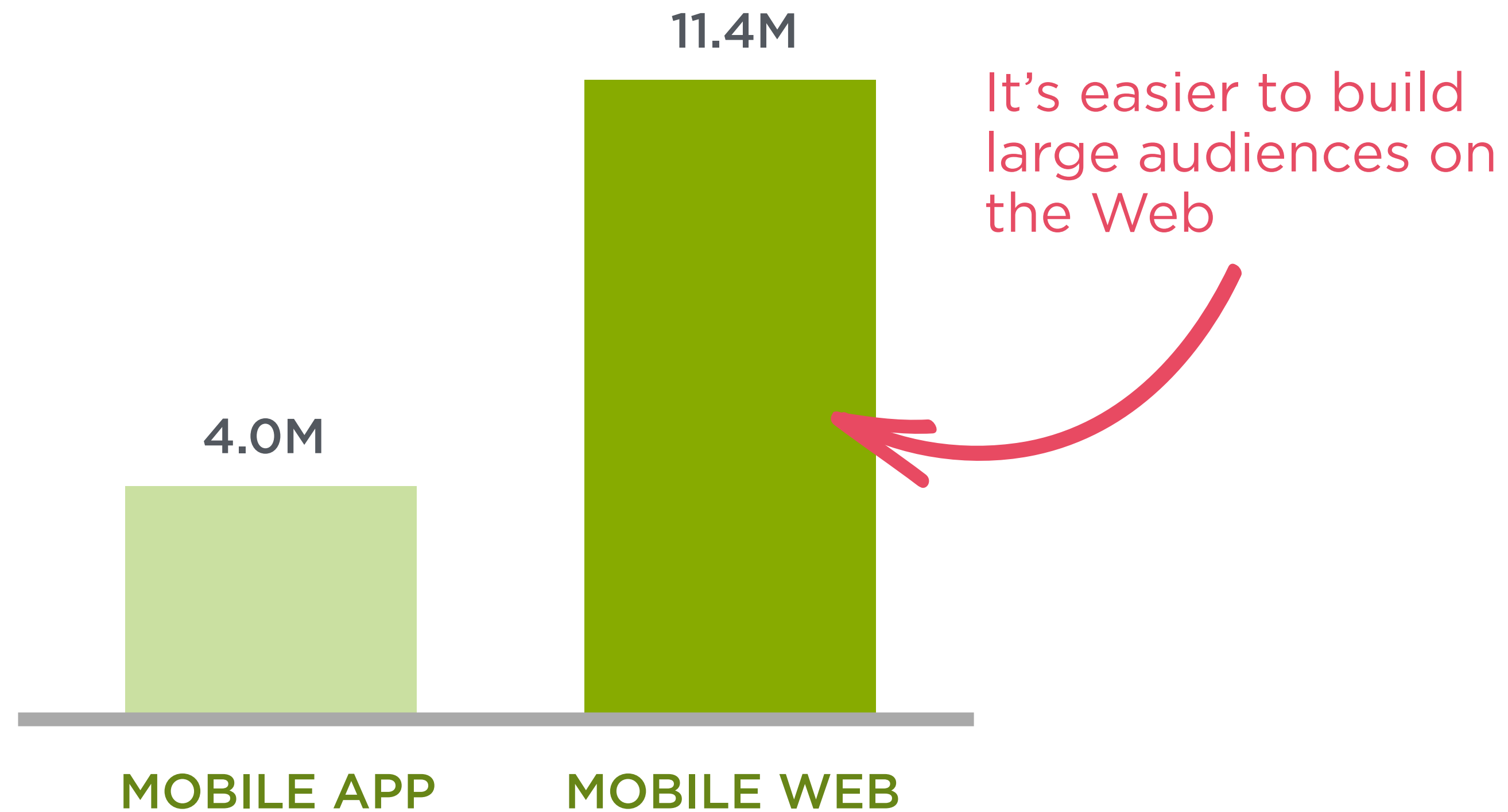
Product onboarding

- Get to product value asap—but not faster
- Ruthlessly edit distractions from product value
- Teach in the moment with integrated UI



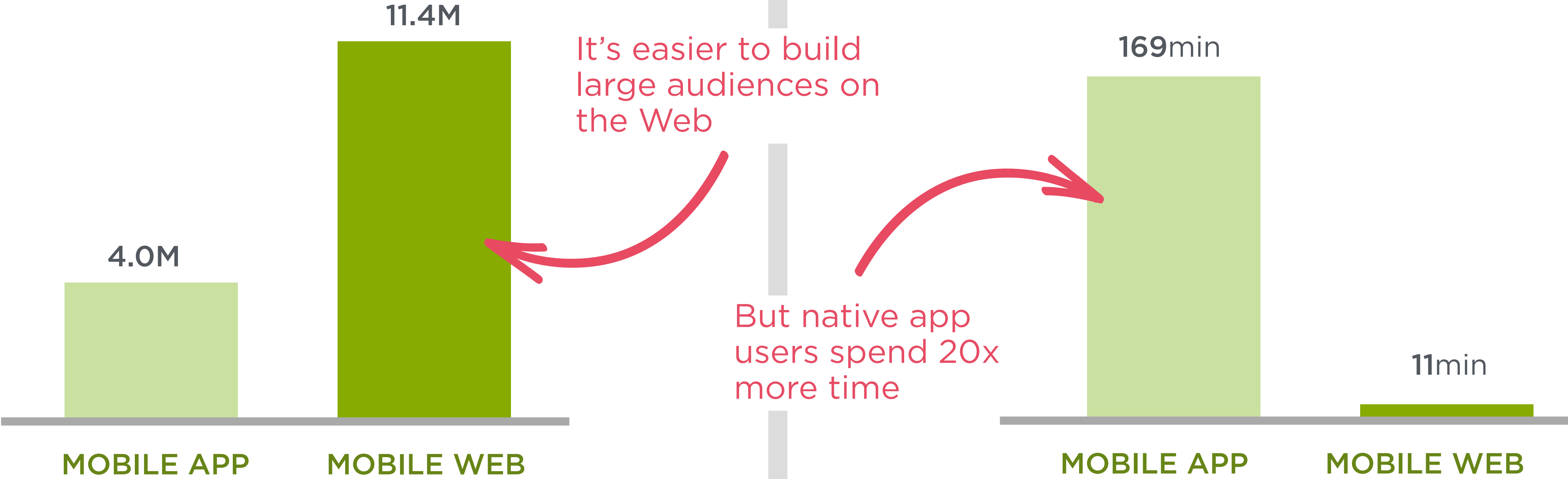


Monthly Unique Visitors

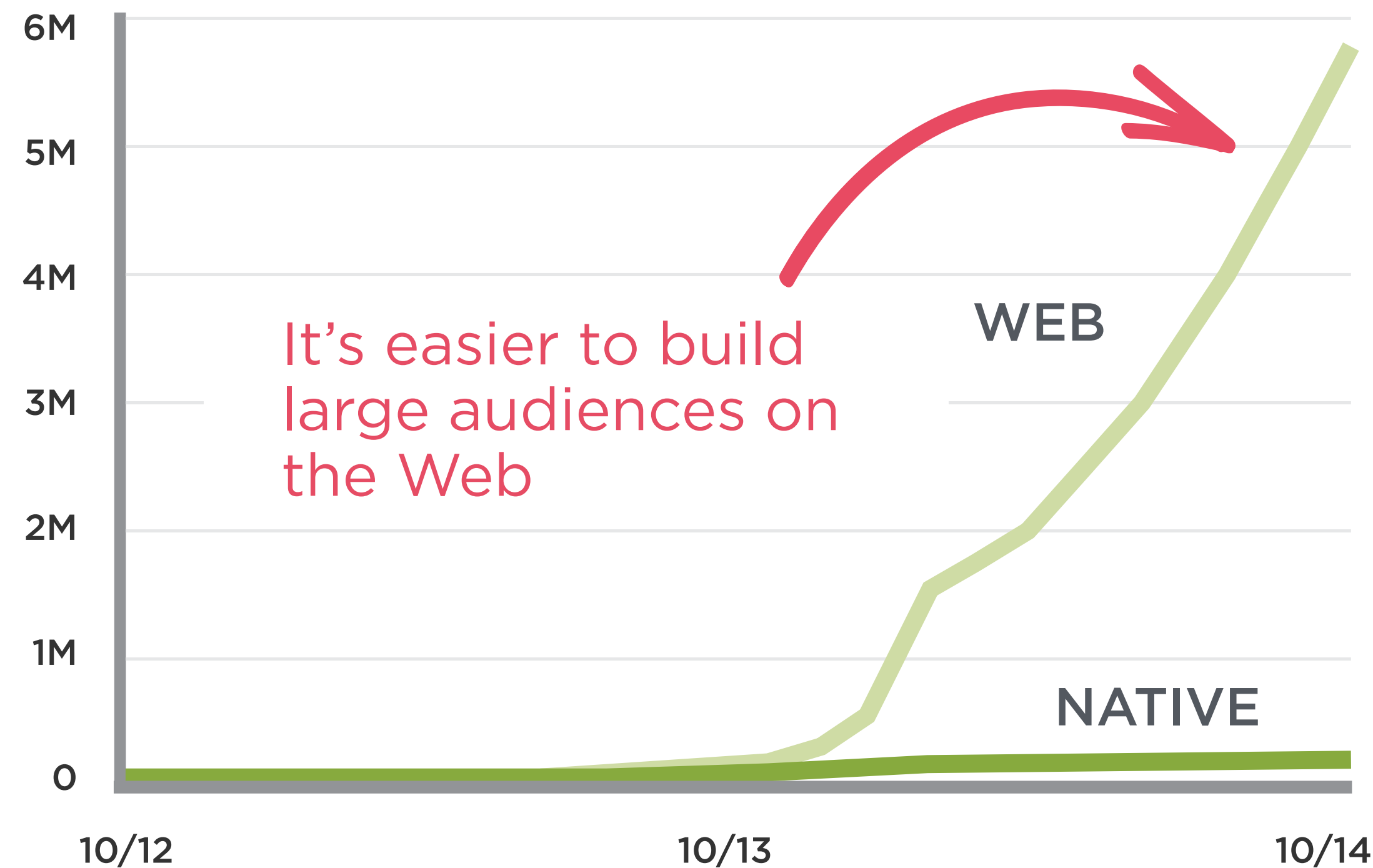


MONTHLY UNIQUE VISITORS

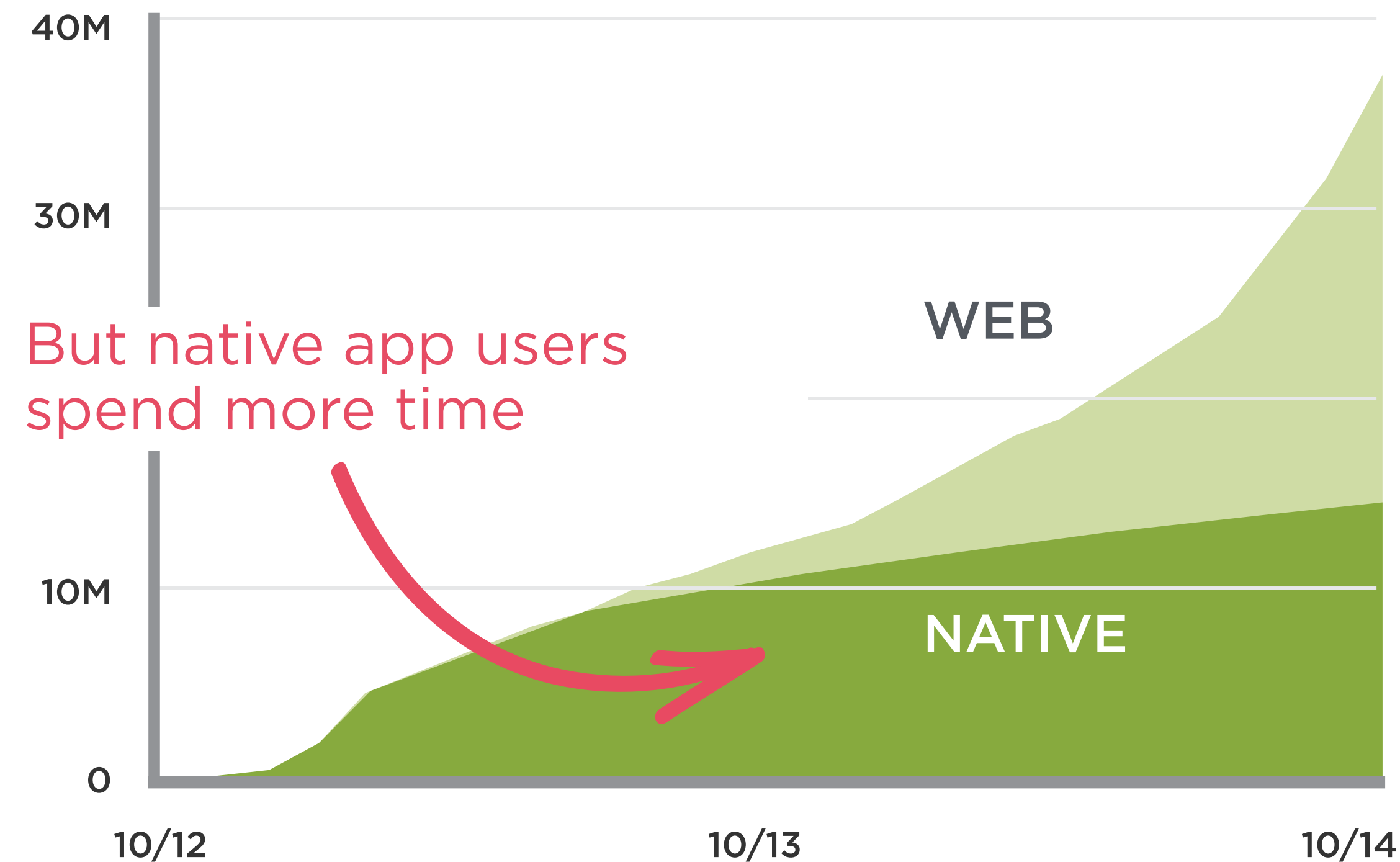
AVG. MONTHLY MINUTES PER VISITOR



CUMULATIVE VOTERS



CUMULATIVE VOTES



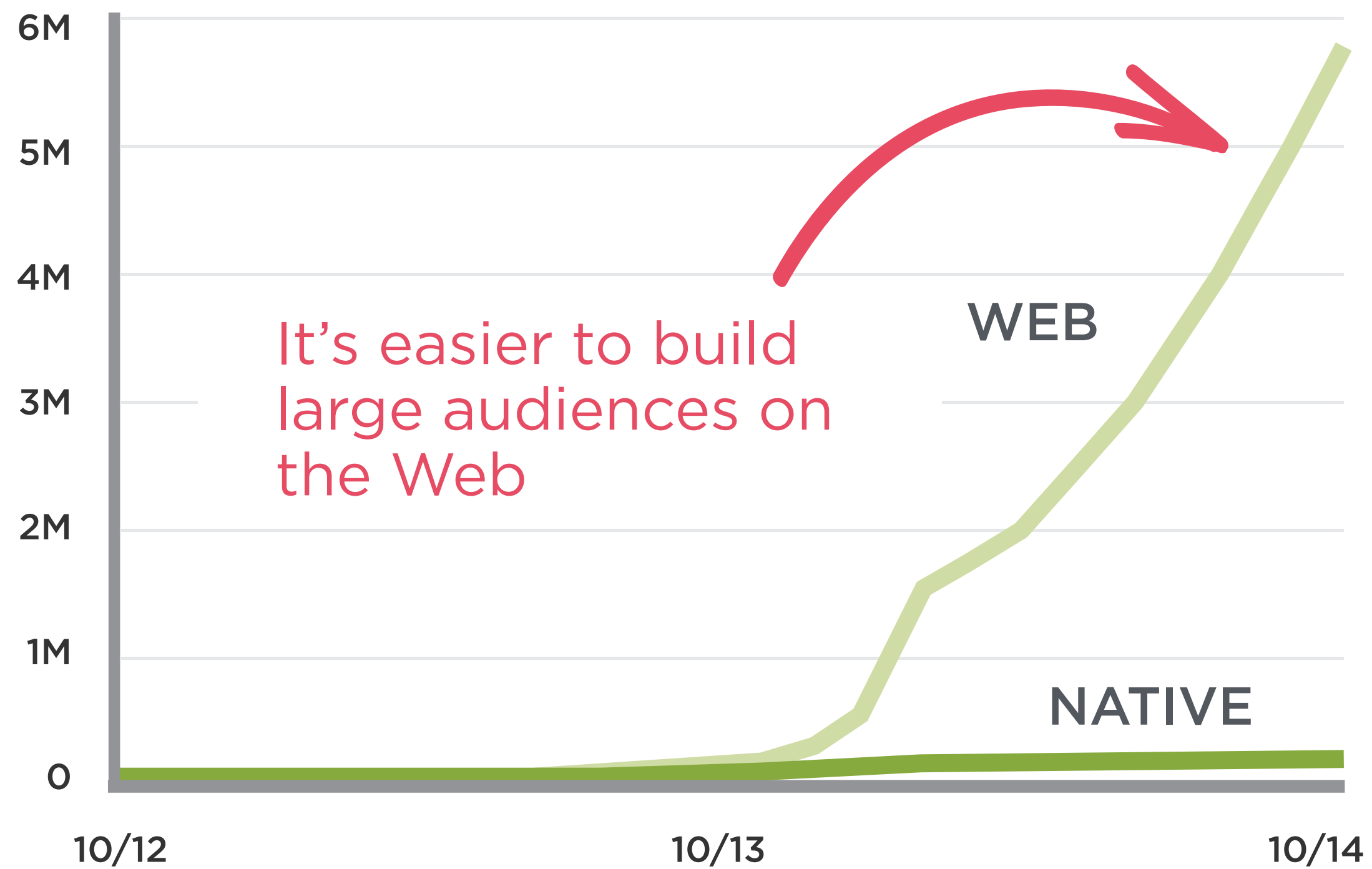
RICH



&



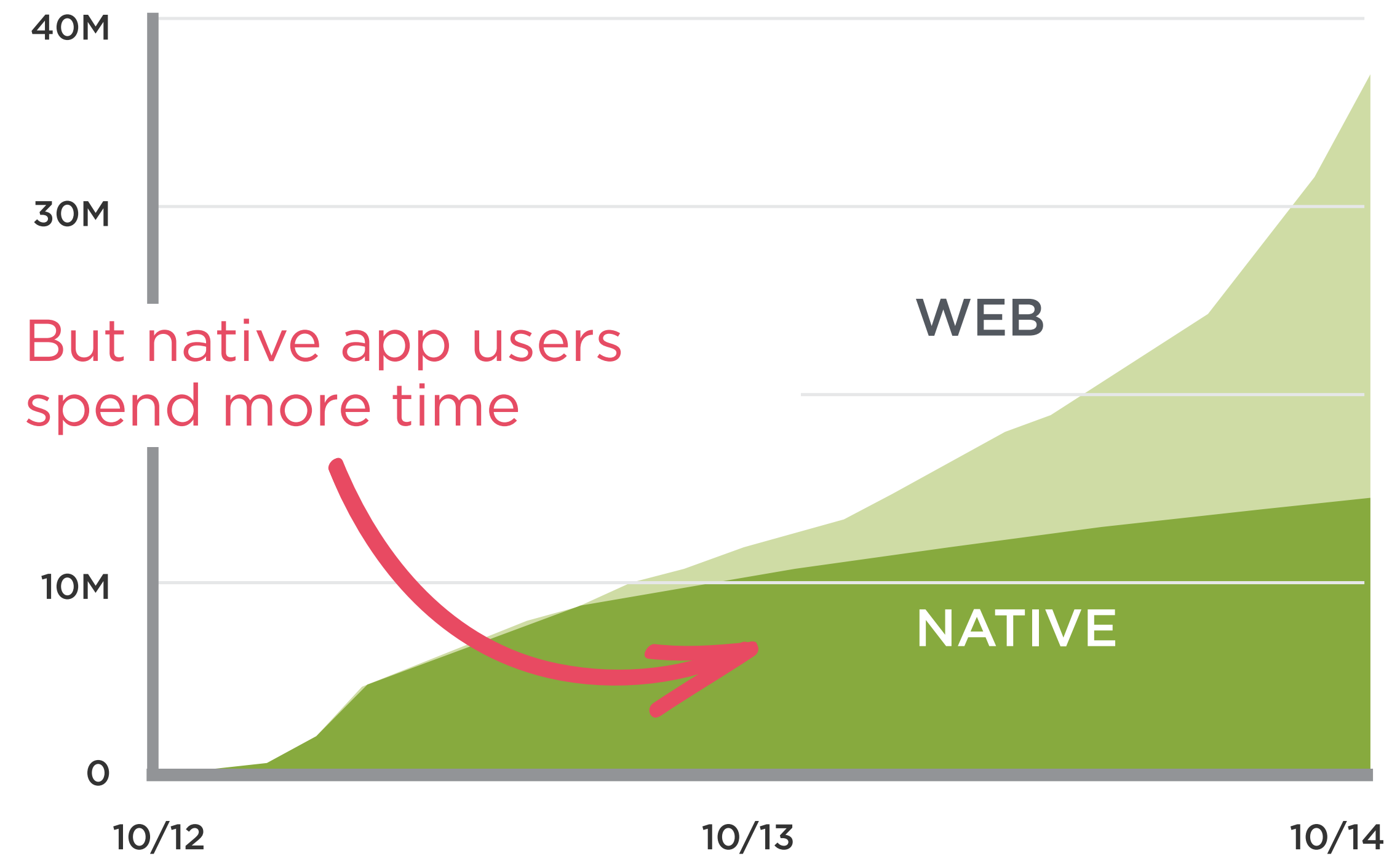
REACH



It's easier to build large audiences on the Web

WEB

NATIVE



But native app users spend more time

WEB

NATIVE



3.5B

Active smartphones

3HR

Spent per day

- are additive & mostly within native apps
- where onboarding can help retain users
- and the Web can help attract them



3.5B
Active smartphones

3HR
Spent per day

80x
Times used per day

80x

per day, people log
into their iPhones

76x

separate phone
sessions a day
(Android study)





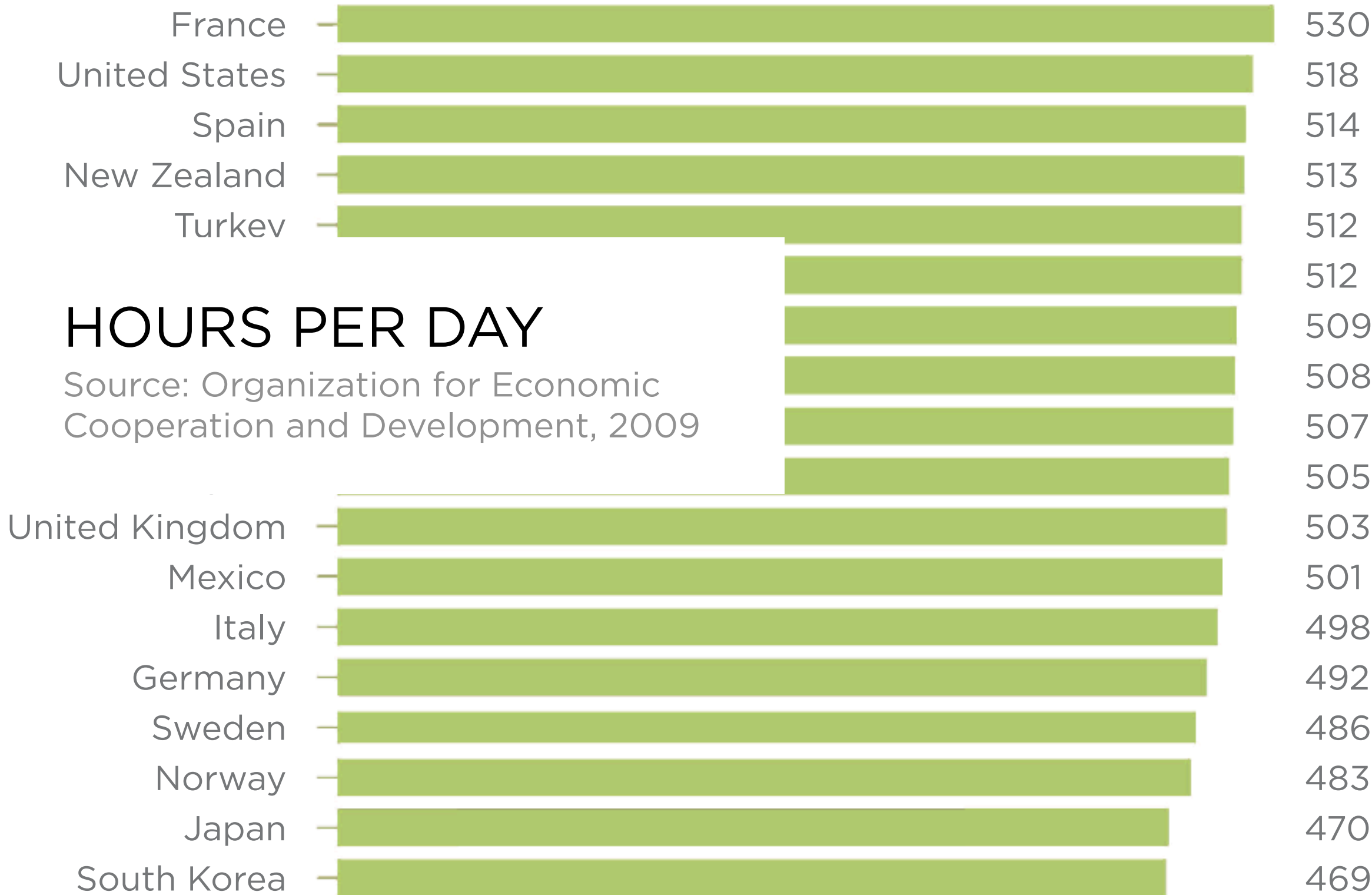
3.5B
Active smartphones

3HR
Spent per day

80x
Times used per day

8.3

AVG. SLEEP TIME GLOBALLY



HOURS PER DAY

Source: Organization for Economic Cooperation and Development, 2009

AVG. SLEEP TIME GLOBALLY



HOURS PER DAY

Source: Organization for Economic Cooperation and Development, 2009



8.3

12

WAKING MINUTES PER USE

30s

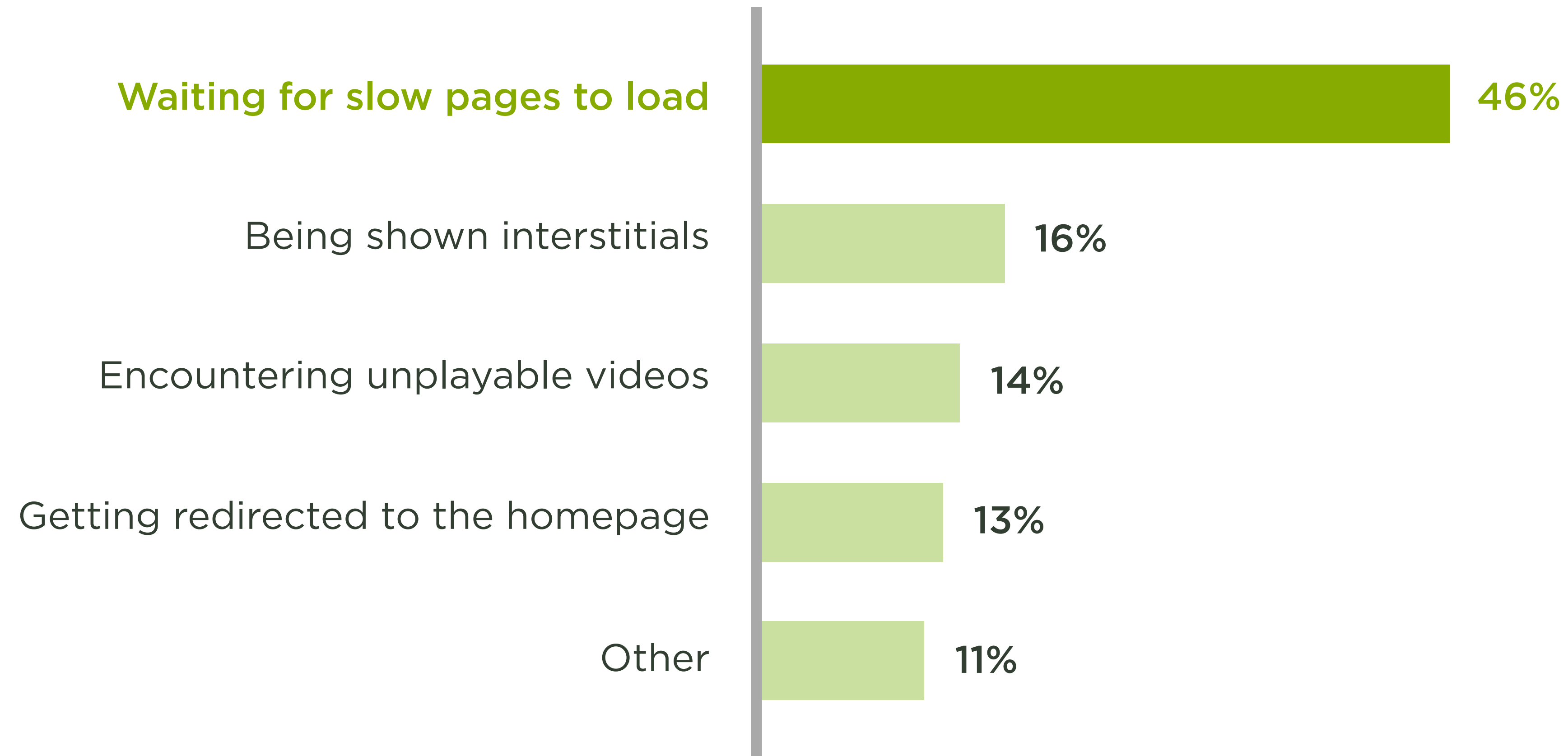
more than half of sessions
are 30secs or less

40%

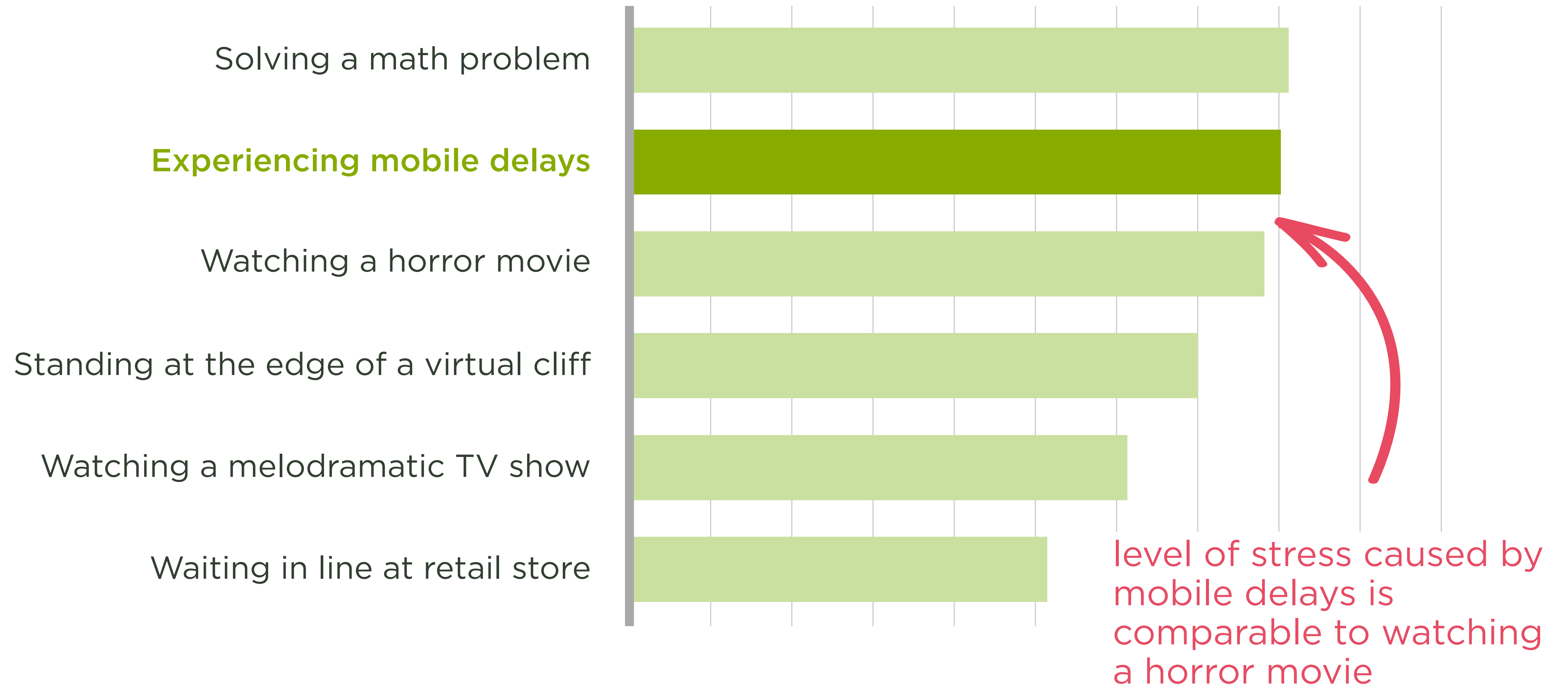
of smartphone app usage
lasts less than 15sec.

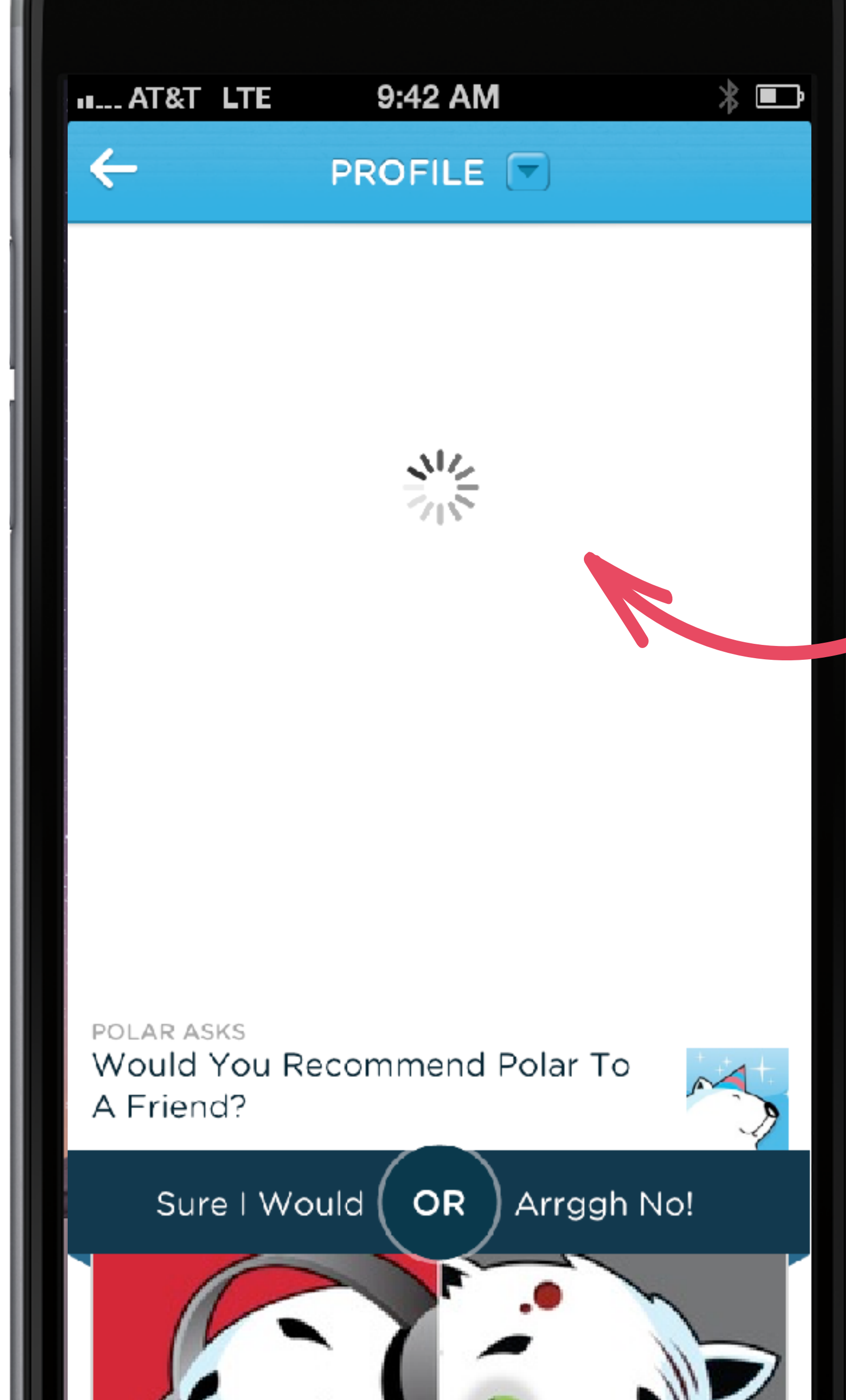


What do you dislike most when browsing Web on mobile?



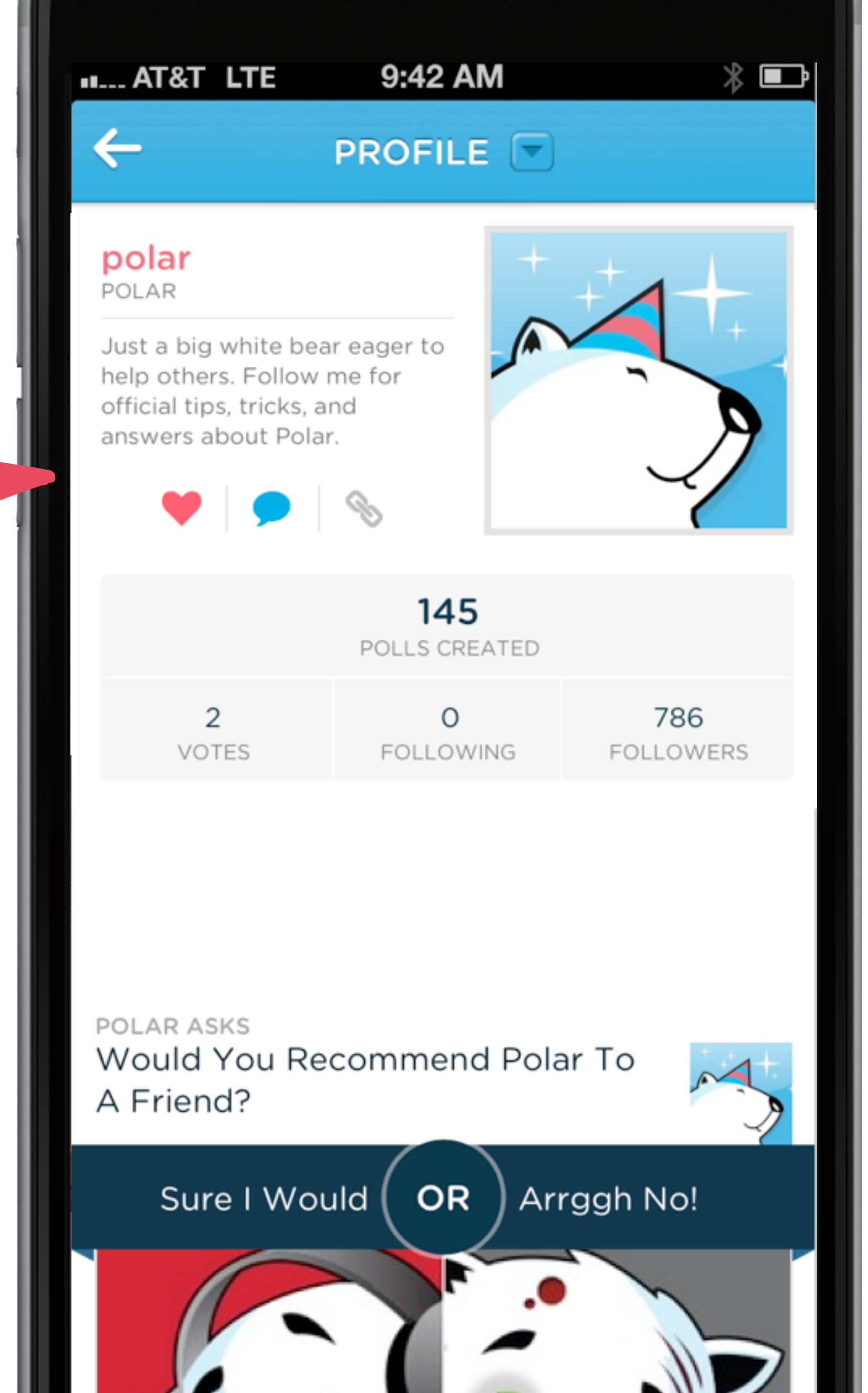
Cognitive Load with Stressful Situations



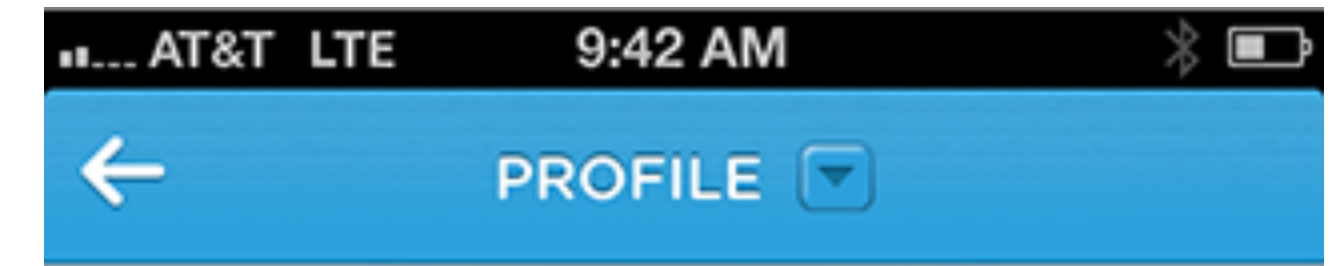
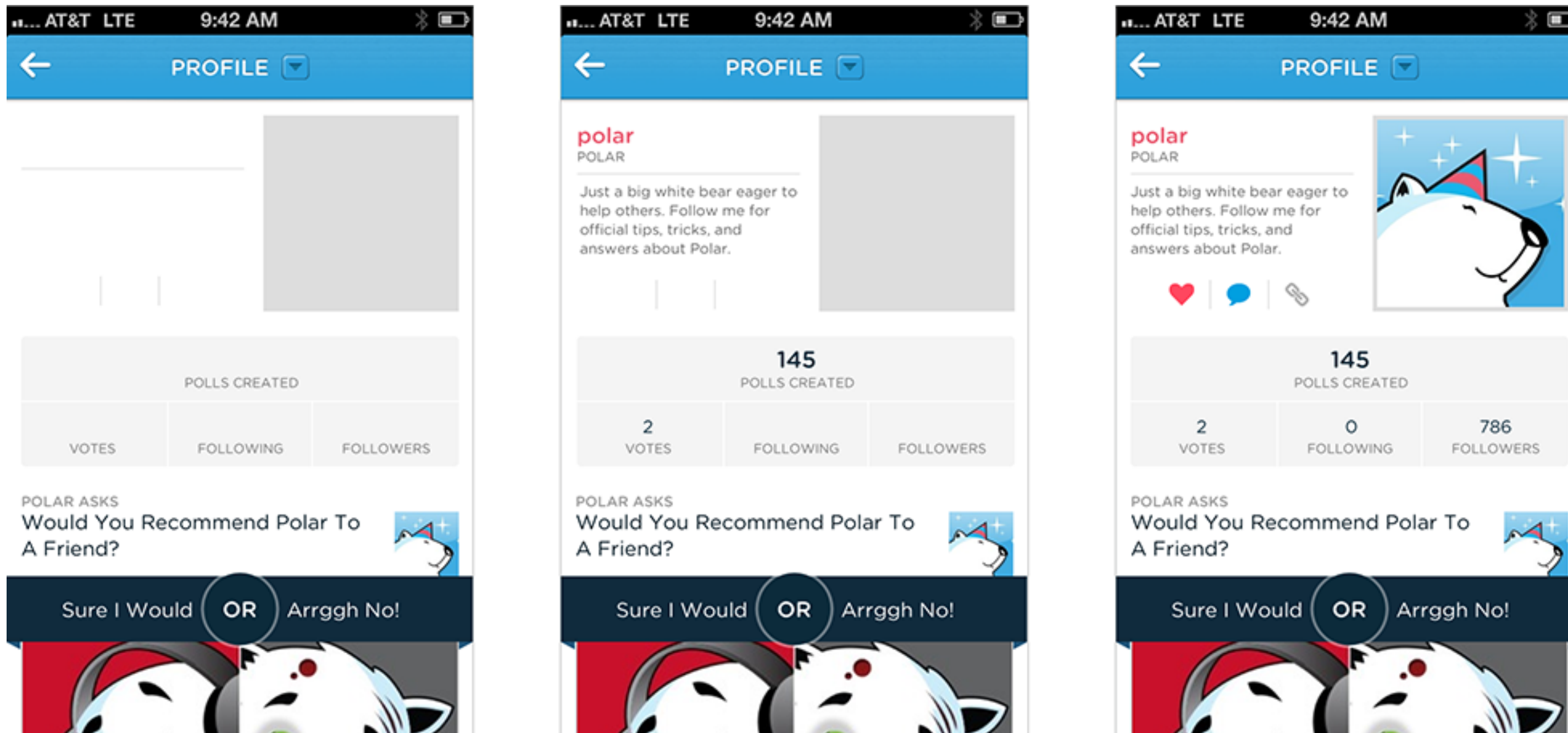


progress indicator

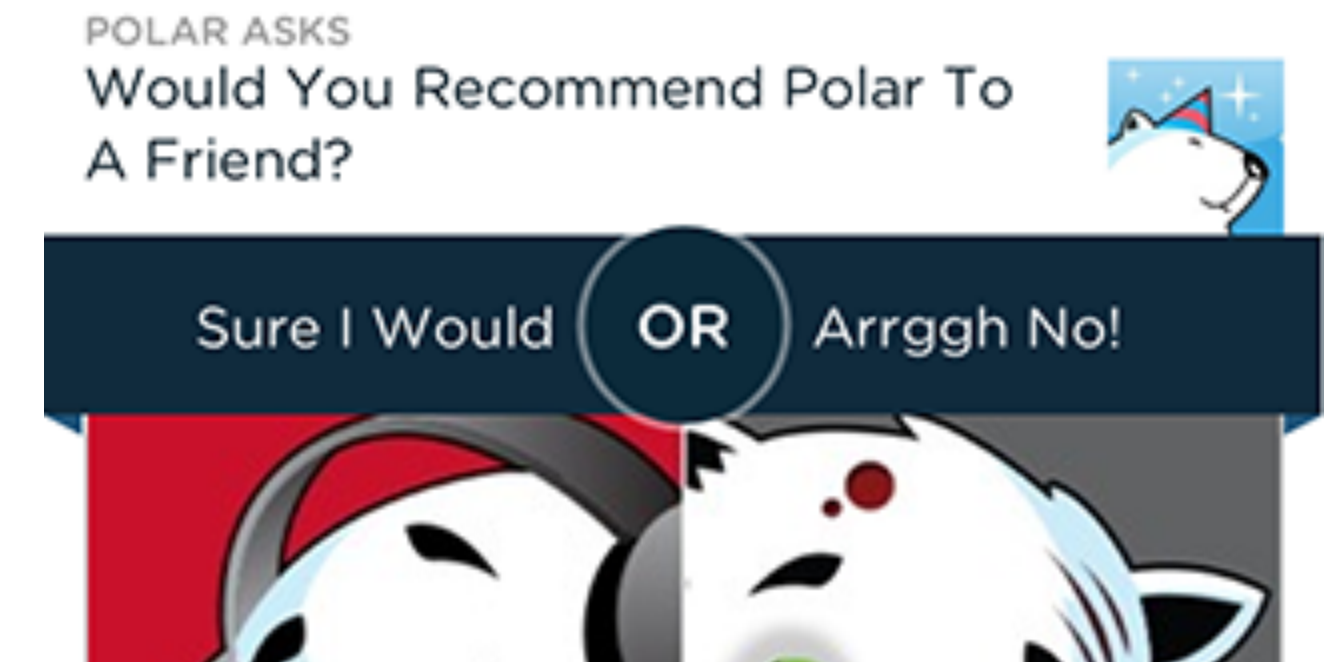
skeleton screens



Focus on the progress



Not the indicator

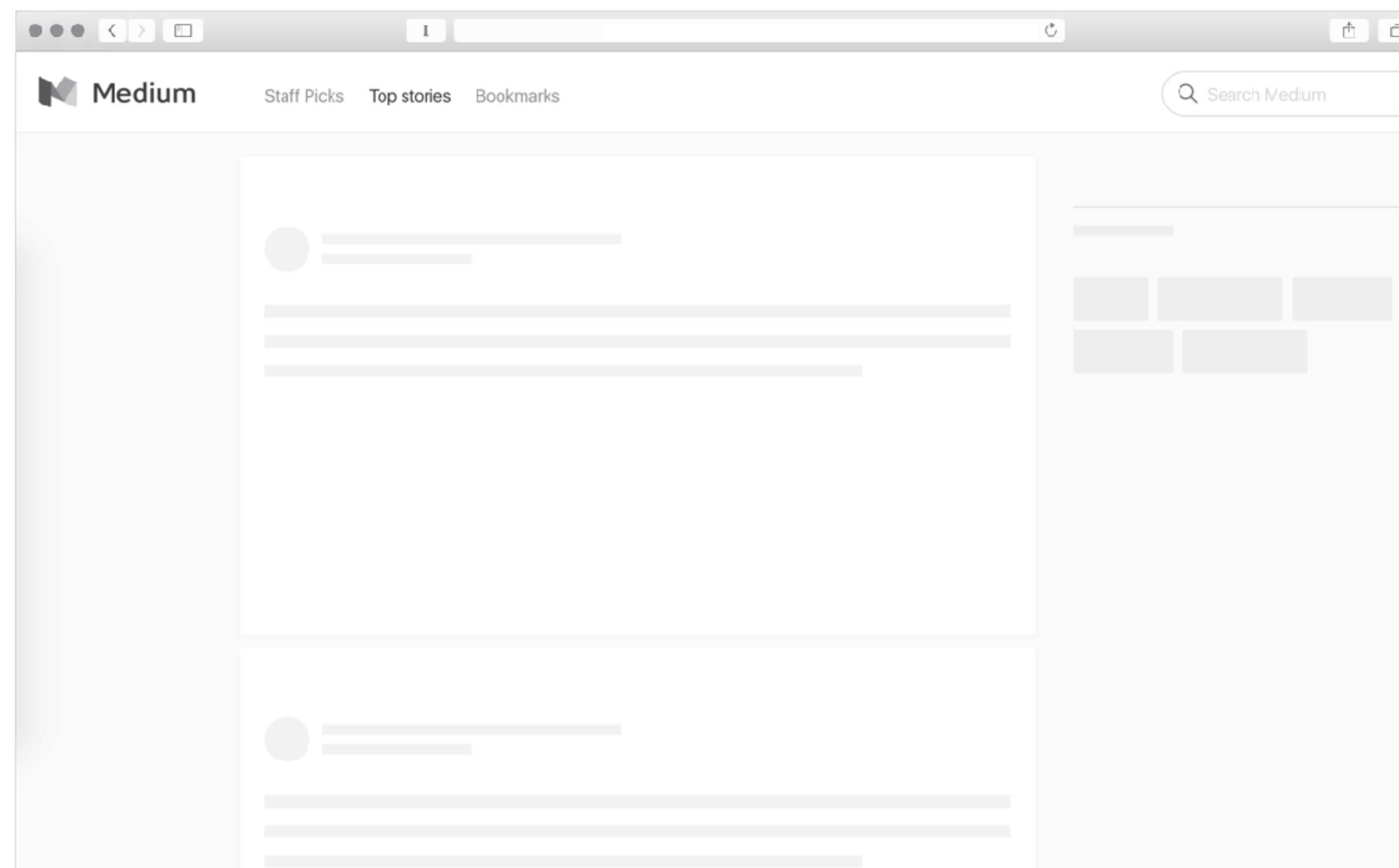
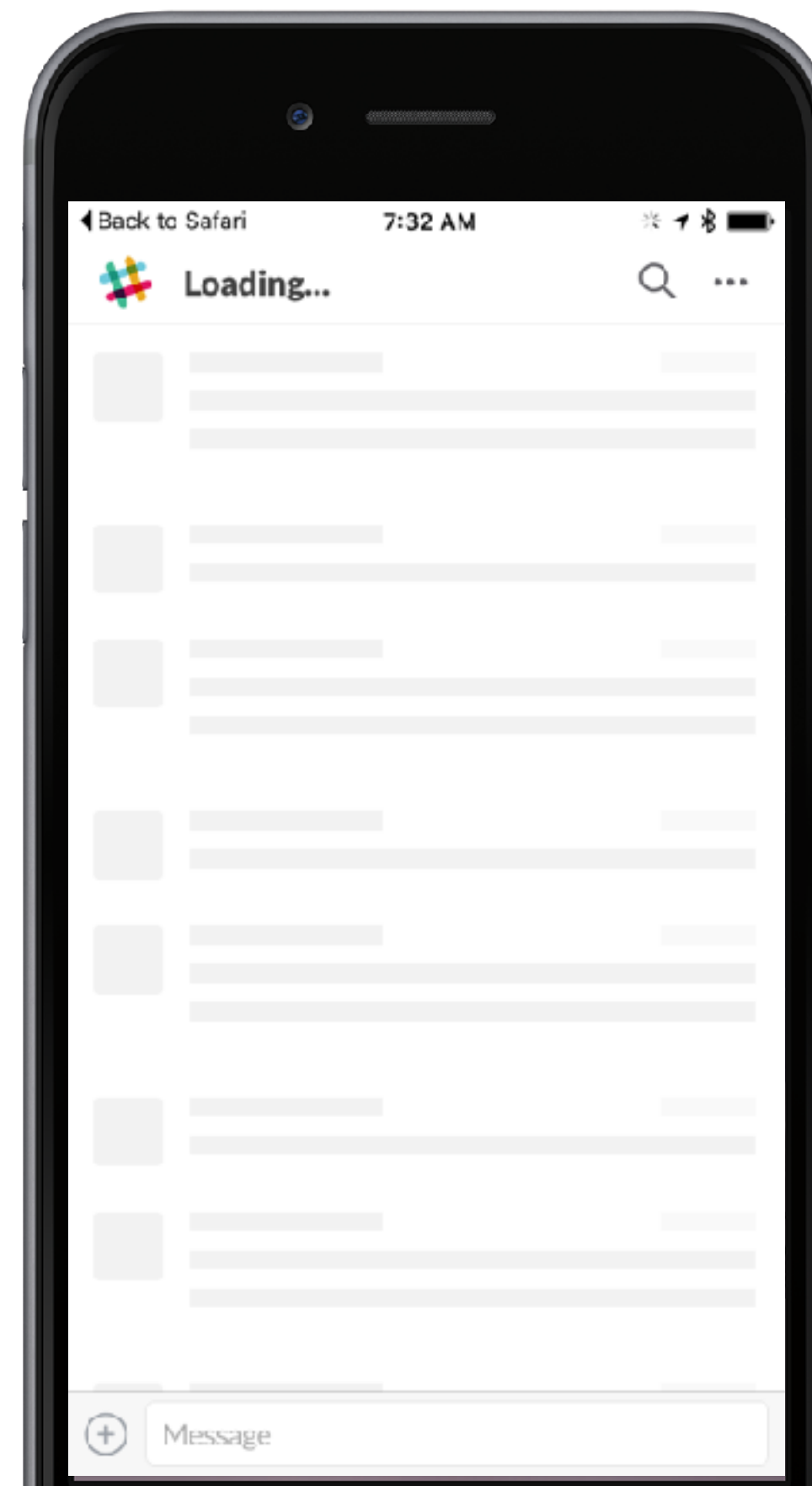
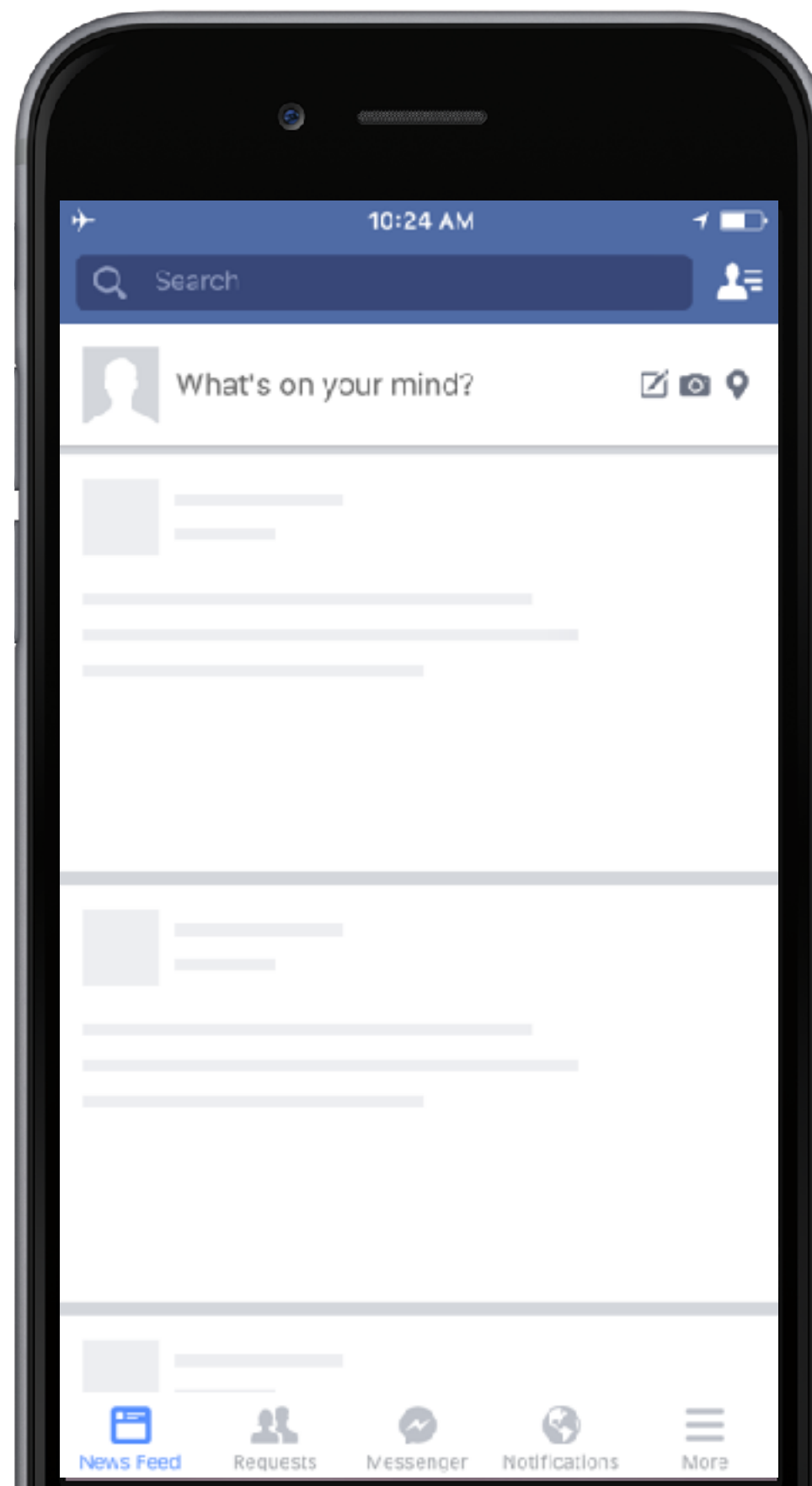


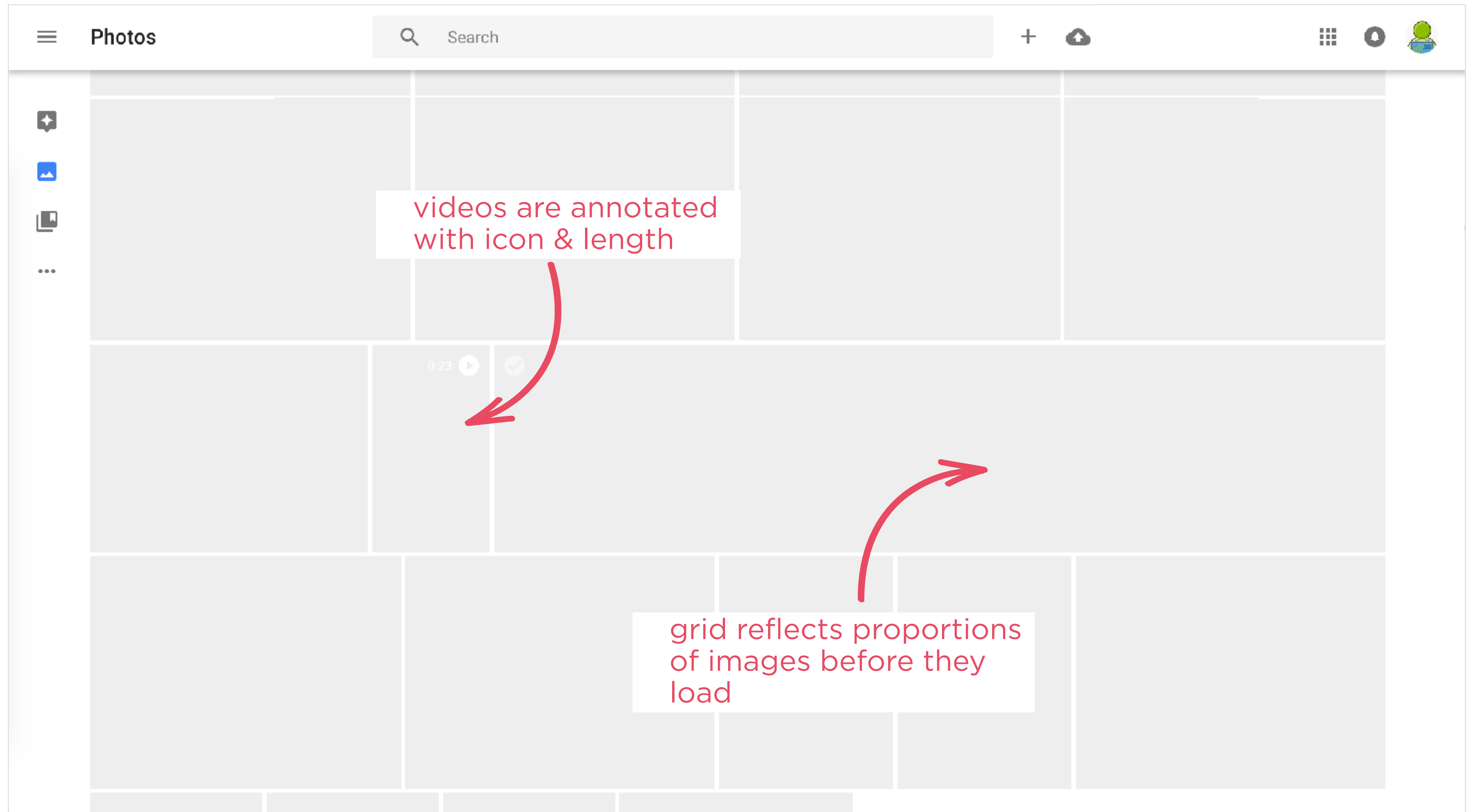
Skeleton Screens

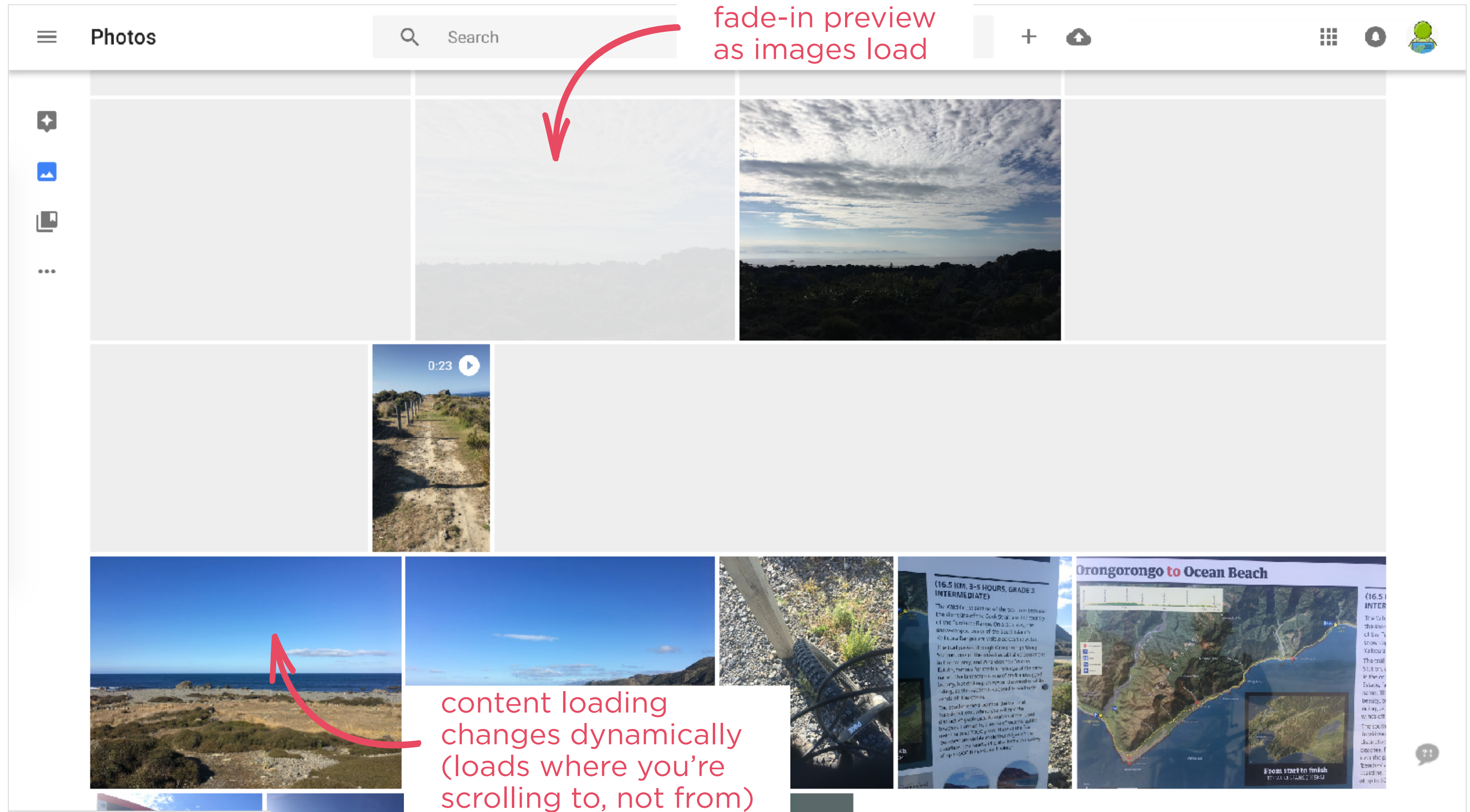
FACEBOOK

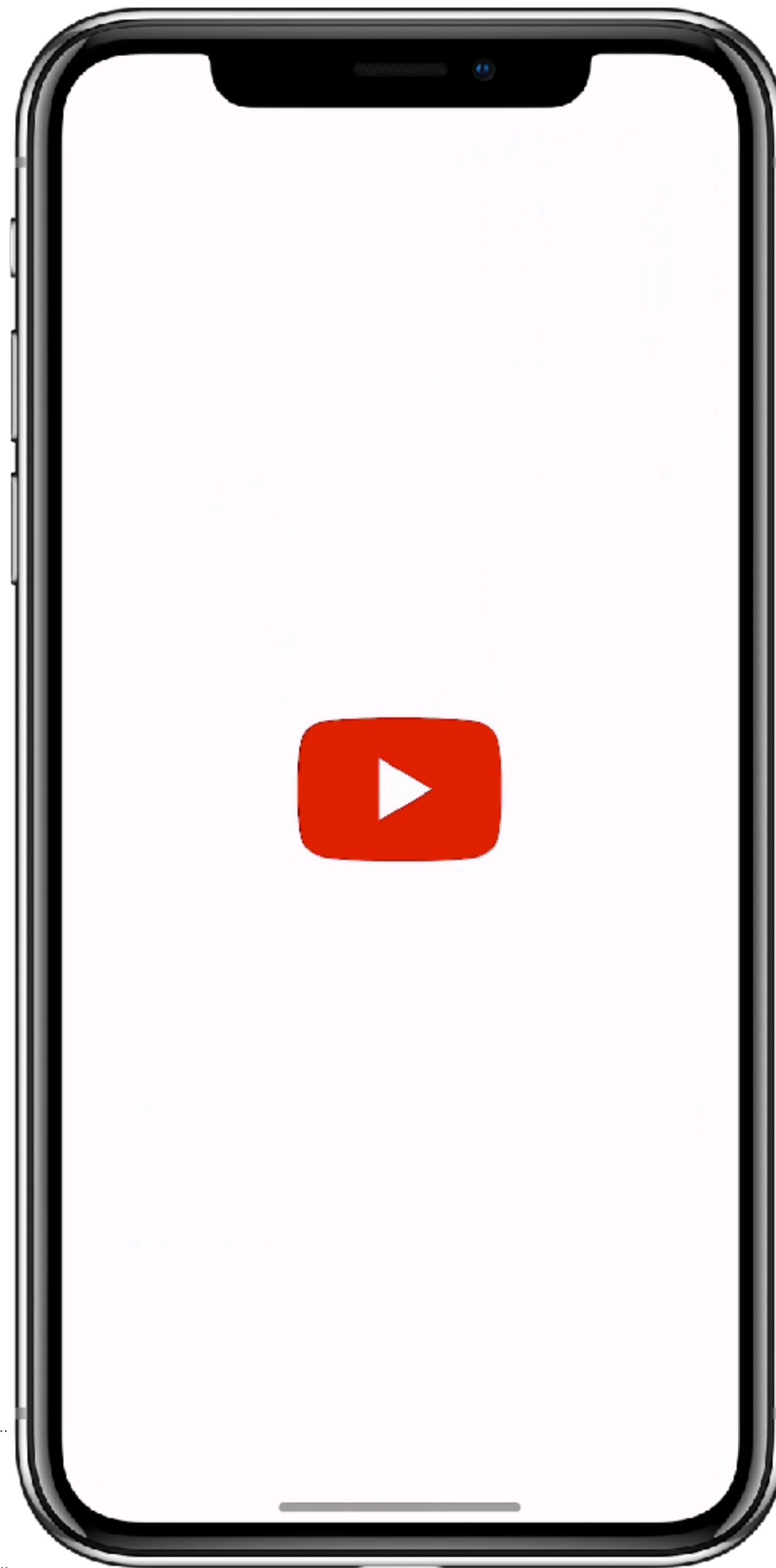
SLACK

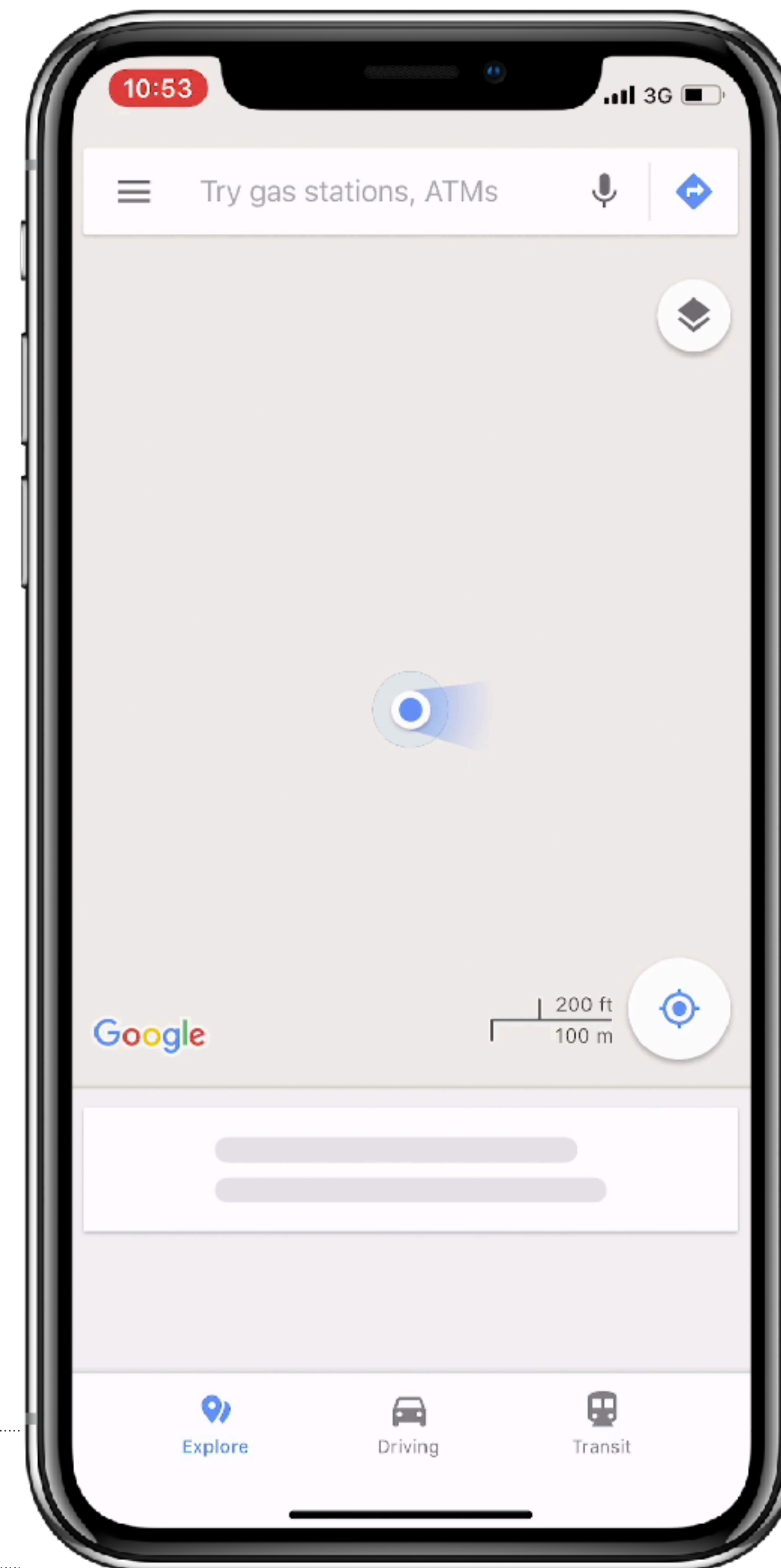
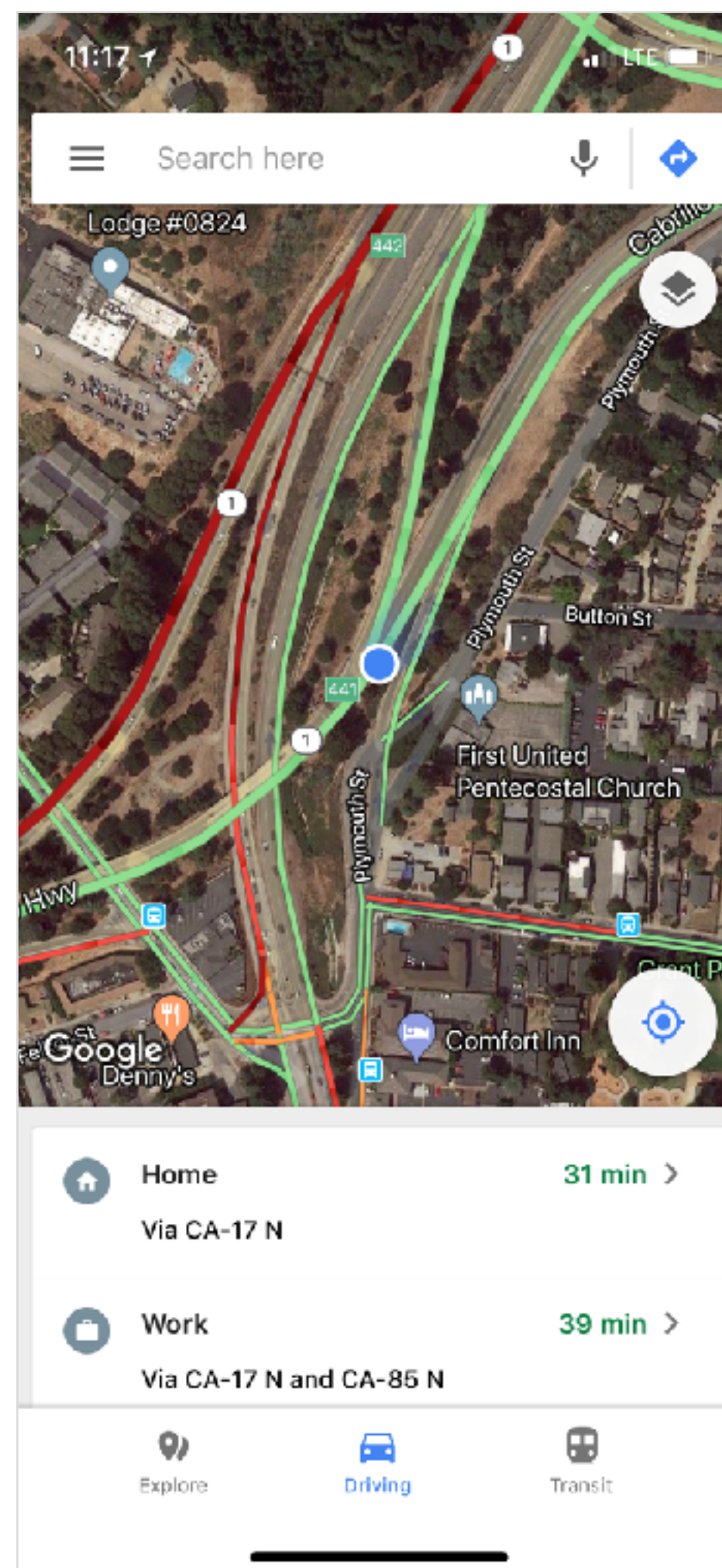
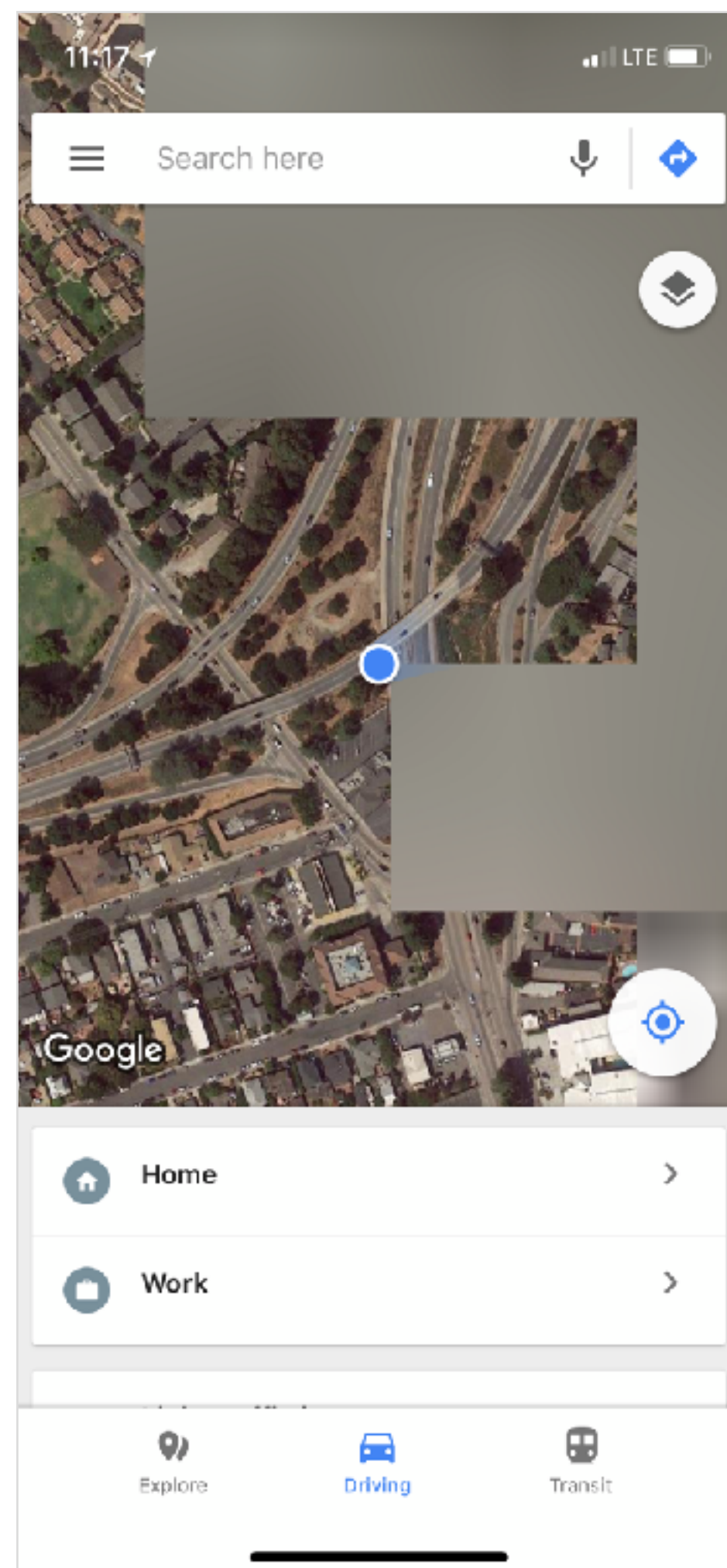
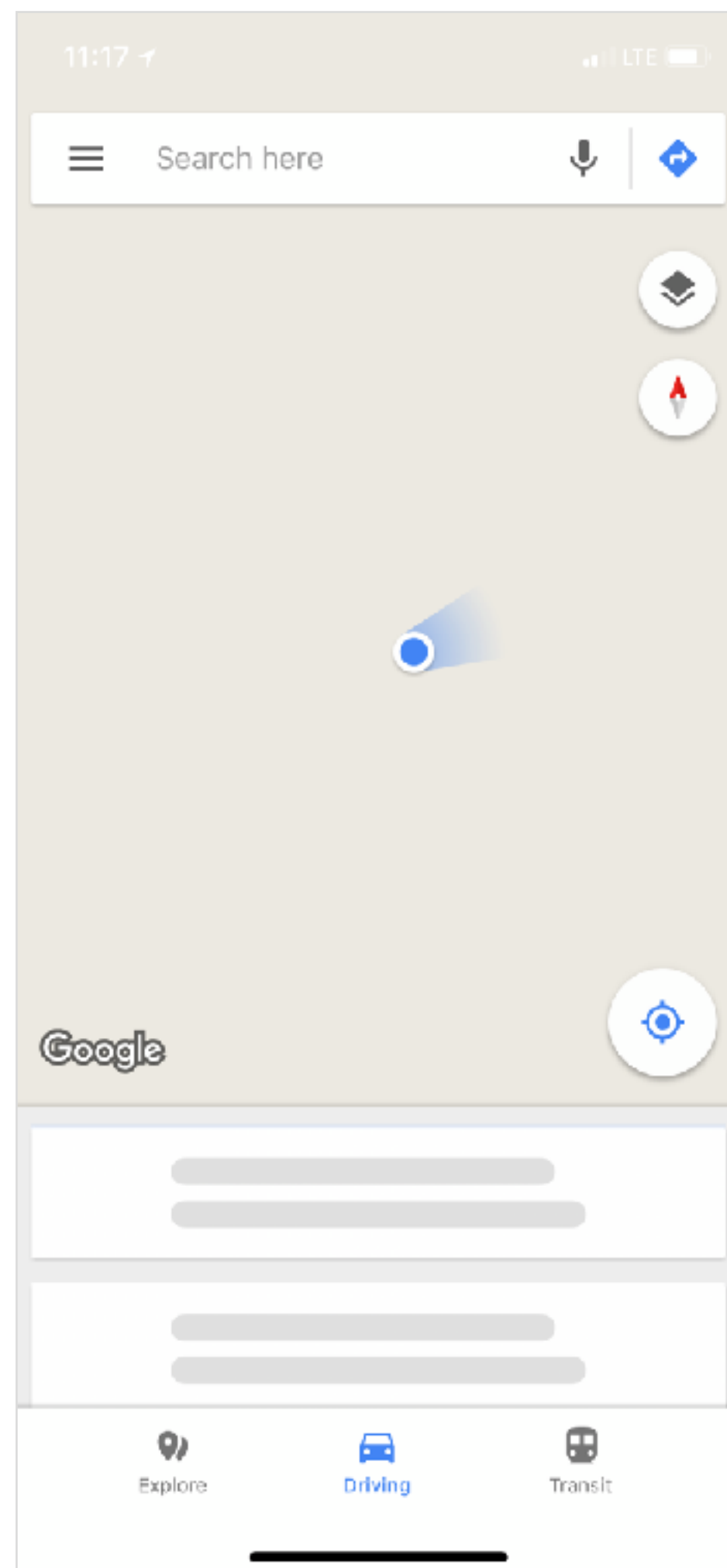
MEDIUM













3.5B

Active smartphones

3HR

Spent per day

80x

Times used per day

- many short sessions per day
- so speed really matters
- show progress not progress indicators



3.5B
Active smartphones

3HR
Spent per day

80x
Times used per day

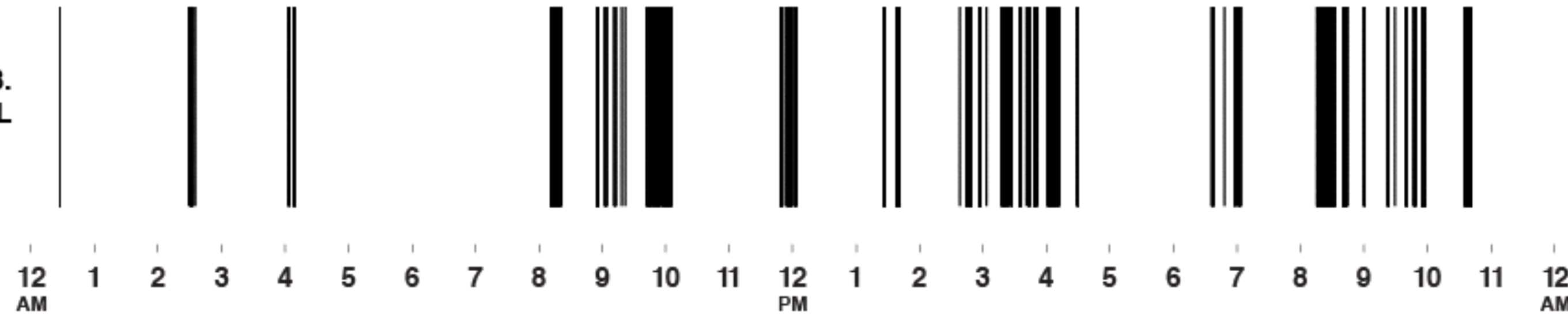
32
Touches per use

2.6K

phone touches
(keystrokes, taps)
per day



Elizabeth B.
25, Chicago, IL



average user

2,617
average daily touches

145
average daily minutes

Lori L.
45, Grandville, MI

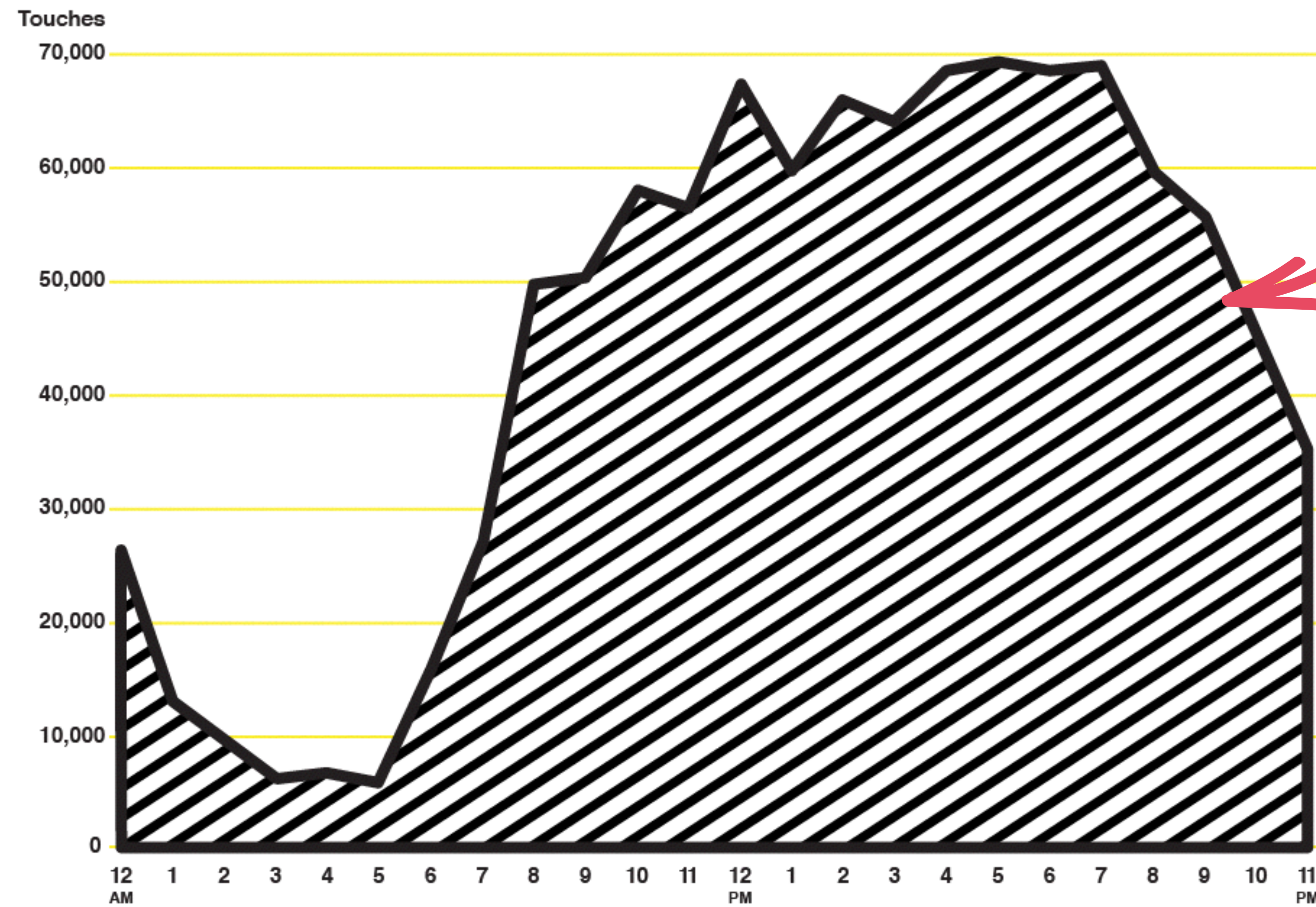


heavy user

5,427
average daily touches

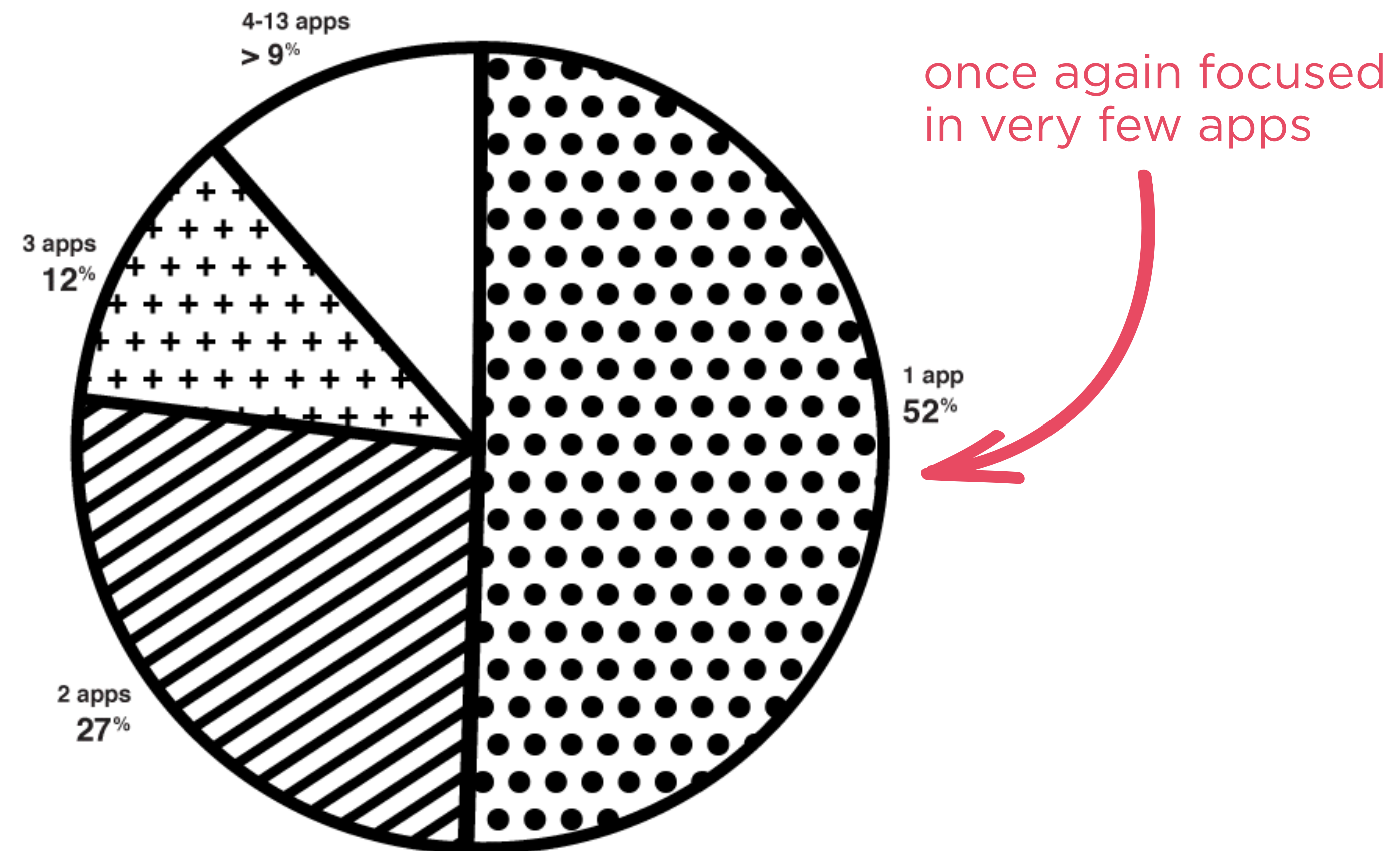
225
average daily minutes

Touches by hour of day

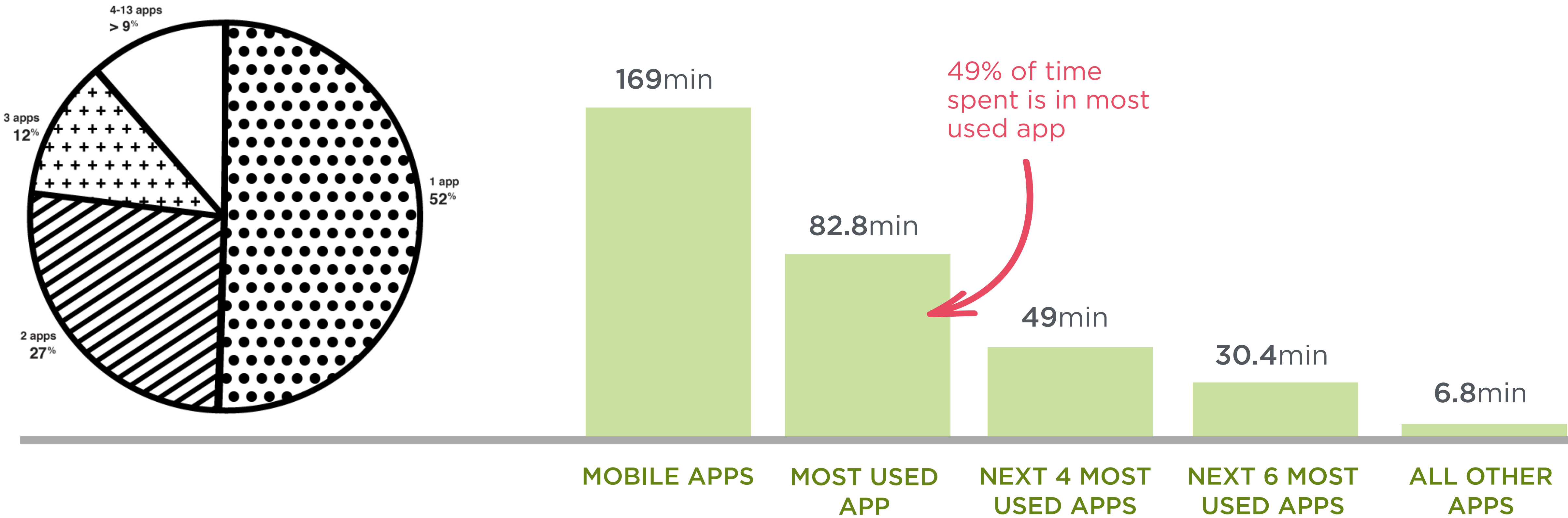


pretty much all day

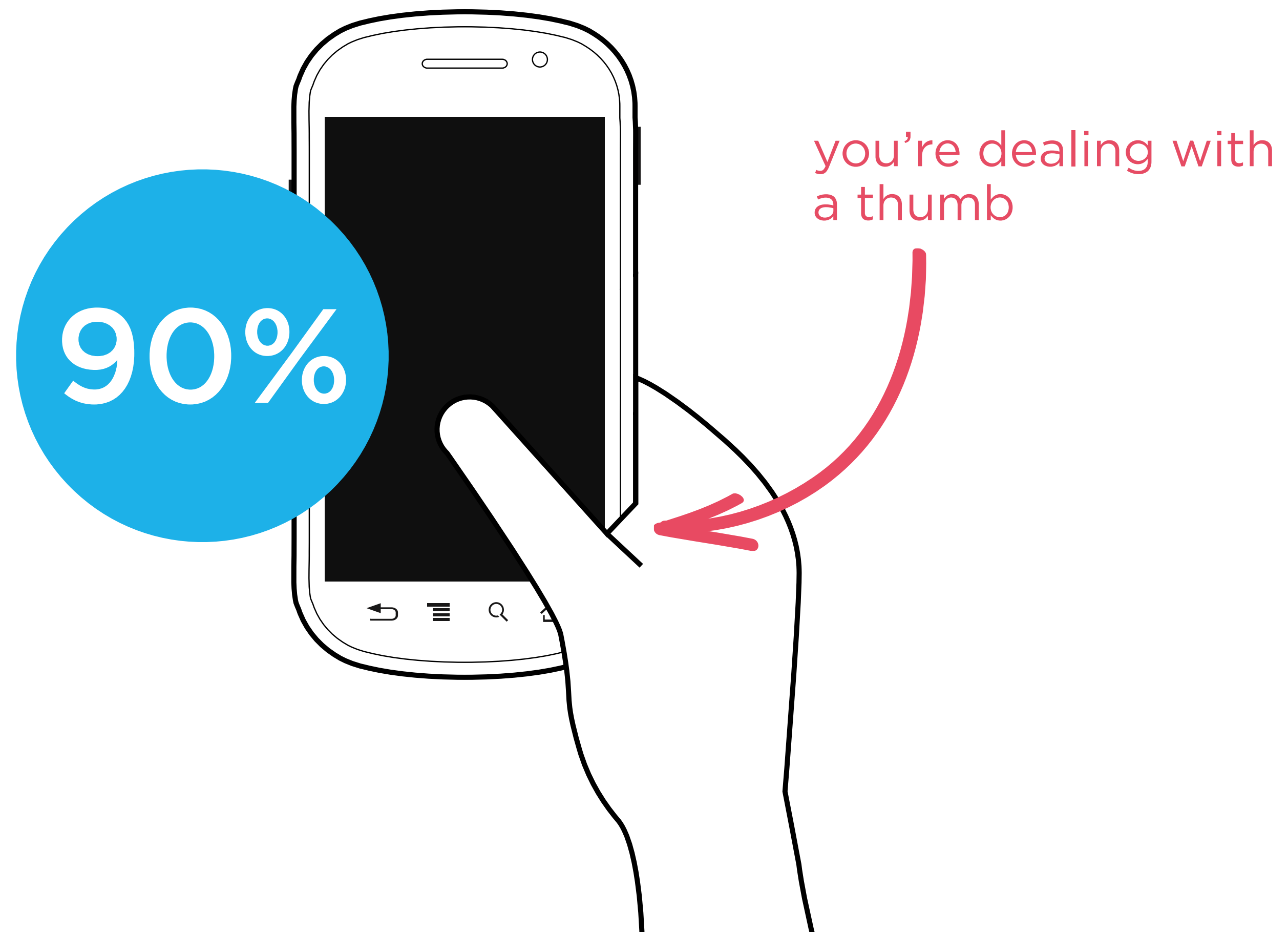
Number of Apps per Active Session



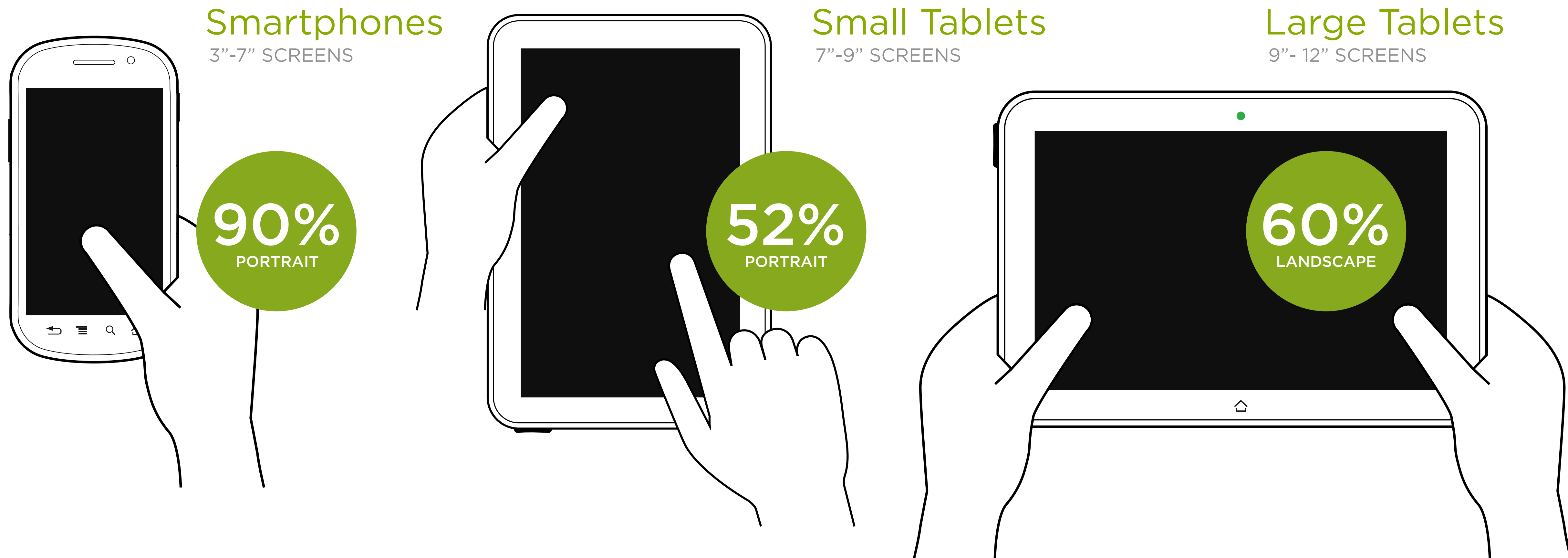
Number of Apps per Active Session



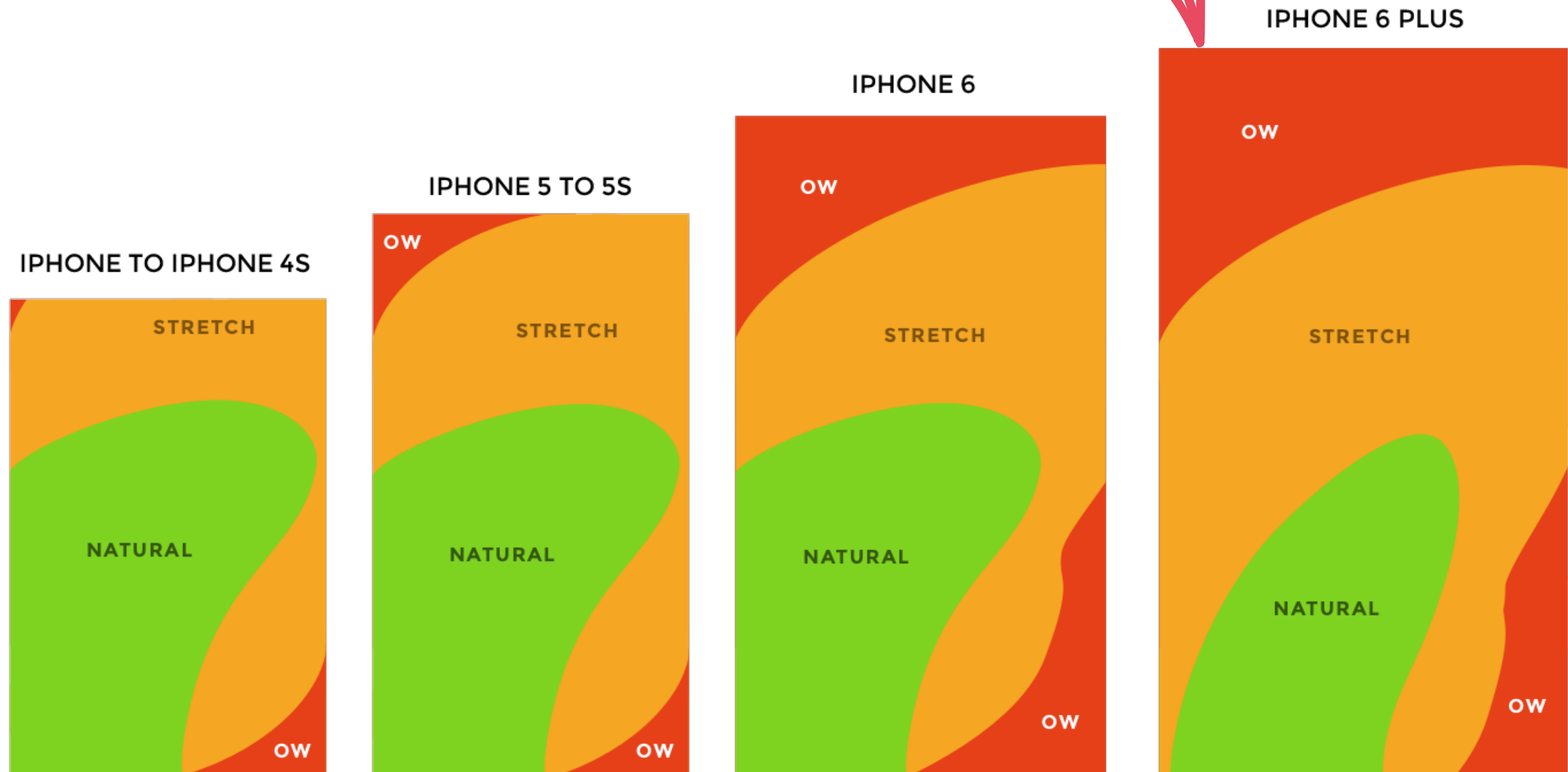
Smartphone Posture

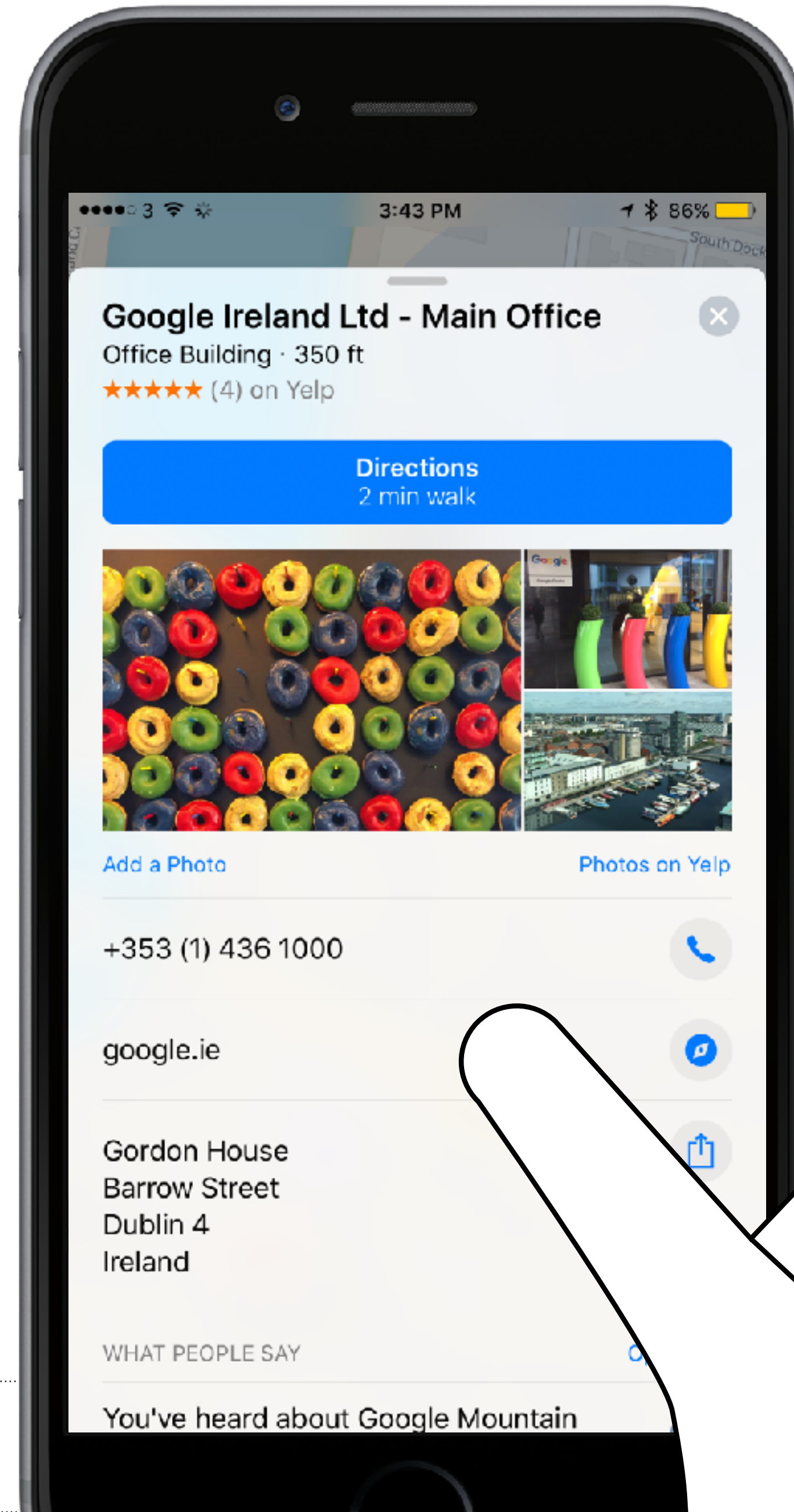


Global Device Orientation



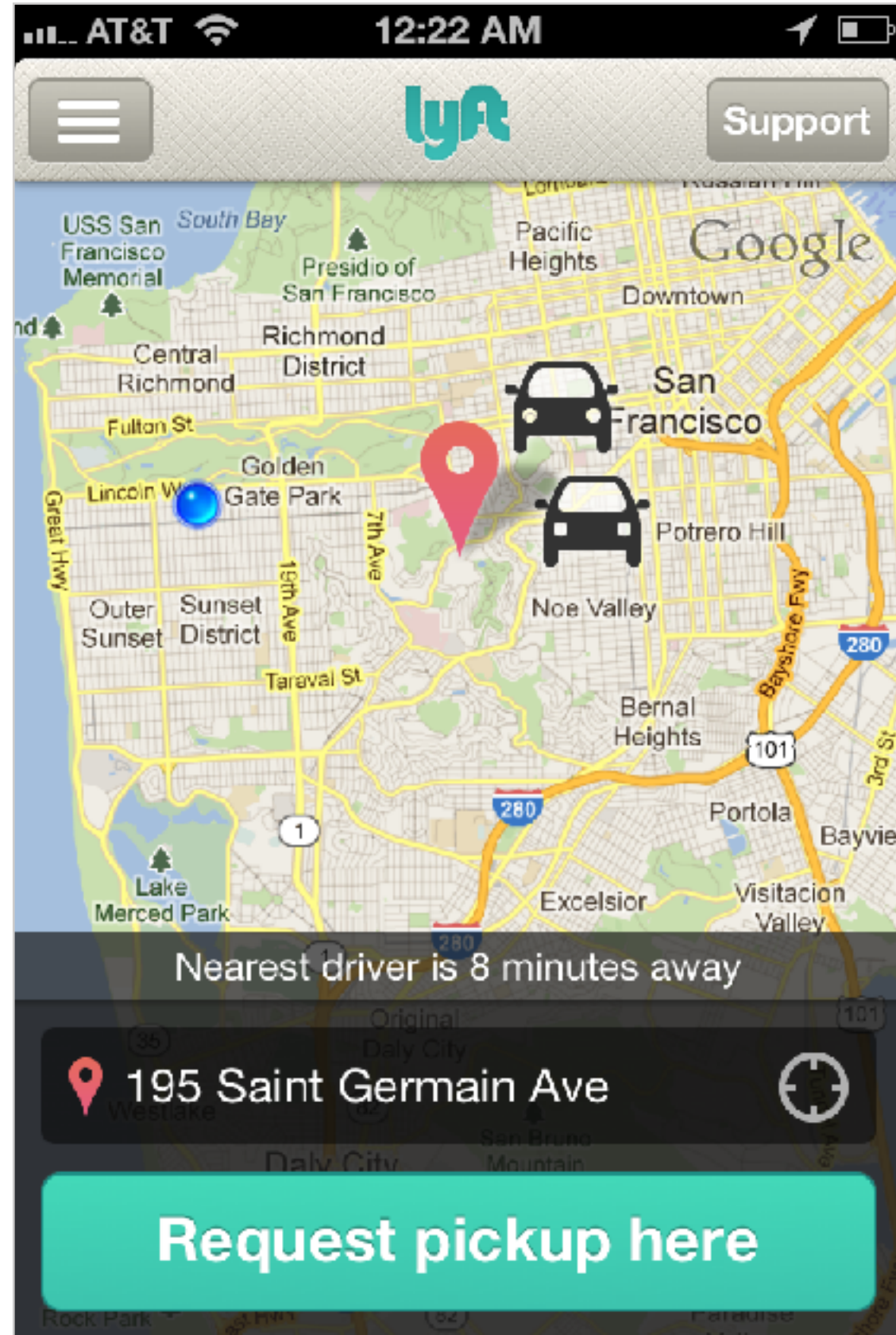
as phone size increases
getting to controls on
top is harder



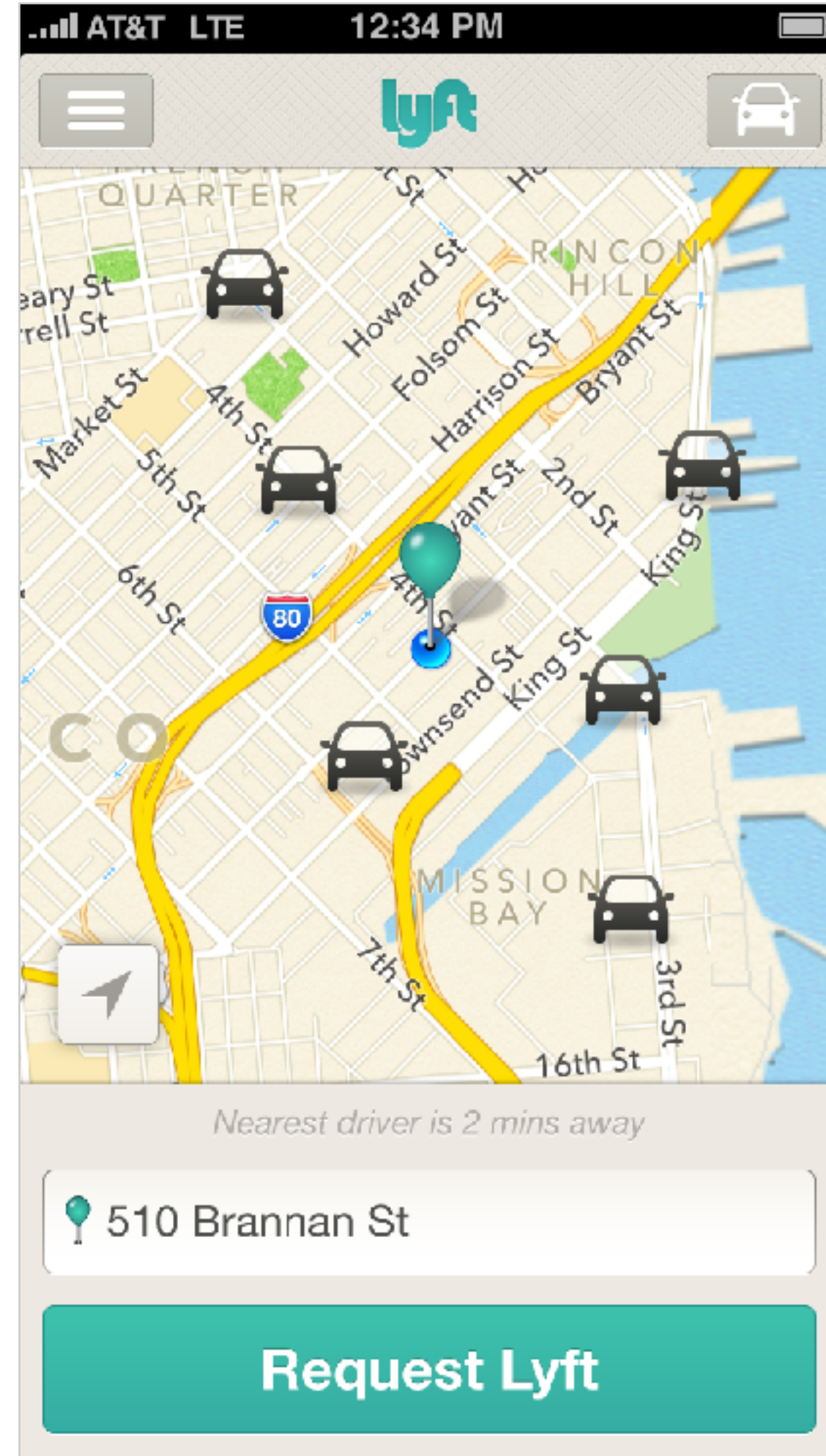




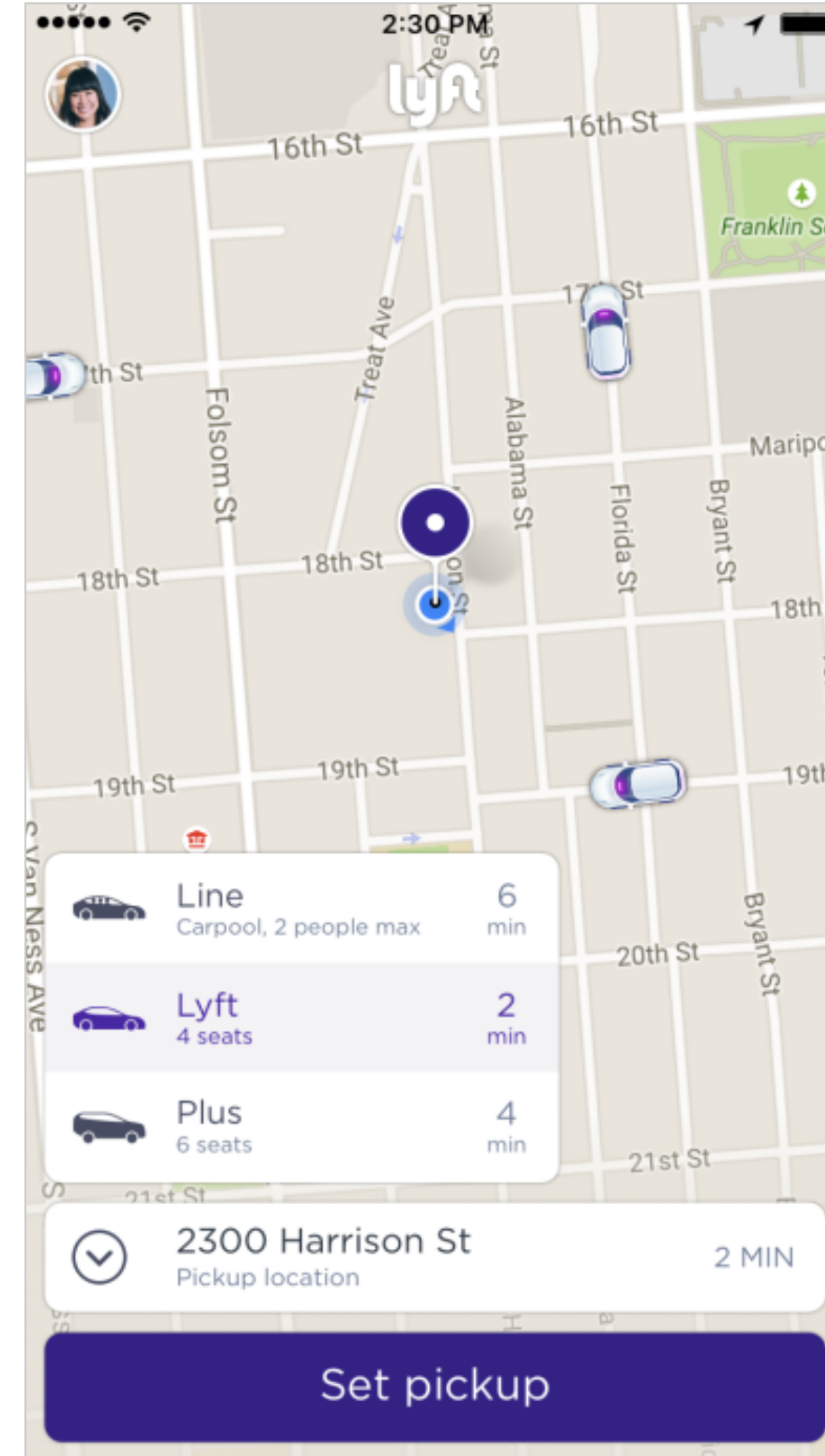
2012 →



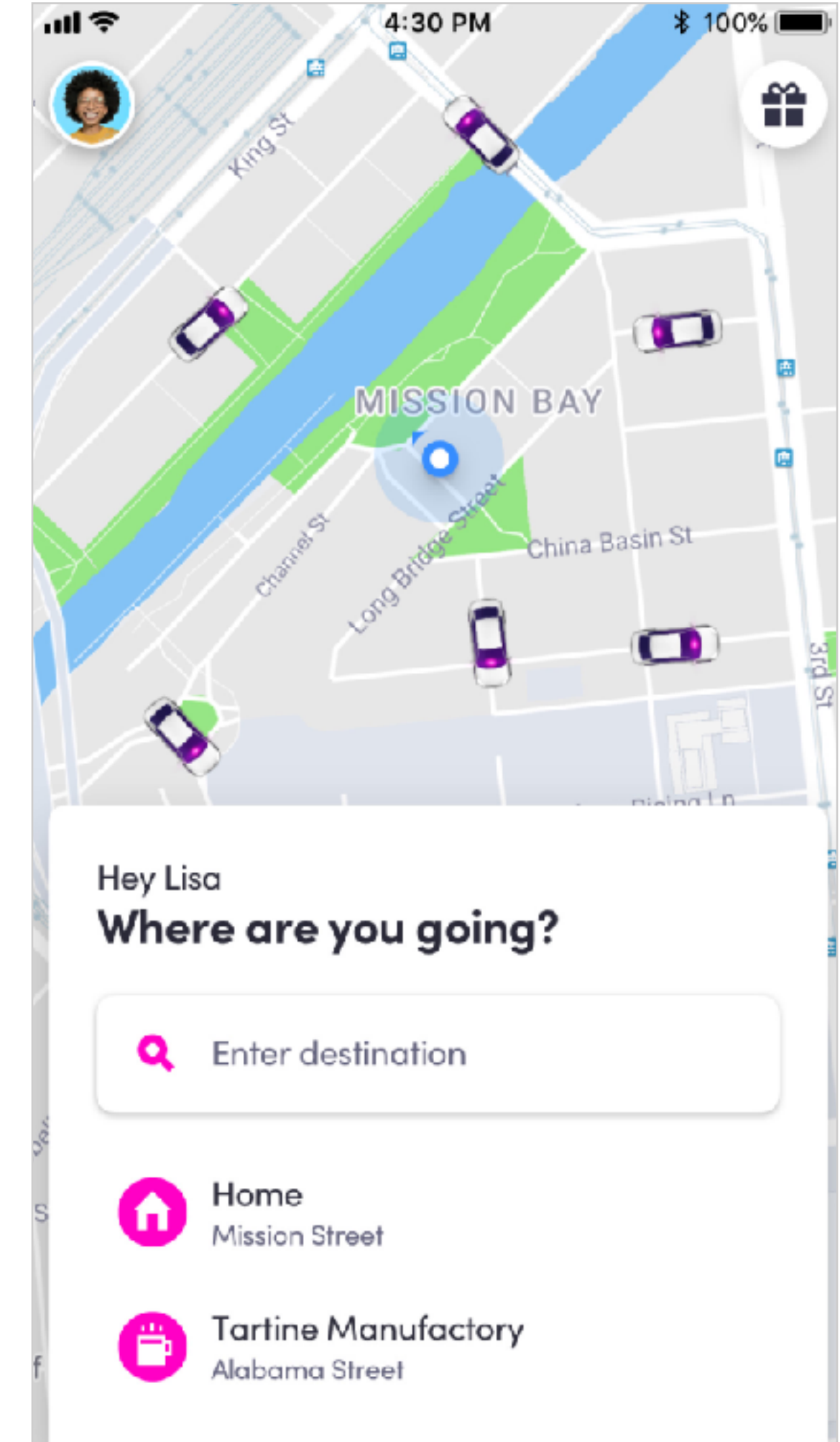
2014 →



2015 →

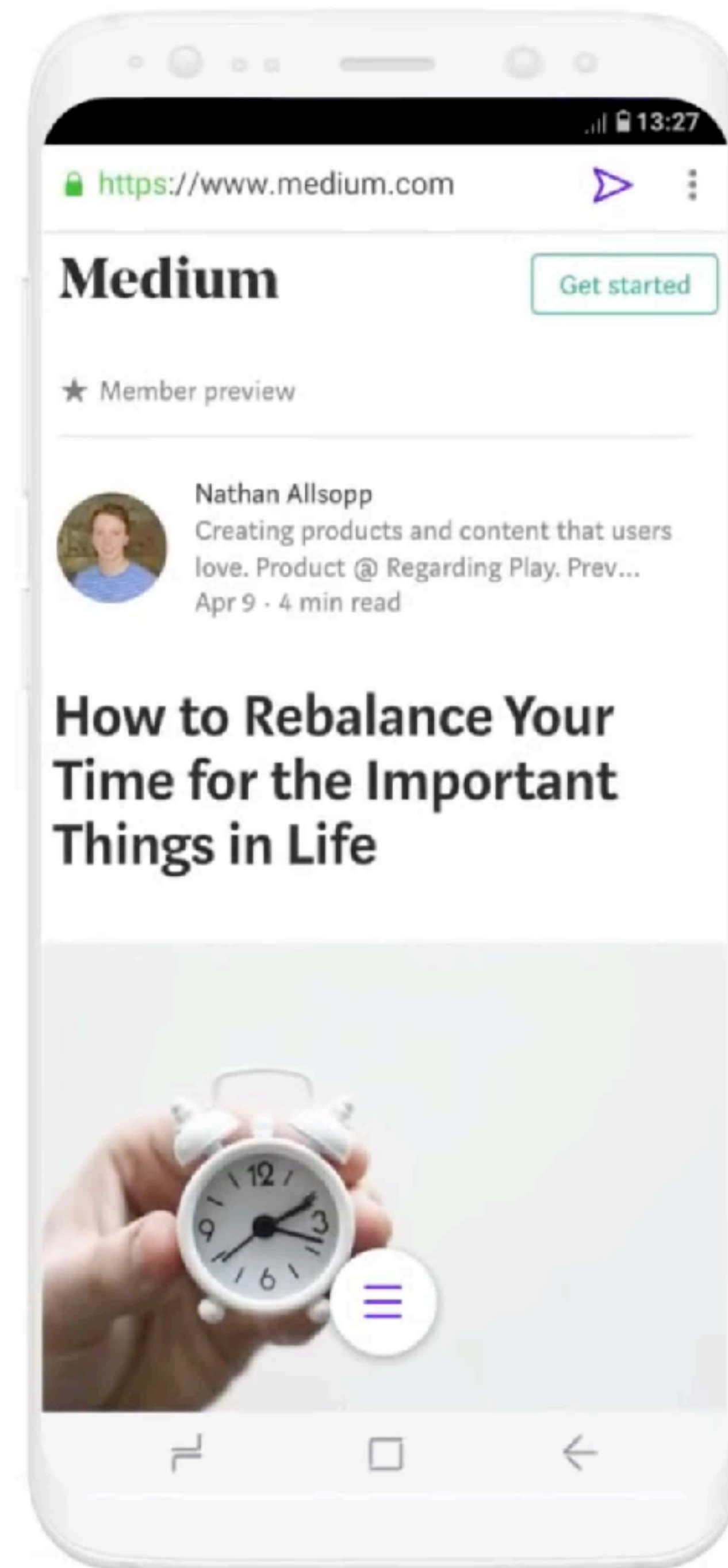


2018



OPERA TOUCH

Designed to let you explore the web using just one hand.

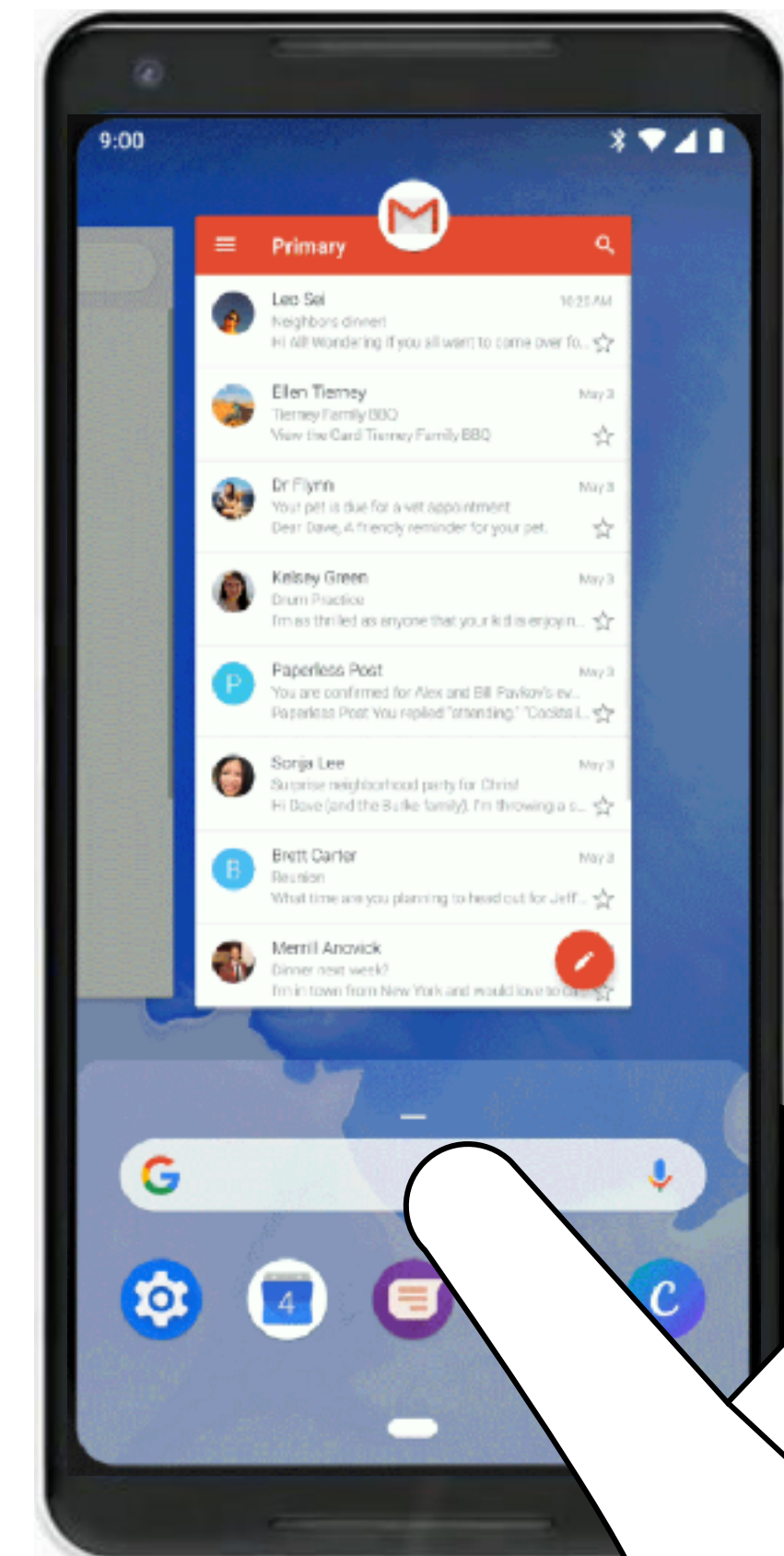


PALM PRE

IPHONE X



ANDROID P





3.5B

Active smartphones

3HR

Spent per day

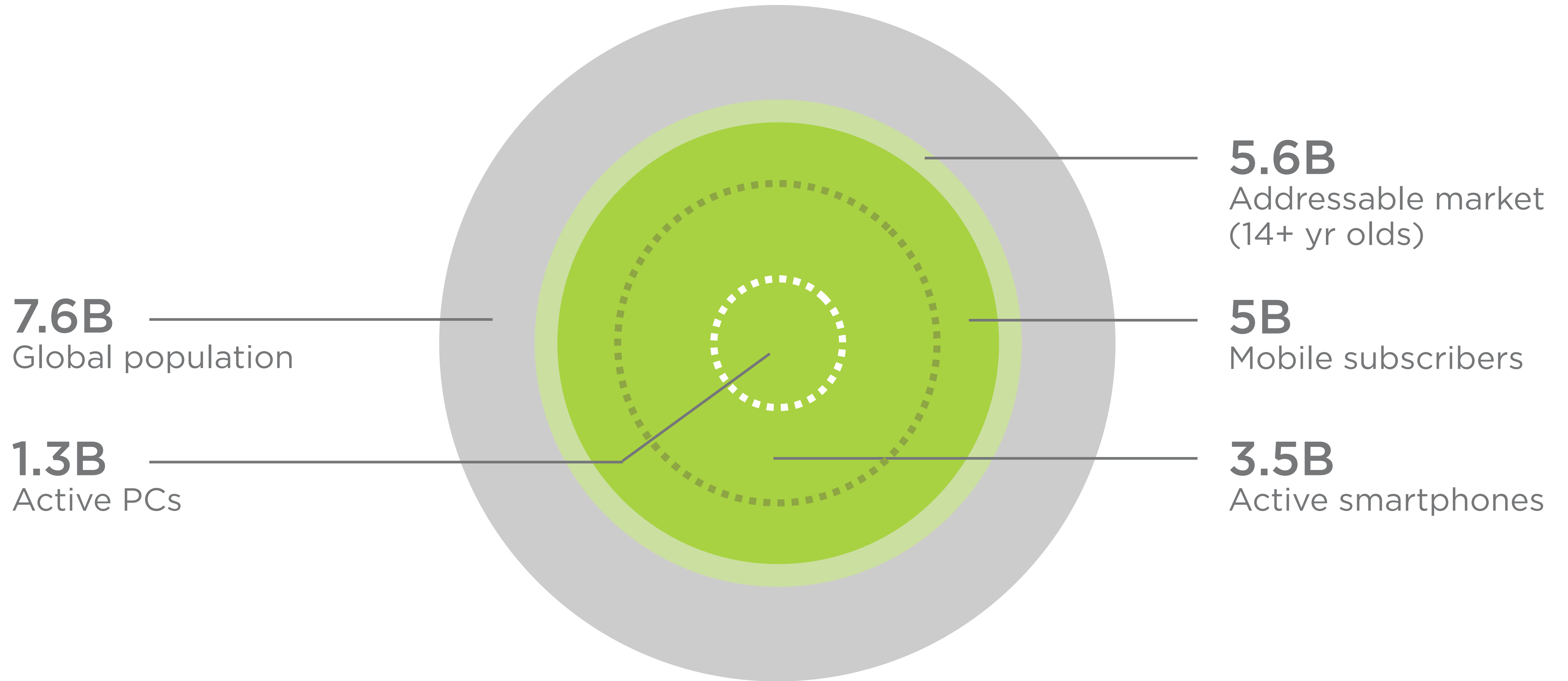
80x

Times used per day

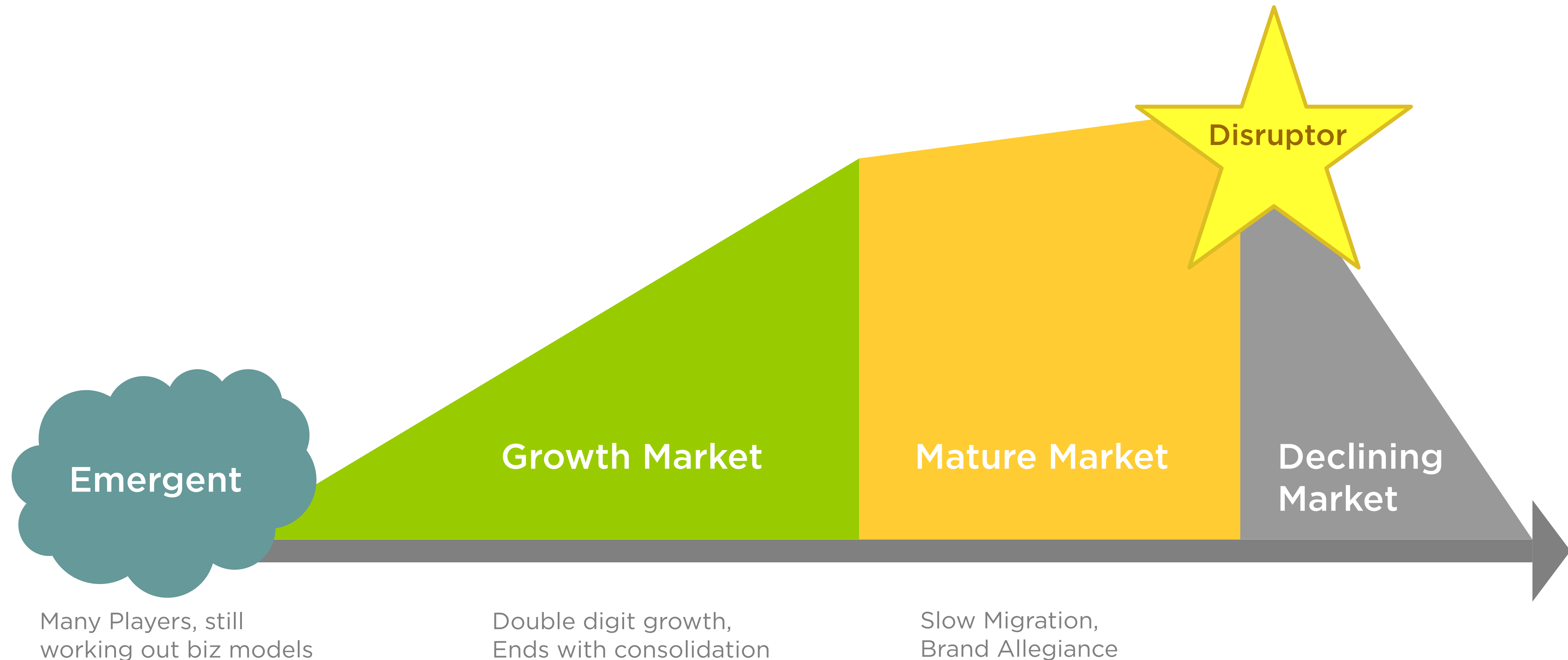
32

Touches per use

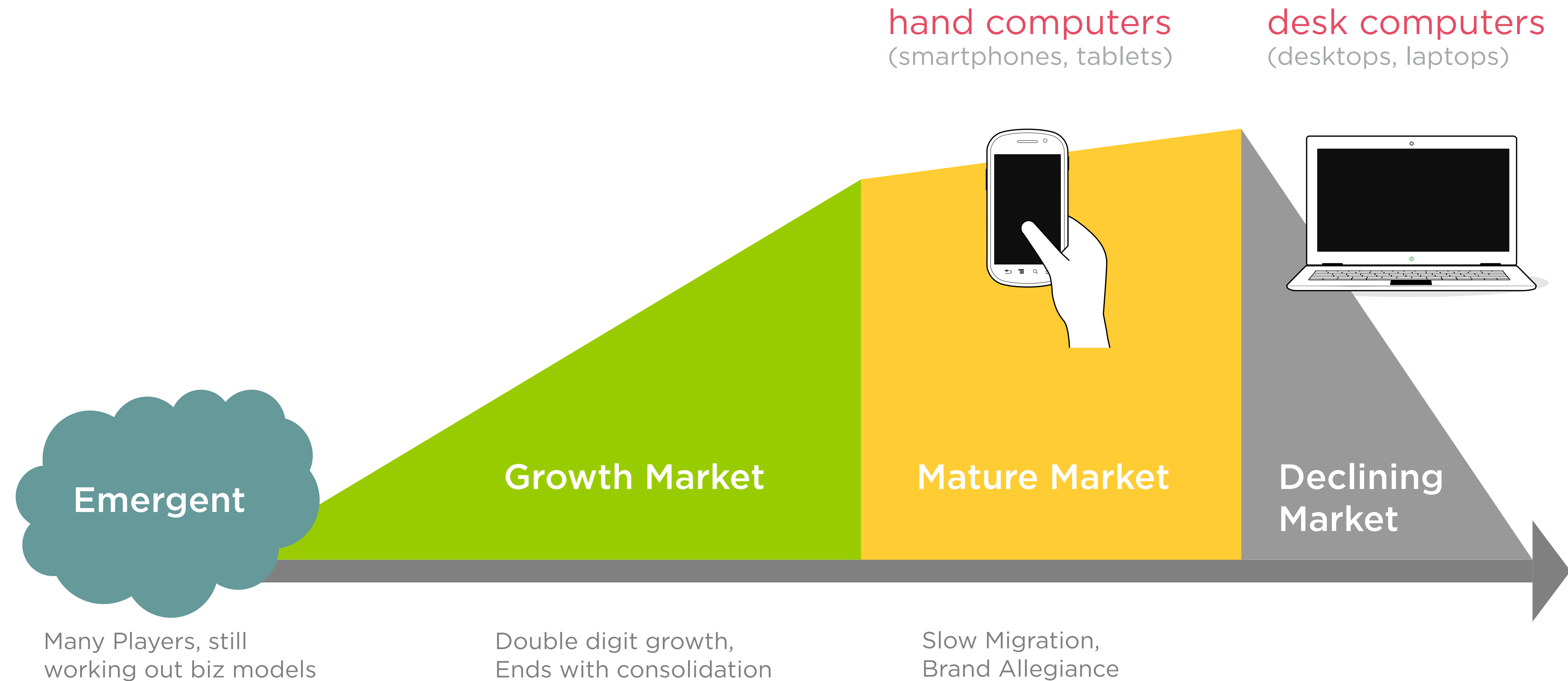
- one-handed/one-thumb use
- in portrait mode on large screens
- design accordingly



Devices and the Product Lifecycle



Devices and the Product Lifecycle



Worldwide Device Shipments

2006

239M

PCS

68M

SMARTPHONES

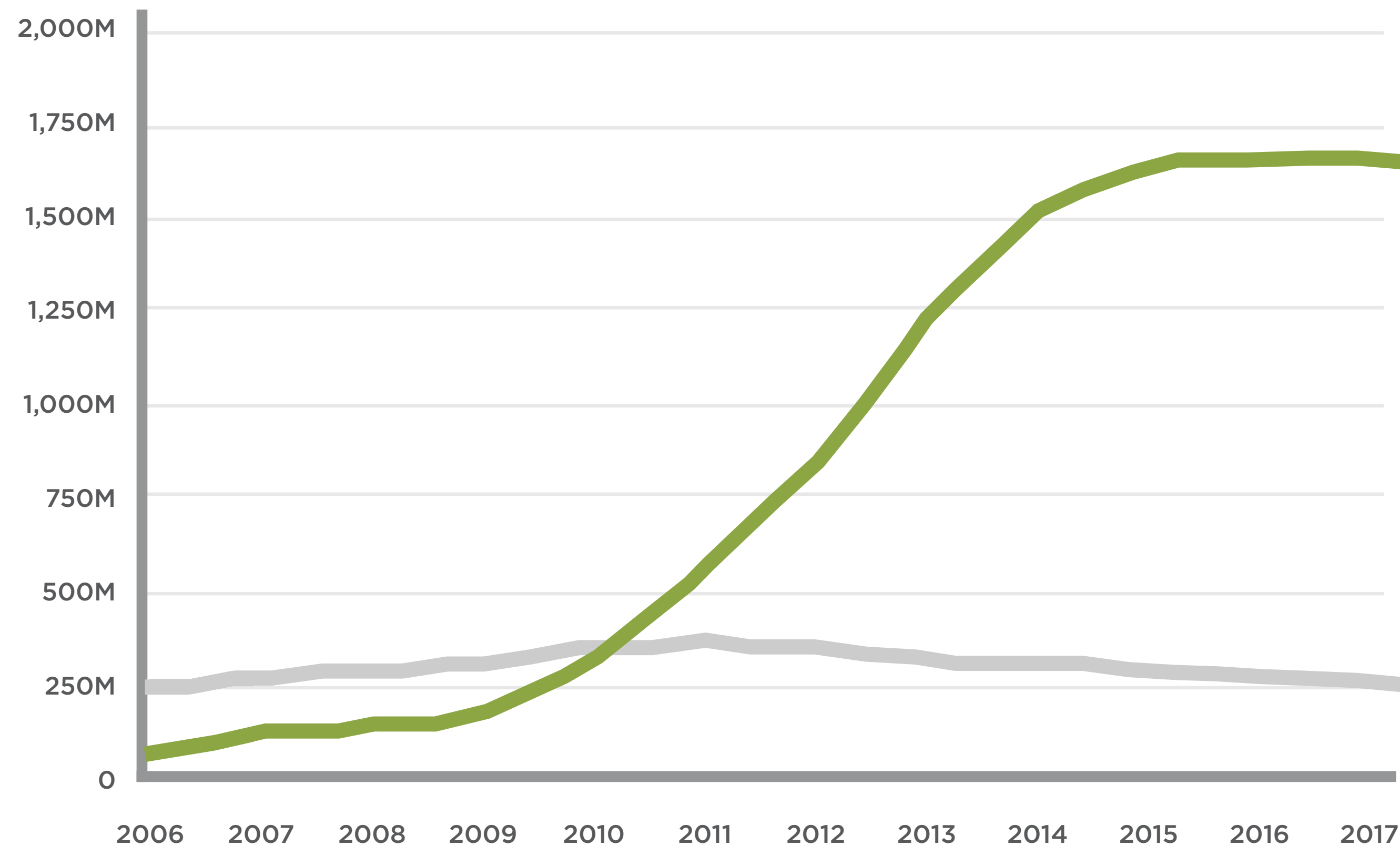
2017

262M

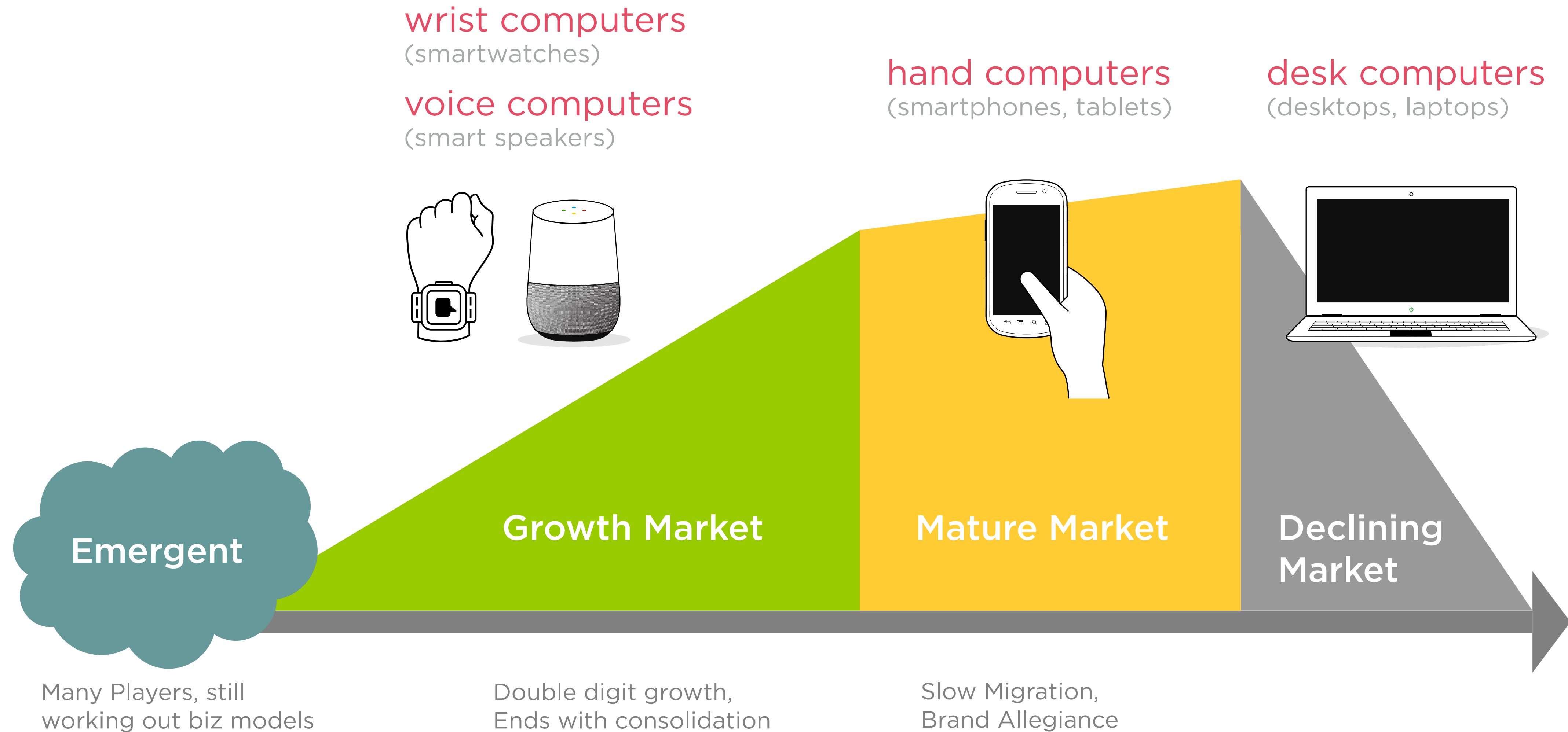
PCS

1,635M

SMARTPHONES
& TABLETS

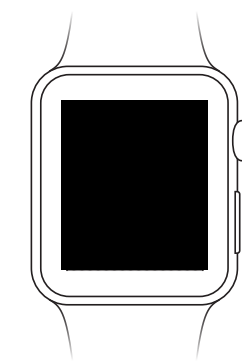
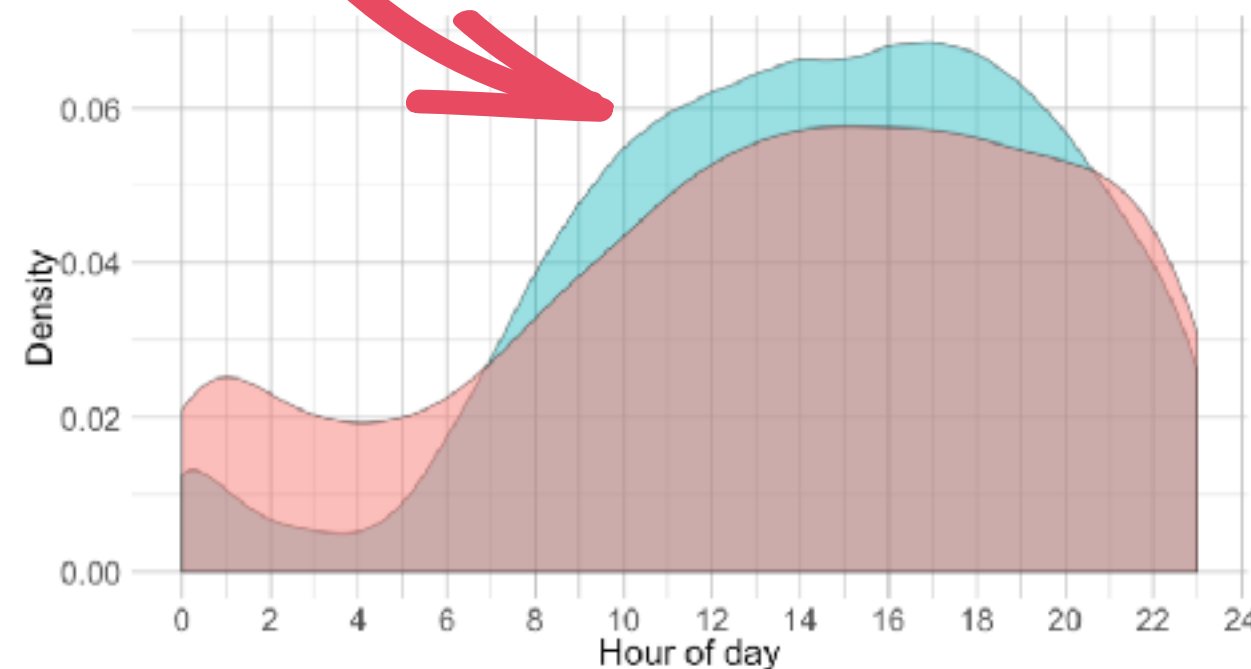


Devices and the Product Lifecycle

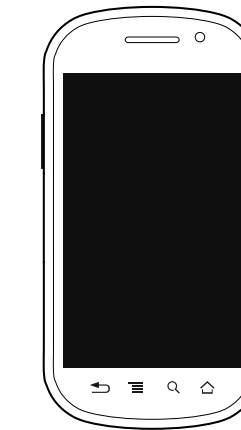


Smartwatch vs. Smartphone Daily Usage

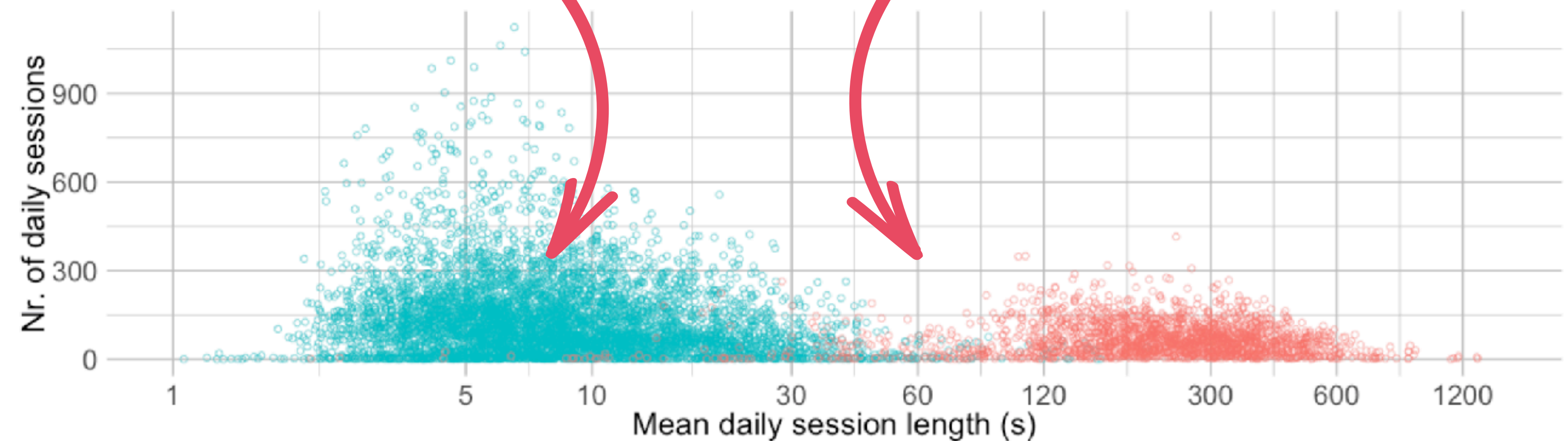
smartwatches are used more often per day than smartphones



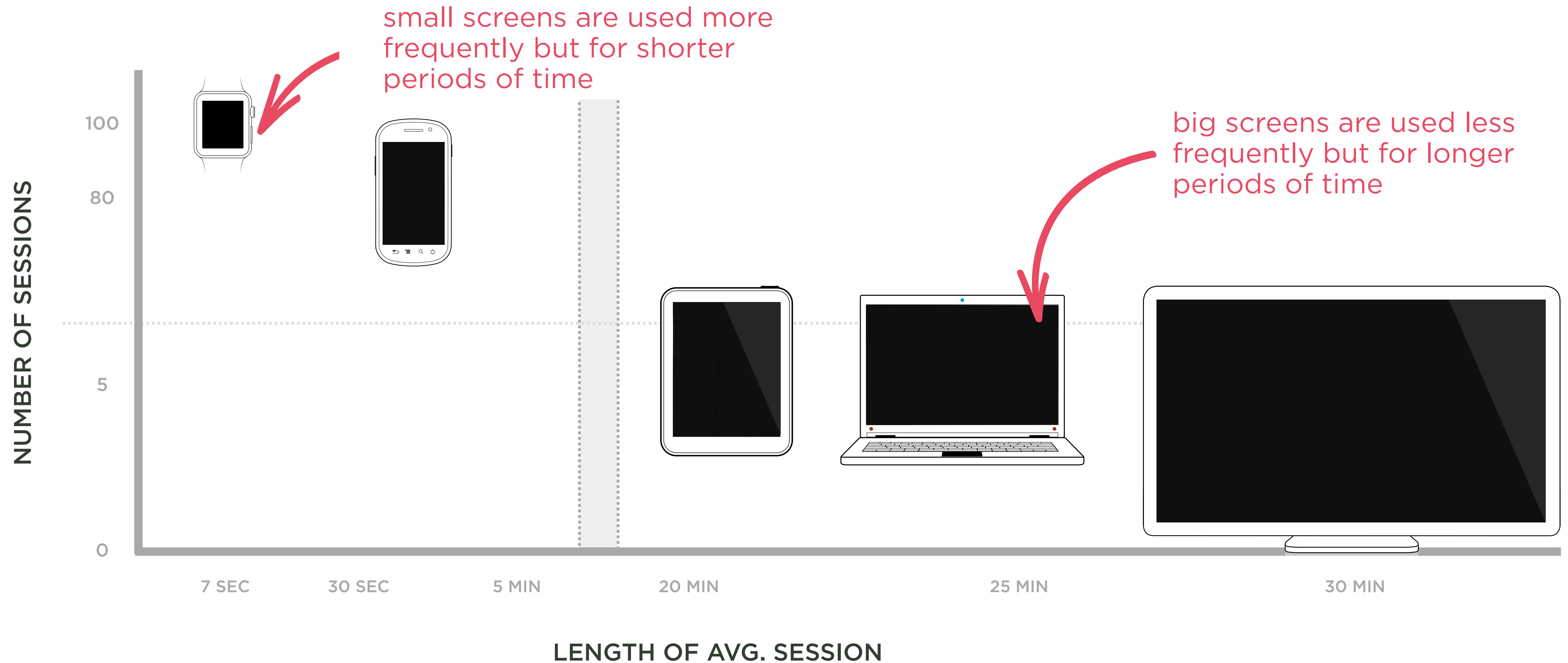
smartwatch sessions are shorter and more frequent



smartphone sessions are longer and less frequent



Daily Usage of Screen Time





APPLICATION	% OF USAGE	% OF TIME
Watch Face	50%	20%
Notification	17%	17%
Unknown*	7%	6%
Workout Timer	6%	4%
Notification Center	6%	9%
Activity	3%	7%
Workout	2%	4%

Source: Mobile Life Research Centre, University of Stockholm
* Screen not seen in study (by camera)



FUNCTION	% USE DAILY
Notifications	54%
Activity Tracking	45%
News Updates	31%
Phone Calls	26%
Alarm Clock	25%
Email	25%
View Photo/Video	21%

Source: Owners' daily use of smartwatch functions in the United States in 2017
<http://bit.ly/2EoAFbF>



ACTION	% ~USE WEEKLY
Set Timer	56%
Check Weather	55%
Play Song	52%
Control Lights	44%
Set Alarm	30%
Connect Music	27%
News	24%



ACTION	% ~USE WEEKLY
Play Song	59%
Check Weather	51%
Set Timer	48%
Connect Music	46%
Search Internet	40%
Control Lights	30%
News	28%

“...and we are calling it  Watch.”

2015



PRECISE
TIMEPIECE



INTIMATE
COMMUNICATION

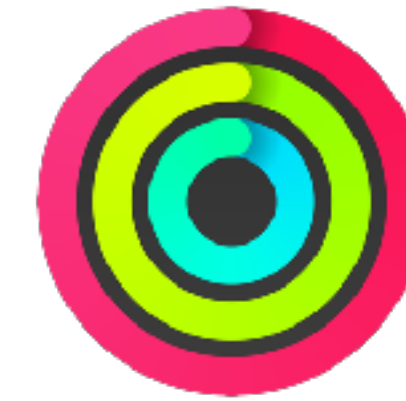


HEALTH &
FITNESS

2018



CONNECTED



FITNESS



HEALTH

Amazon Echo Evolution

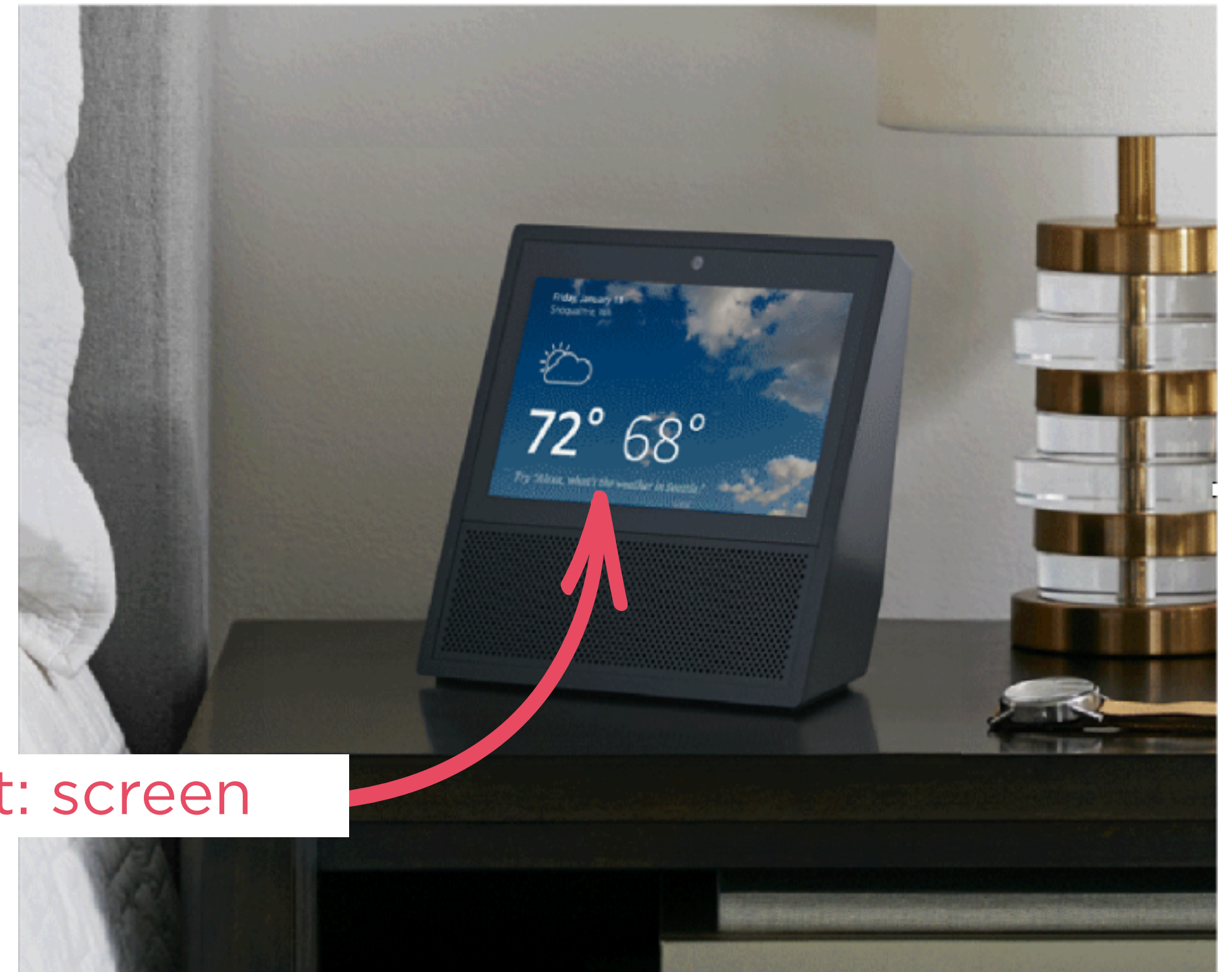
AMAZON'S FIRST GEN **VOICE** UI

input: voice

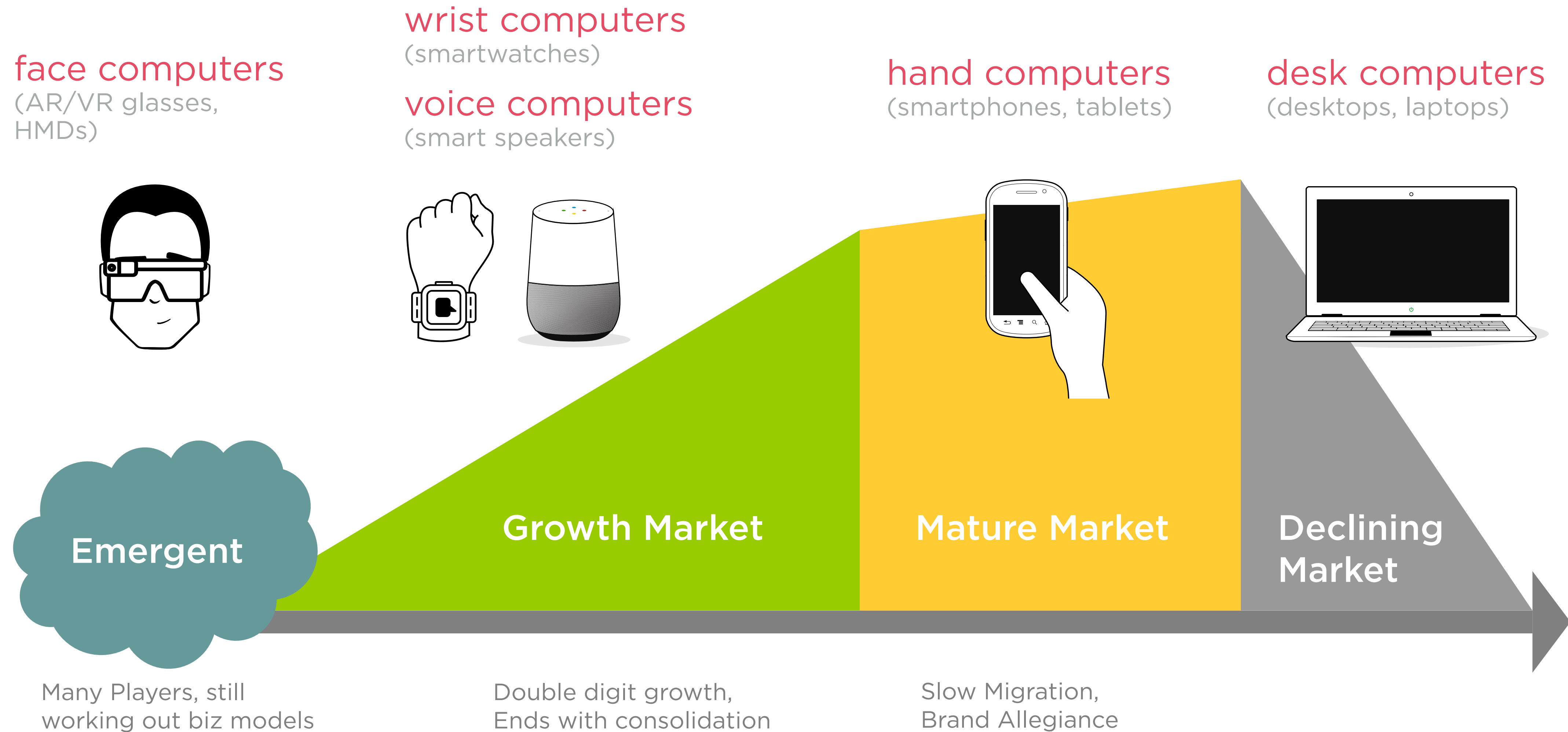


AMAZON'S NEXT GEN **VOICE** UI

output: screen



Devices and the Product Lifecycle



VR

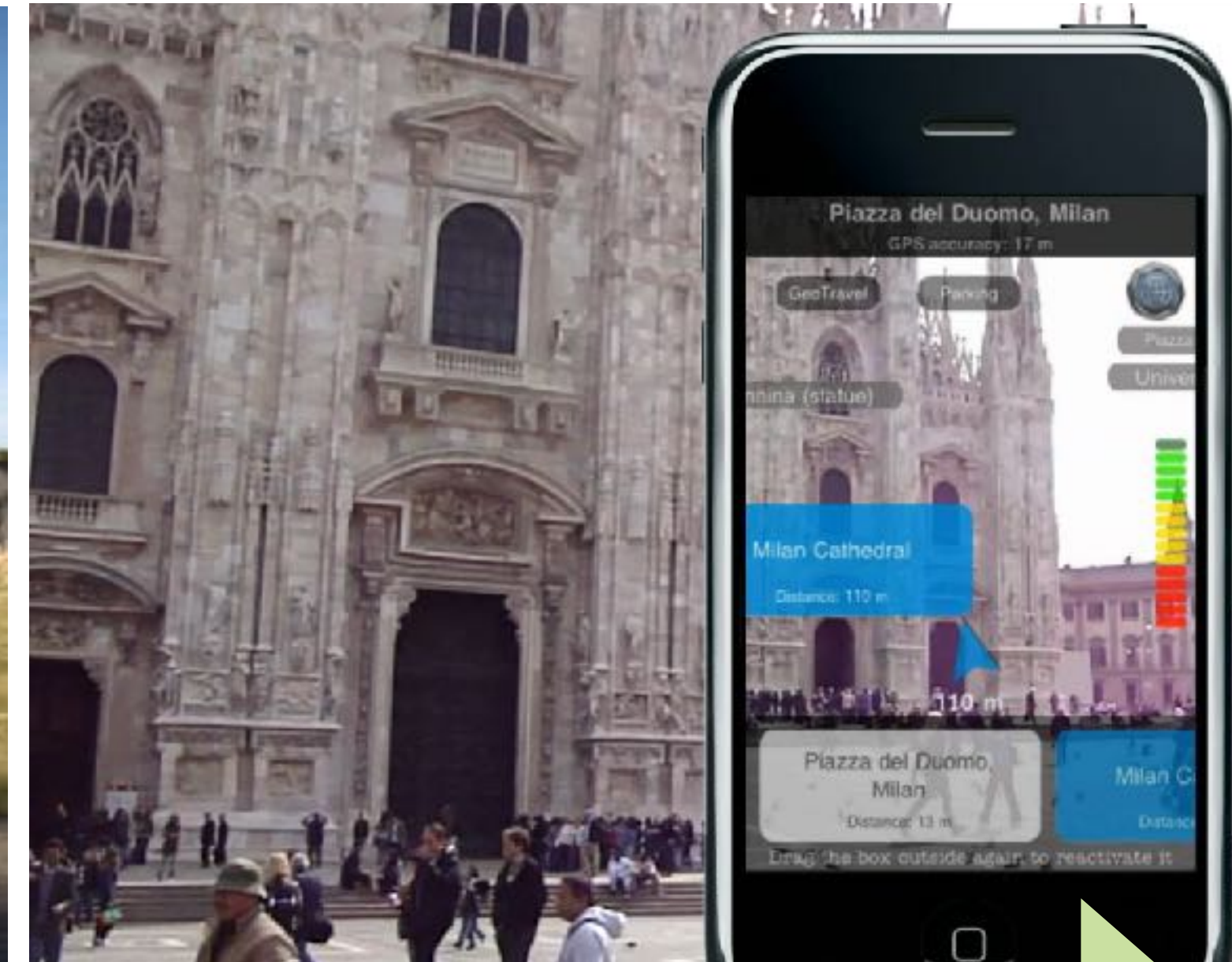
VIRTUAL REALITY

MR

MIXED REALITY

AR

AUGMENTED REALITY

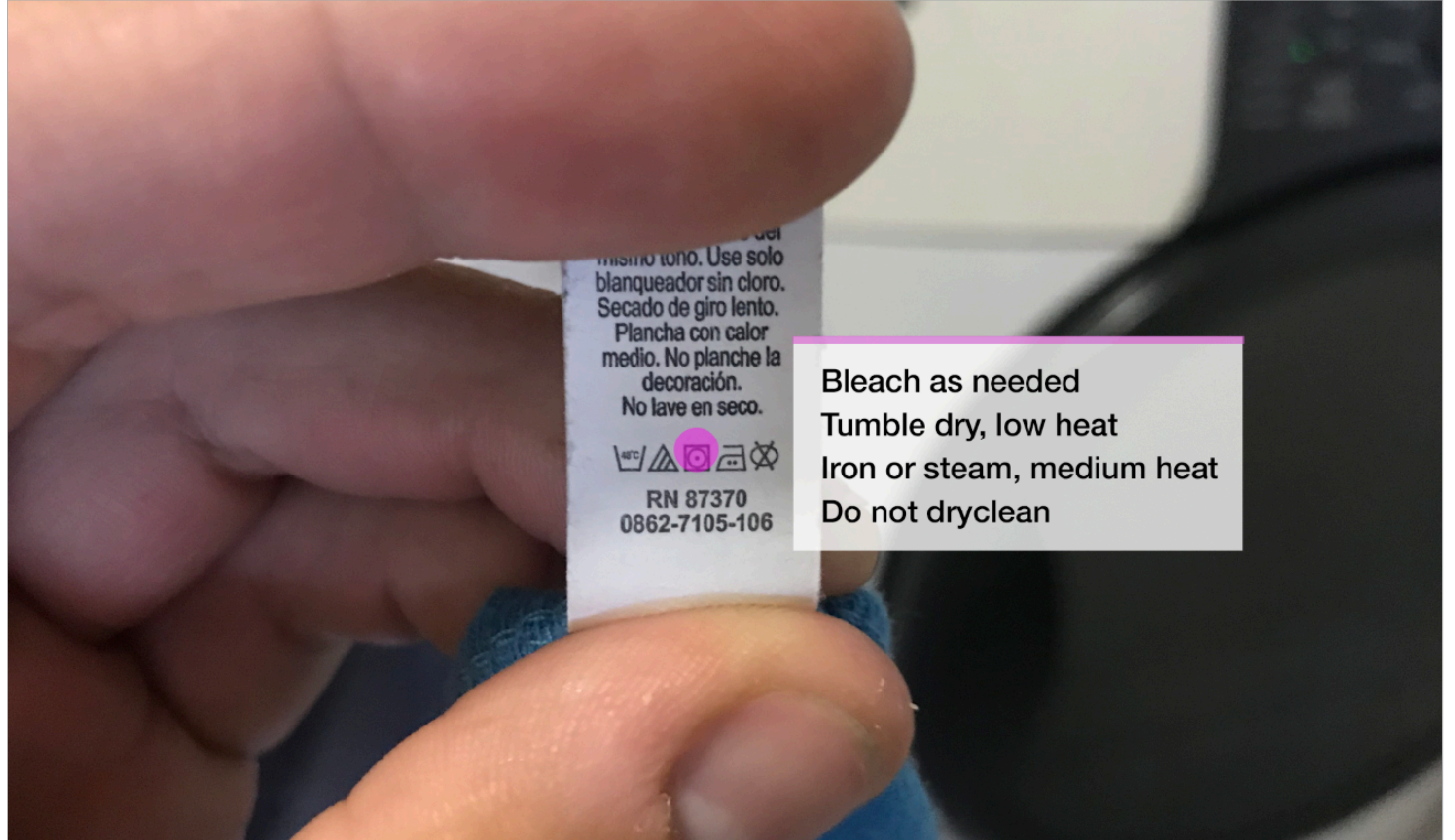
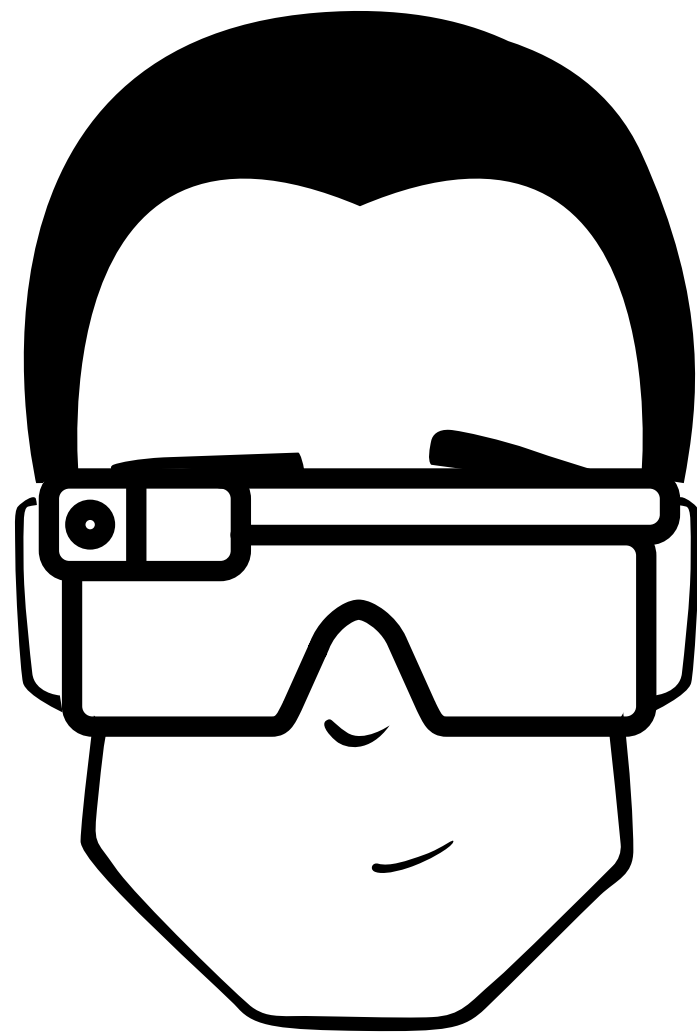


DIGITAL WORLD
DIGITAL OBJECTS

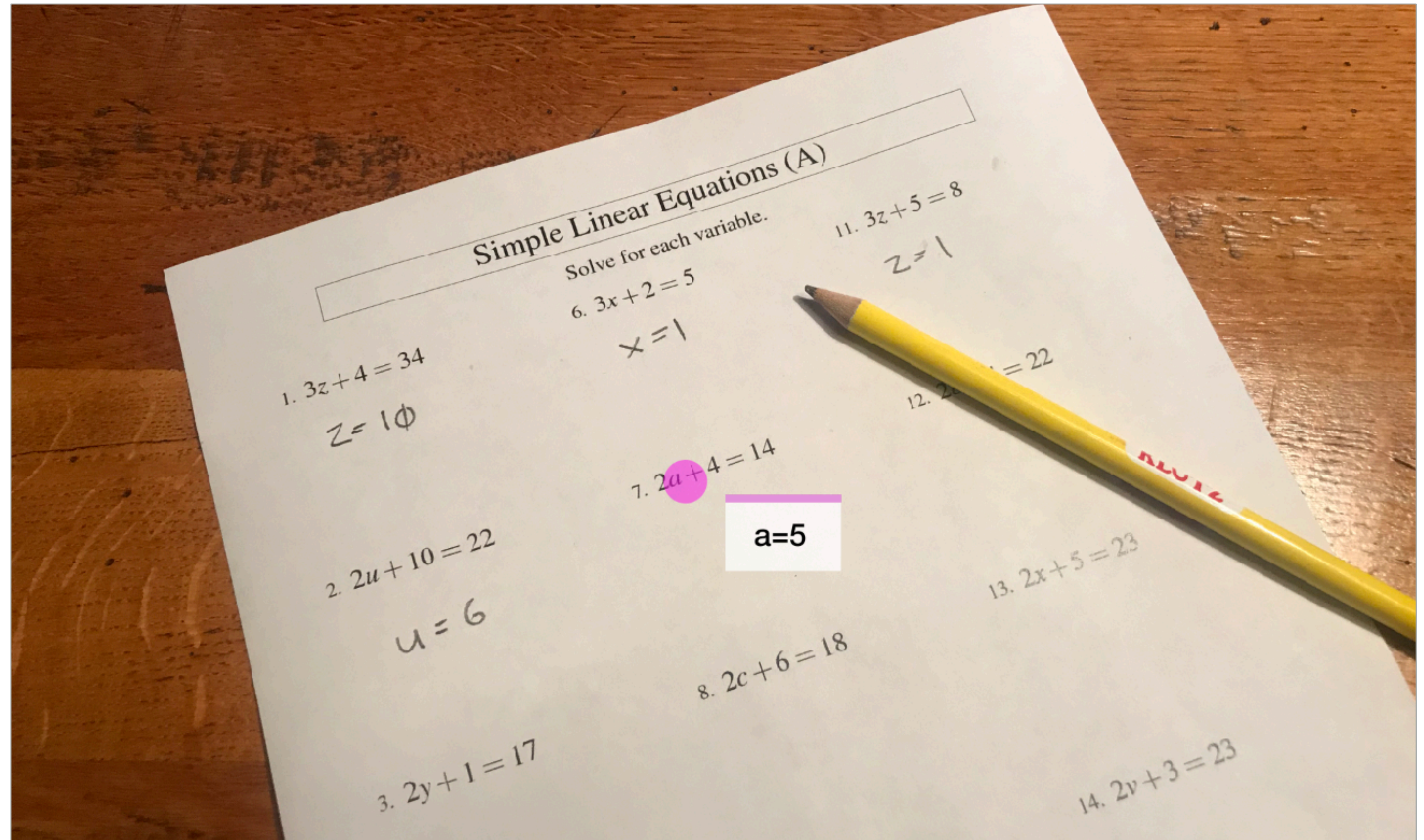
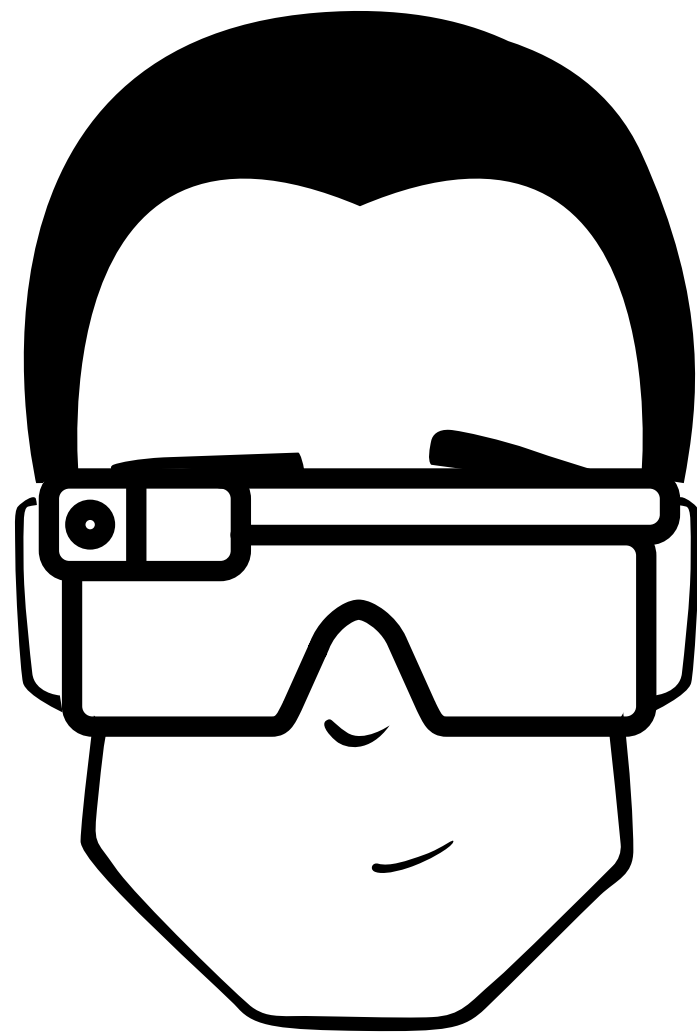
REAL WORLD
DIGITAL OBJECTS

REAL WORLD & OBJECTS
DIGITAL INFORMATION & ACTIONS

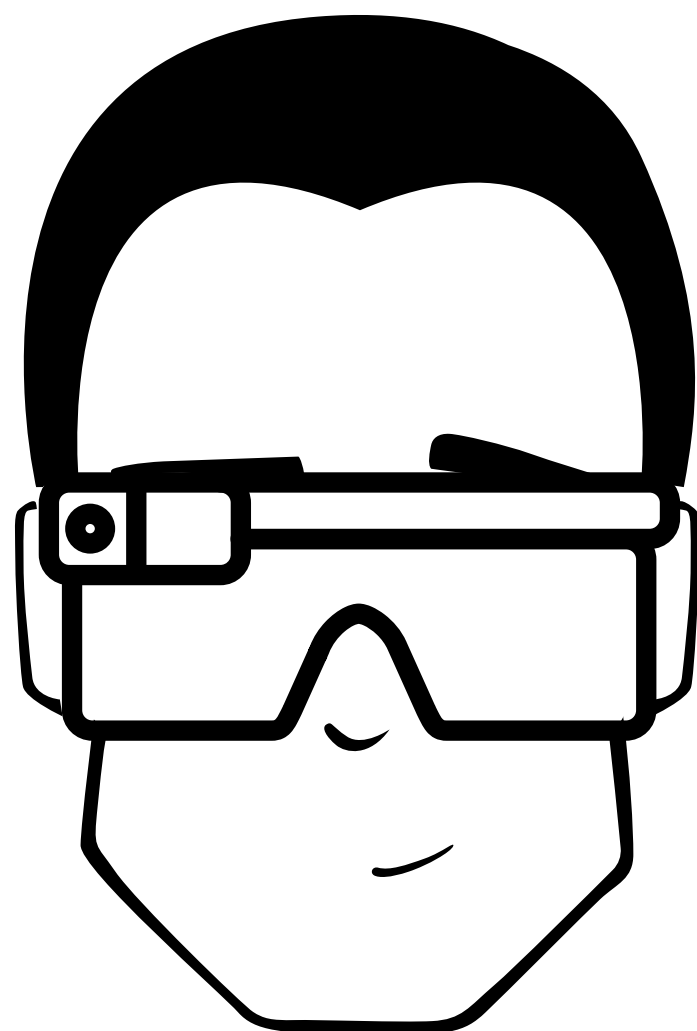
“explain”



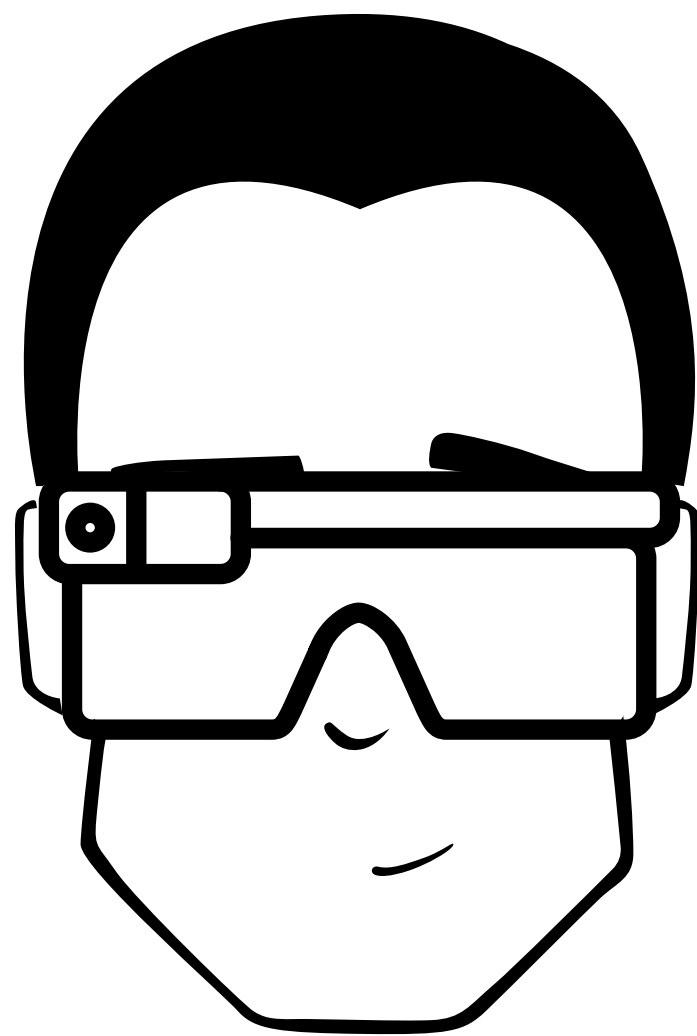
“solve”



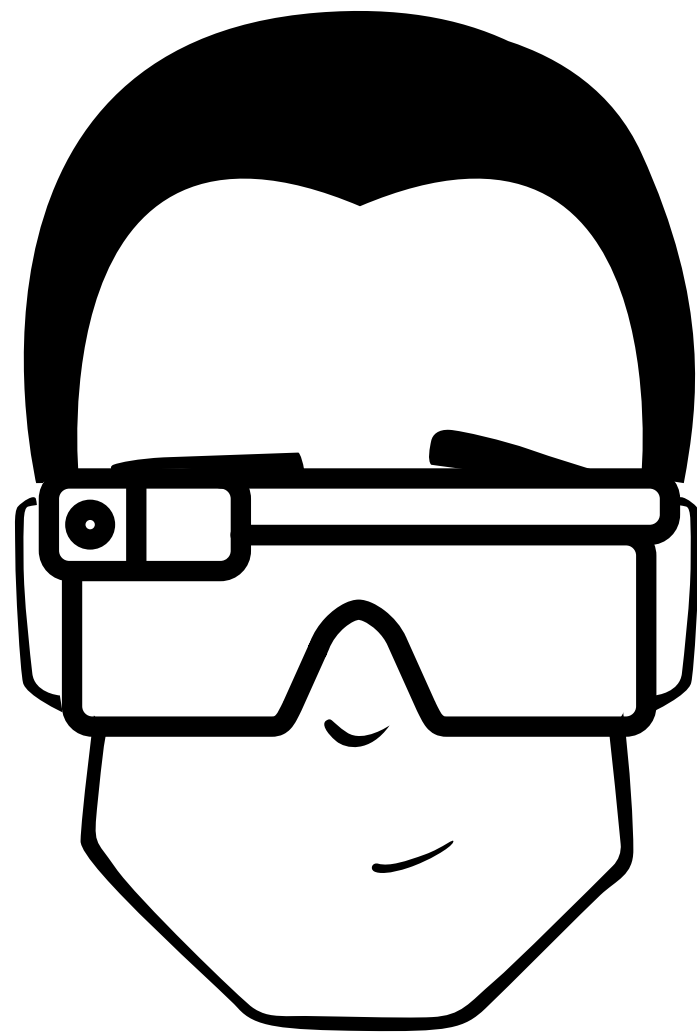
“convert”



“listen”



“order more”



DIALOG OVERLAY



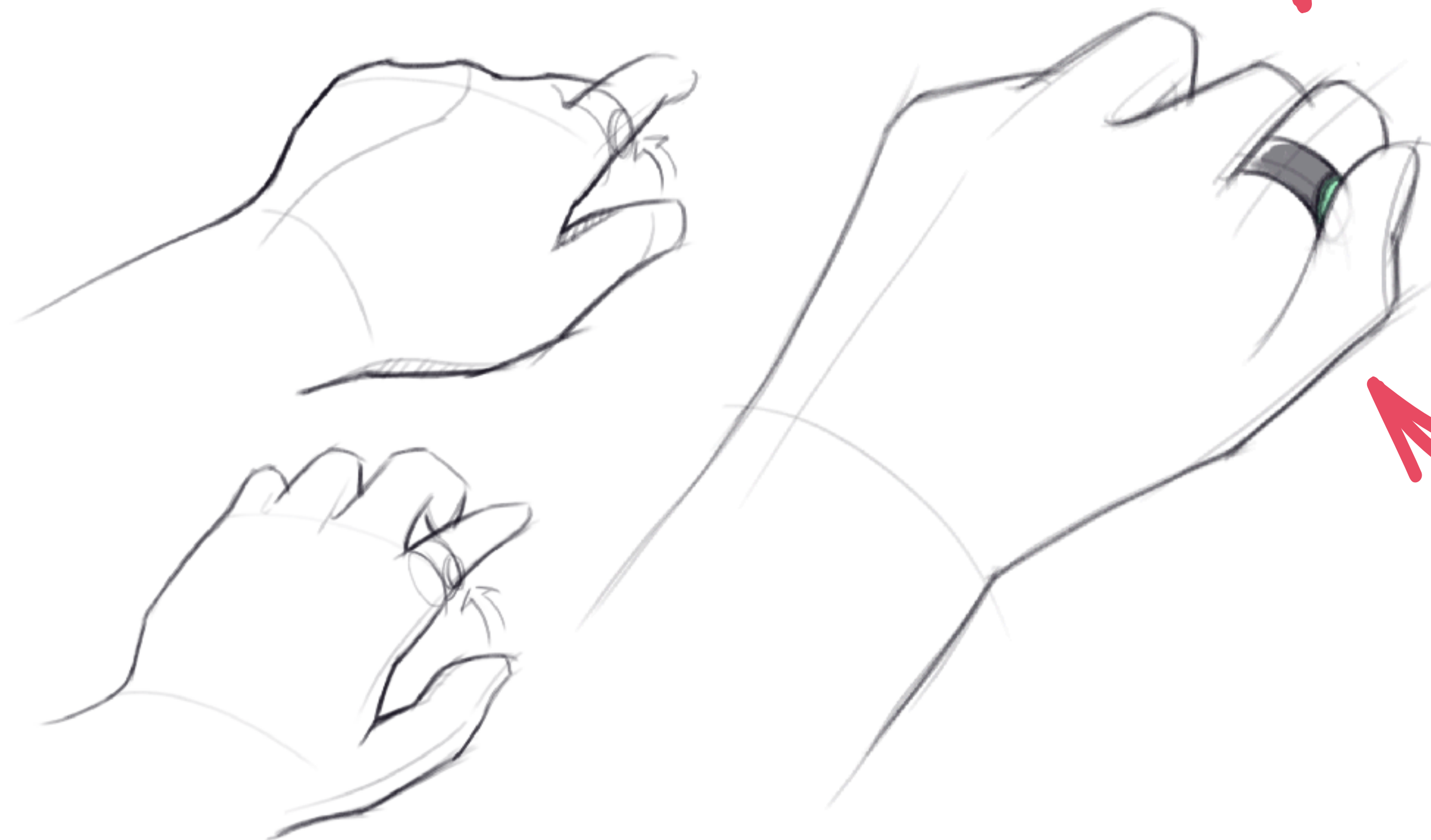
OBJECT OVERLAY



TEXT OVERLAY



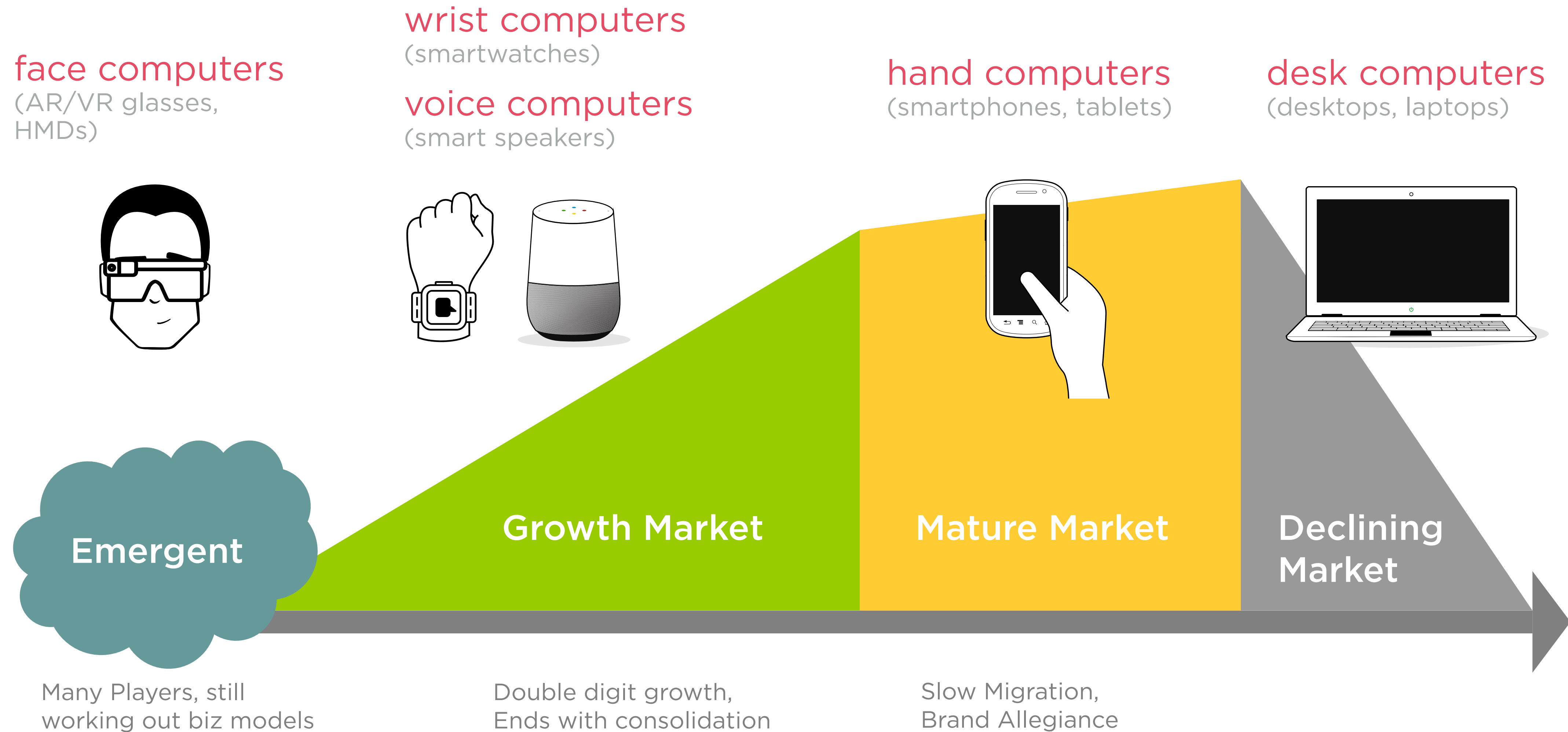
press ring on index finger...

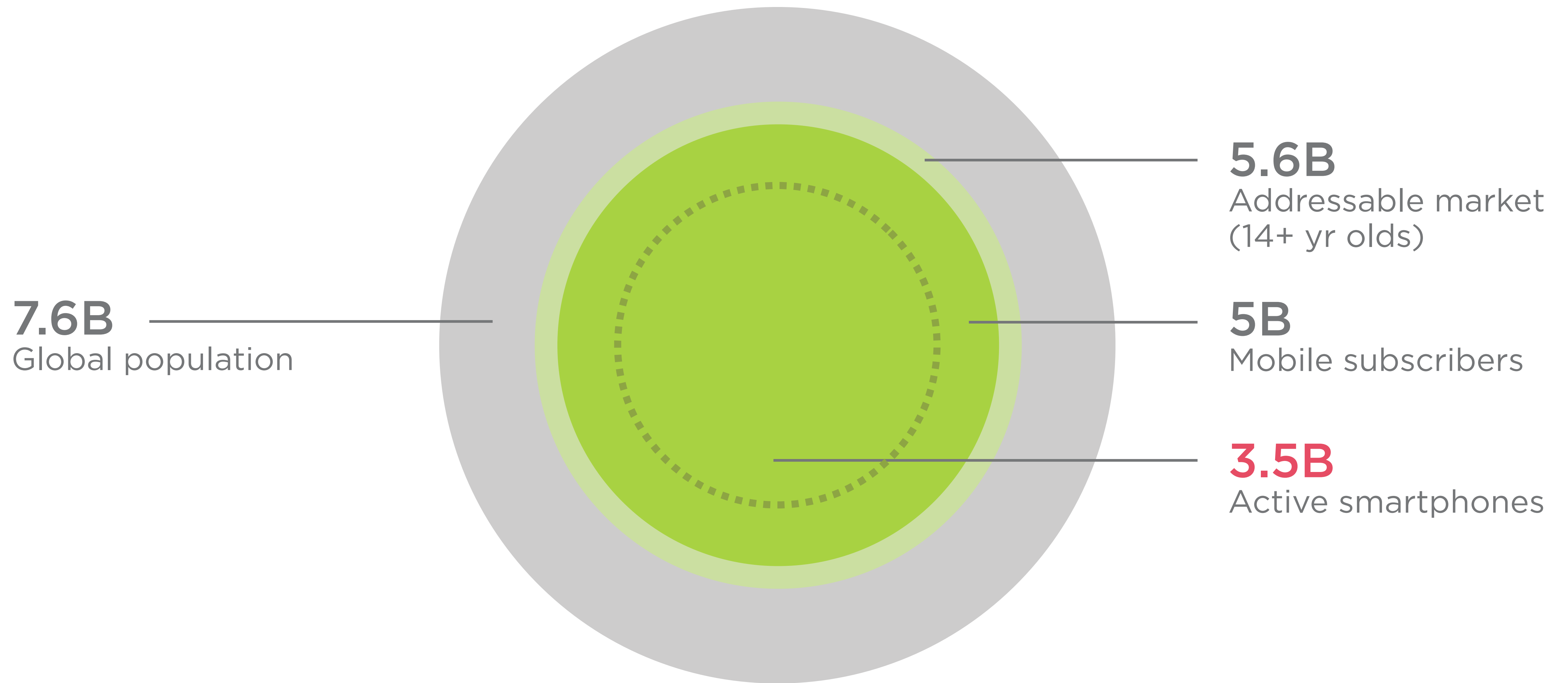


...to activate voice command mode

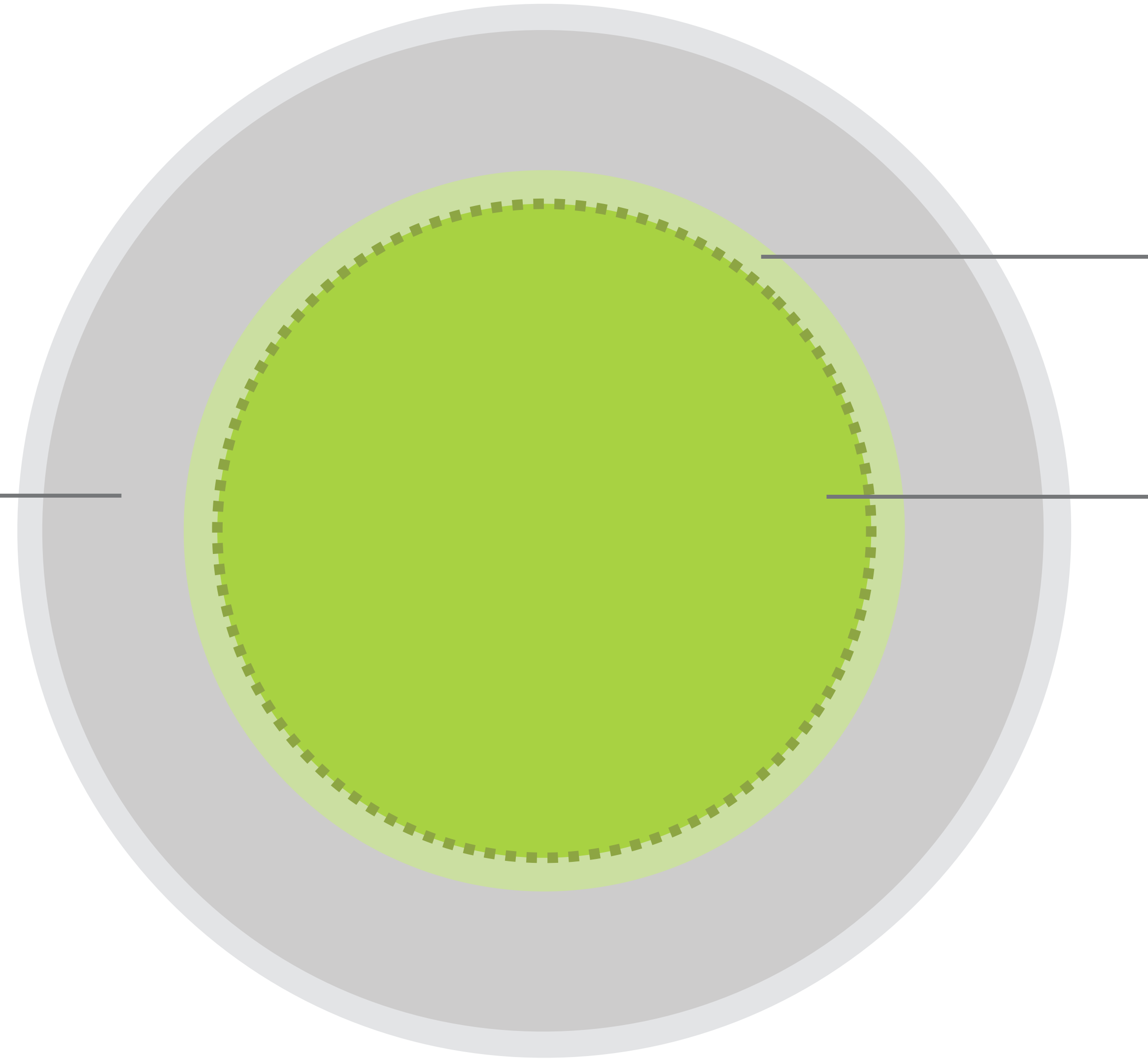
low physical effort due to close thumb proximity & range of motion, visually discrete, minimal unintended/accidental actions

Devices and the Product Lifecycle





8B
Global population
projected by 2023



5.8B
Addressable market
(14+ yr olds) by 2023

5B
Active smartphones
by 2023



3.5B

Active smartphones

3HR

Spent per day

80x

Times used per day

32

Touches per use

- it's a mobile planet
- design for actual usage/behaviors
- prep for what's next

THANKS

