

A photograph of a man in a traditional Scottish kilt and a fur-trimmed hat, playing a set of bagpipes on a city street. He is positioned in the center-left of the frame. In the background, several other people are walking by, some carrying backpacks. The scene is set outdoors during the day.

designing for humans *(like you & me)*

@ytheimulator
#BEPiD



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Designing For Humans (like You & Me)

by Matheus Abreu

Published June 20, 2015 in Design

Just a small conversation aiming to integrate basic knowledge on cognitive bias to user feedback research, experience from my creation process, behavioral analysis among others, with the aim of presenting basic aspects of user interfaces under the bias of understanding them based on our cognitive functions.

slides available at:

bit.ly/ux-design-bepid

this — **is not** a
presentation



A photograph of two young men laughing together. The man on the left has dark hair and wears glasses, a light-colored jacket over a yellow and white striped sweater. The man on the right has curly hair and wears a brown textured jacket over a yellow and white striped sweater. They are standing in front of a brick wall.

this is a
conversation

A man with short brown hair, wearing a dark jacket, sits on a large rock. He is facing away from the camera, looking towards a vast, hilly landscape covered in low-lying clouds or fog. The sky above the horizon is a pale yellow or orange, suggesting either sunrise or sunset. In the foreground, there are some dark, leafy plants.

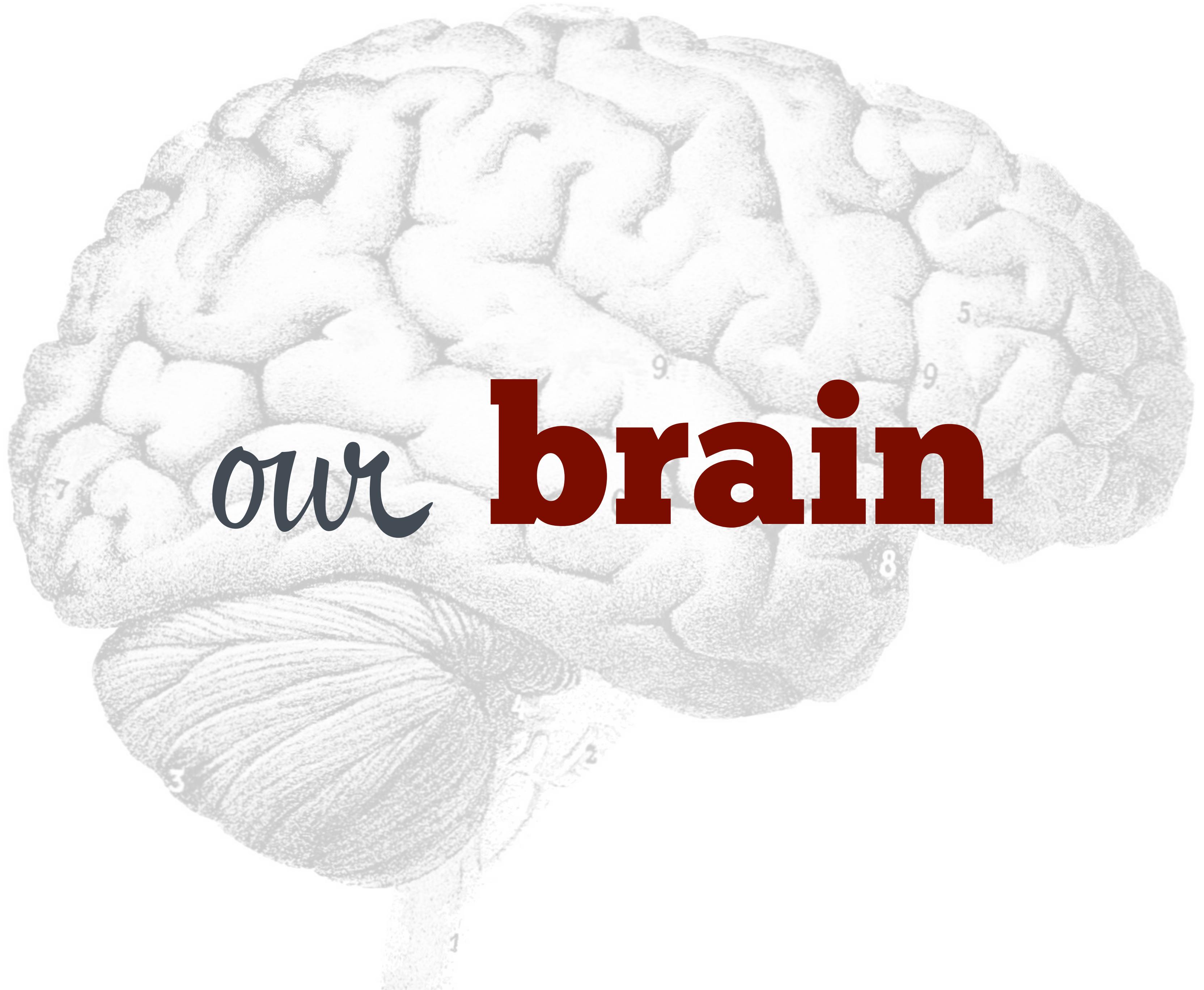
let's talk about ...

neuroscience

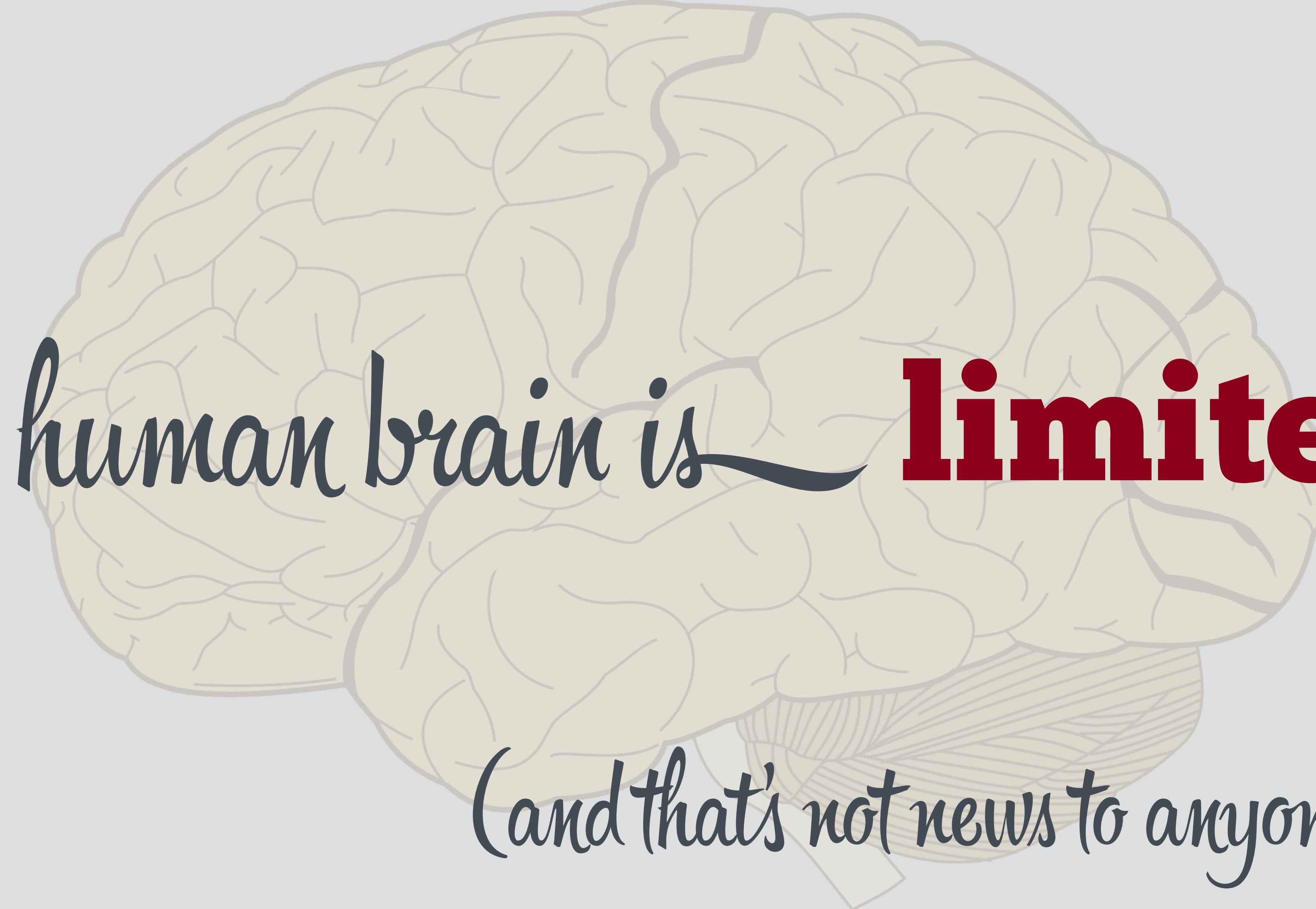
psychology

sociology

your next app



our **brain**



the human brain is **limited.**
(and that's not news to anyone).

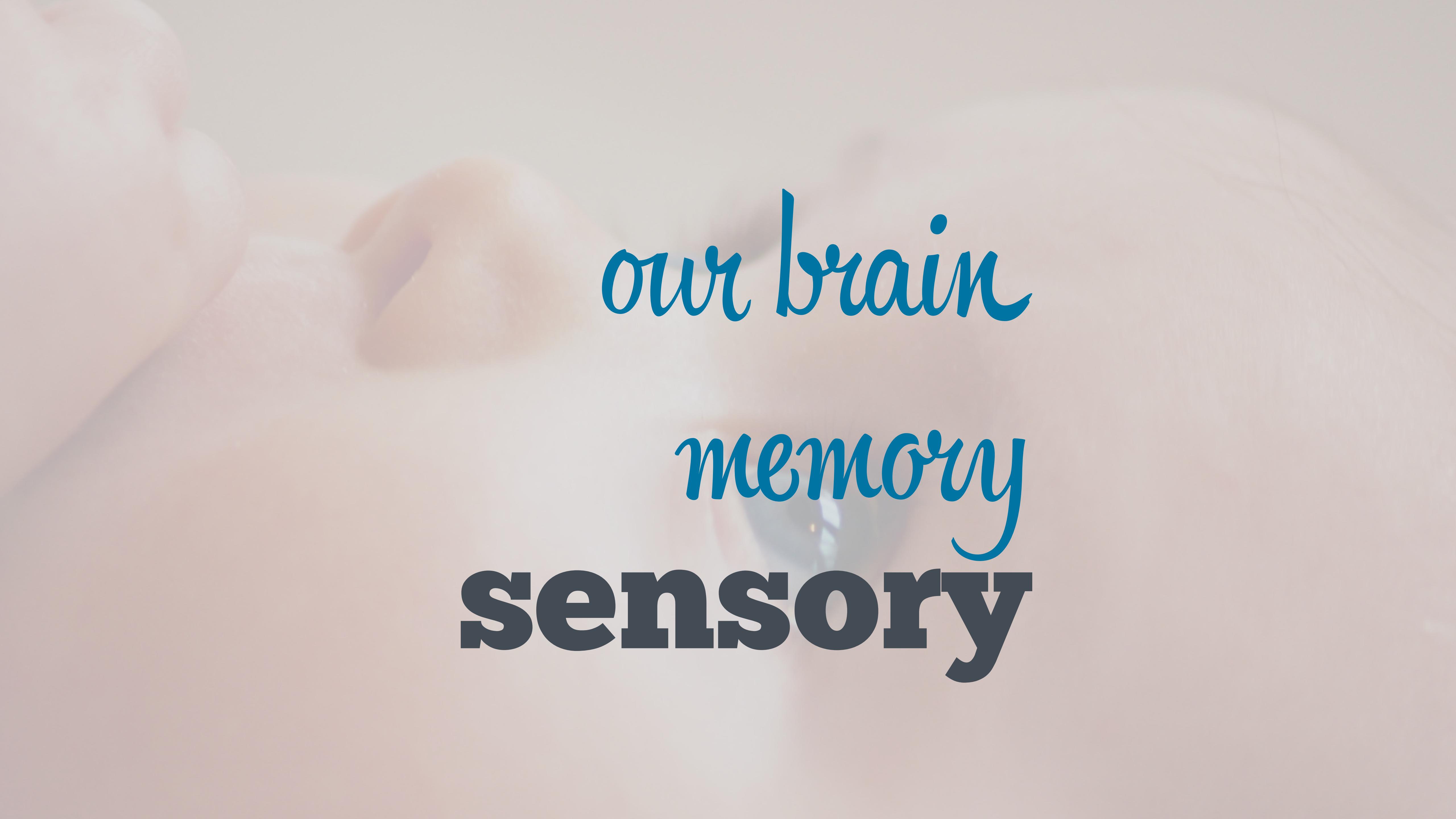
let's talk about our **memory**
& attention...



our brain
memory



a mechanism which allows us to **manipulate**
and understand the world, taking
into account our living context and
experiences.

A soft-focus photograph of a person's hand holding a small, delicate white flower, possibly a rosebud, against a light blue background.

our brain
memory
sensory

**using our senses, our brain identifies, processes
and compare information, sweeping our memory and
recognizing patterns**

A close-up, slightly blurred photograph of a person's hands playing a keyboard. The keys are a vibrant green color. The hands are positioned on the keys, suggesting active playing or demonstration.

demo time



user experience

*human-computer
interaction*

industrial design

affordance

perceptual psychology

*environmental
psychology*

cognitive psychology



visual information from
objects **makes it obvious**
to us its use.

A grayscale photograph of a standard computer keyboard, showing the layout of keys from the top row down to the bottom row. The keys are light-colored with dark borders. The text is overlaid on this background.

how many **buttons** have
you ever pressed?

Recognize != Remember

Recognizing is about **checking** *provided* **information.**

Remembering is about **searching** *your* **memory** *for the right*
information.

Recognizing requires much less brain processing than remembering.



Recognizing is **much faster!**





Welcome to Twitter.

Get real-time updates about
matters to you.

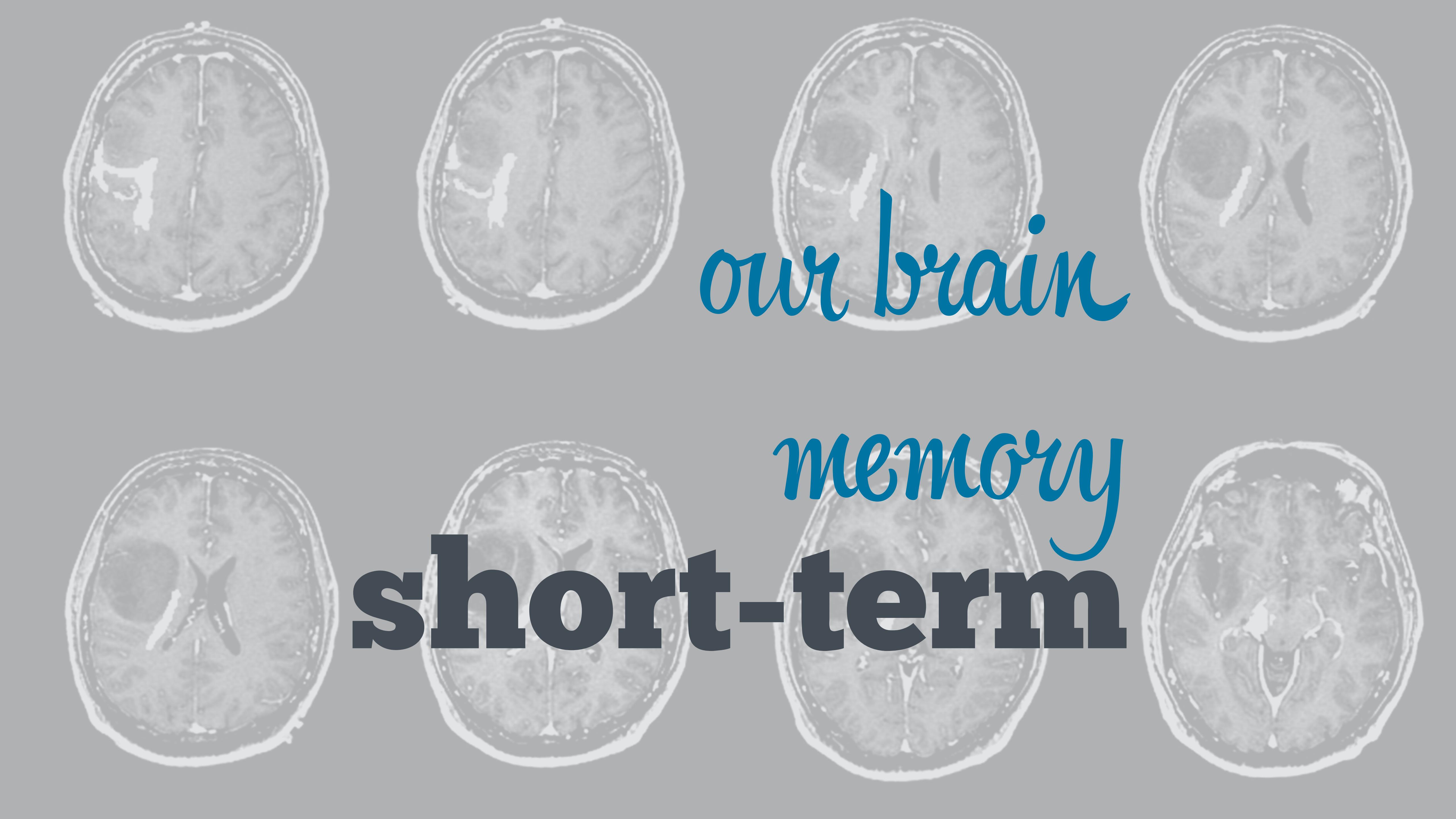
Sign up

Log in

Welcome to Twitter

Sign up

ABC



short-term
memory
our brain

it's where all the data encoded by sensory
memory is analyzed

(only about **7 items** can be stored)

A close-up, slightly blurred photograph of a person's hands playing a keyboard. The keys are a vibrant green color. The hands are positioned on the keys, suggesting active playing or demonstration.

demo time

8039722088

3809722088

*The only way to get around the short-term memory
limitation is* **minimizing the user's
memory load.**

system behavior

*our brain
memory
short-term*

UPLOAD



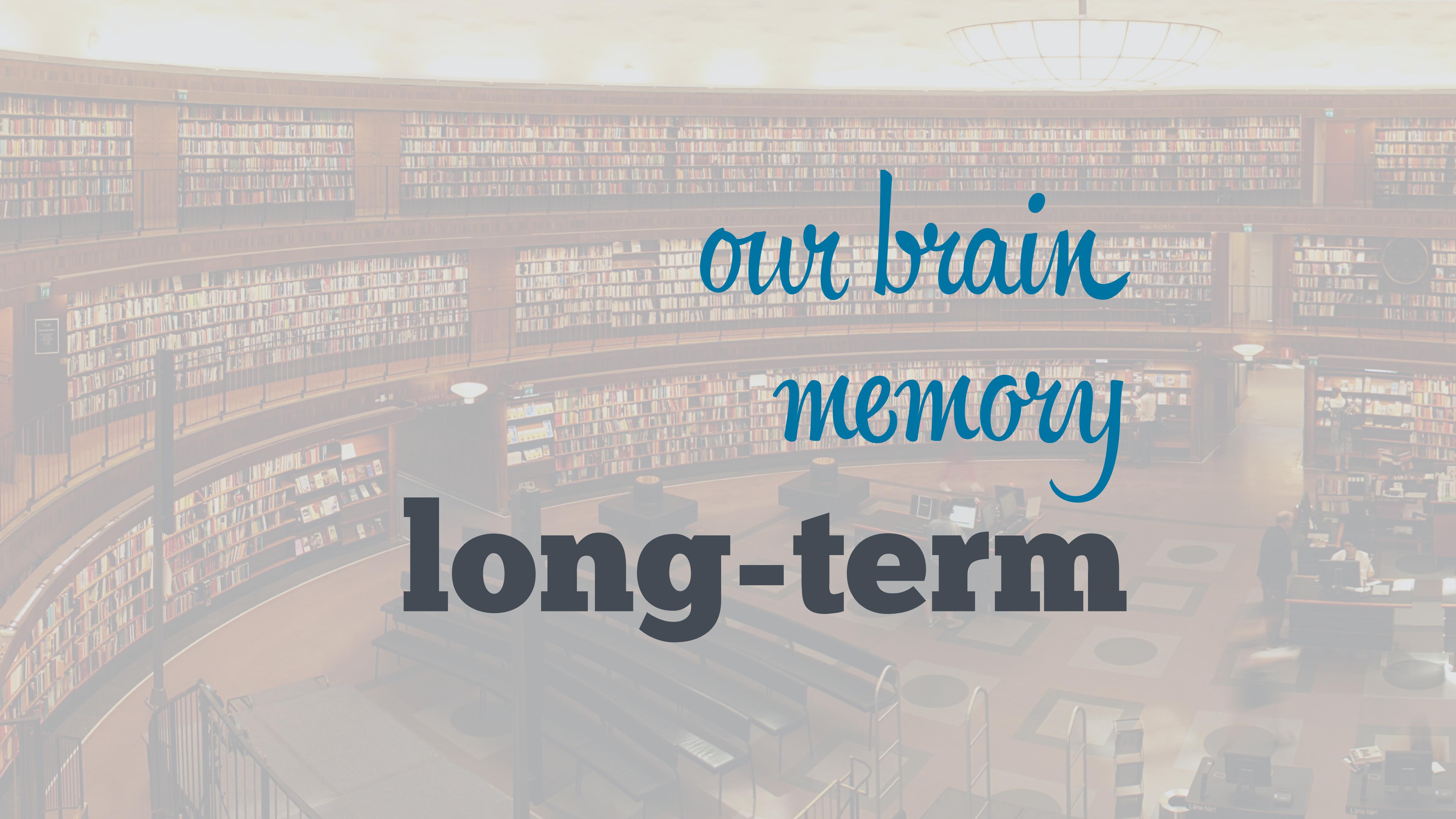
50%

IMG.JPG



A faint, grayscale photograph of a person sitting at a desk, viewed from behind. The person appears to be working on a computer, with their hands visible on the keyboard and mouse. The background is a textured, light gray.

never ever leave
users in the dark.

A wide-angle photograph of a modern, multi-story library. The architecture features curved wooden bookshelves that wrap around the building's interior. The shelves are filled with books of various colors. In the foreground, there are several rows of study carrels with people sitting at desks. The ceiling has a large, circular, grid-like light fixture. The overall atmosphere is quiet and scholarly.

our brain
memory
long-term

*stores the relevant
information from short-term
memory*

Recency



Context



Practice



our brain memory short-term gestures

Single Tap

Double Tap

Press & Hold



Swipe Up

Swipe Down

Swipe Right

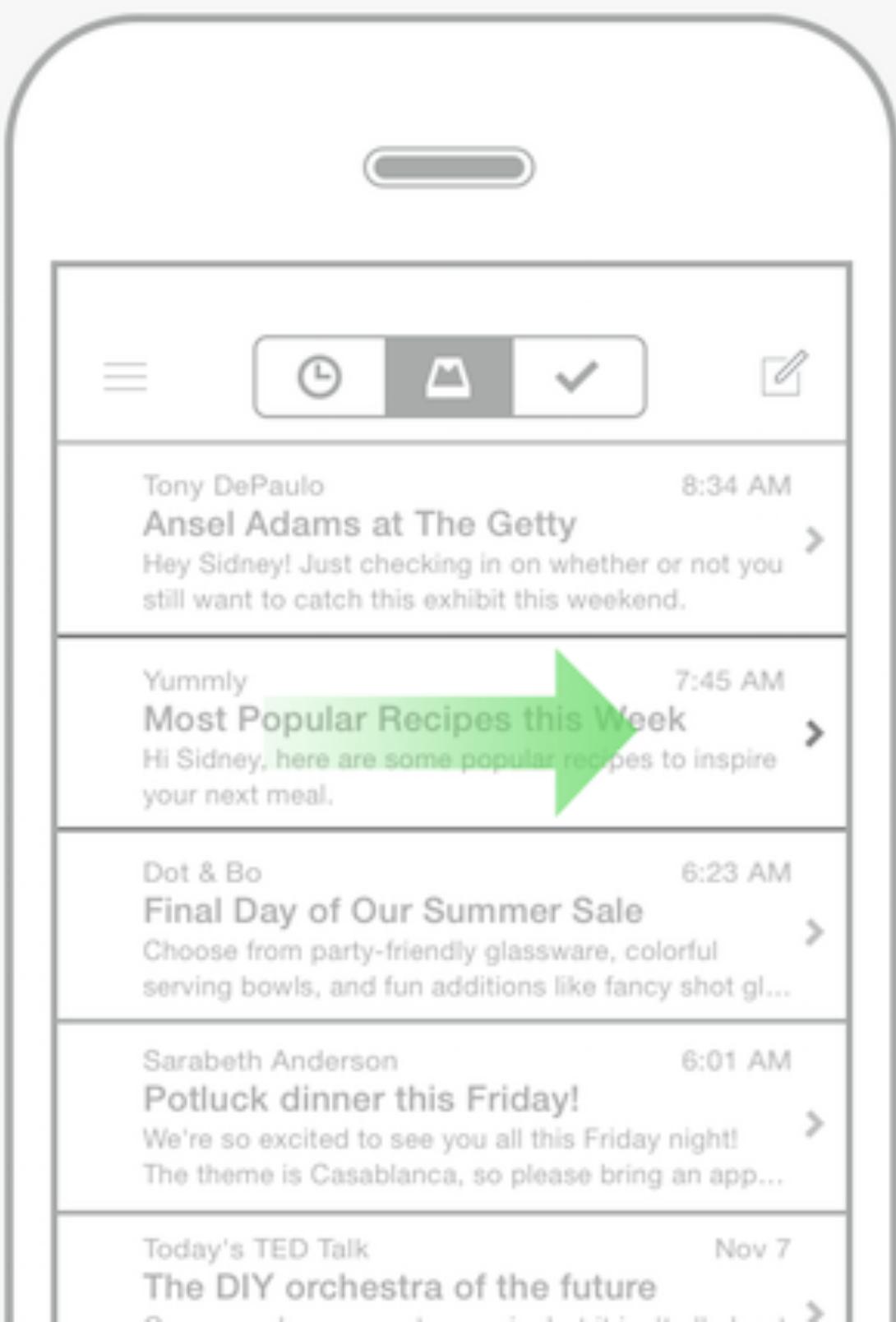
Swipe Left



X

Swipe Right to Archive

Archive lives to the right of Mailbox. Try archiving the message below.



once users understand that an action makes life easier, they'll use it **frequently**.

onboarding

*our brain
memory
short-term*

educate the user behavior with
**small doses of
information**



Are you a beginner?

Start here with the Basics



Not a beginner?

Try this Placement Test



Basics 2

0/5



Phrases

0/2

our brain
memory
short-term
recency

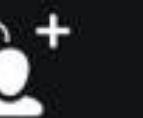
No Service

12:48 pm

65%



JXDEHALL



0
PLAYLISTS

0
FOLLOWERS

25
FOLLOWING

RECENTLY PLAYED ARTISTS



5 Seconds Of Summer
823,541 FOLLOWERS



Fall Out Boy
773,050 FOLLOWERS



Ghost Town
45,782 FOLLOWERS



You Me At Six
242,328 FOLLOWERS



See All Artists



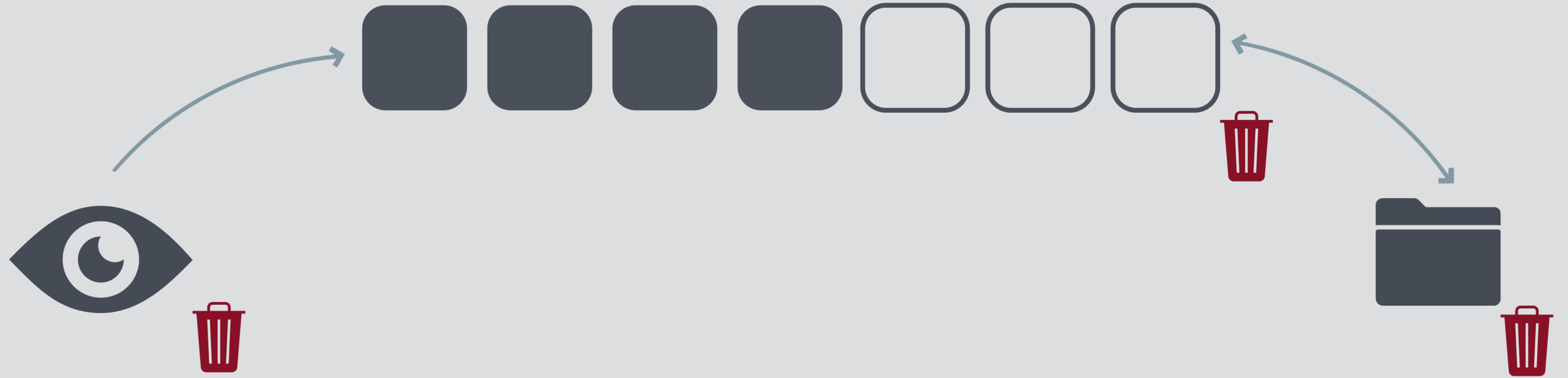
Mad At Myself
Issues



it's much likely that users will search again, in a short period of time, a recently accessed information

*our brain
memory
overview*

MEMORY	FUNCTION	DURATION	PRACTICES
Sensory	Encoding	2–5 ms	Affordance
Short-term	Retention	15–30 s	System Behaviour Previous Actions
Long-term	Recovery	-	Gestures Onboarding Recency





our brain
attention

mental activity

disposed over a certain object

cornea

pupil

sclera

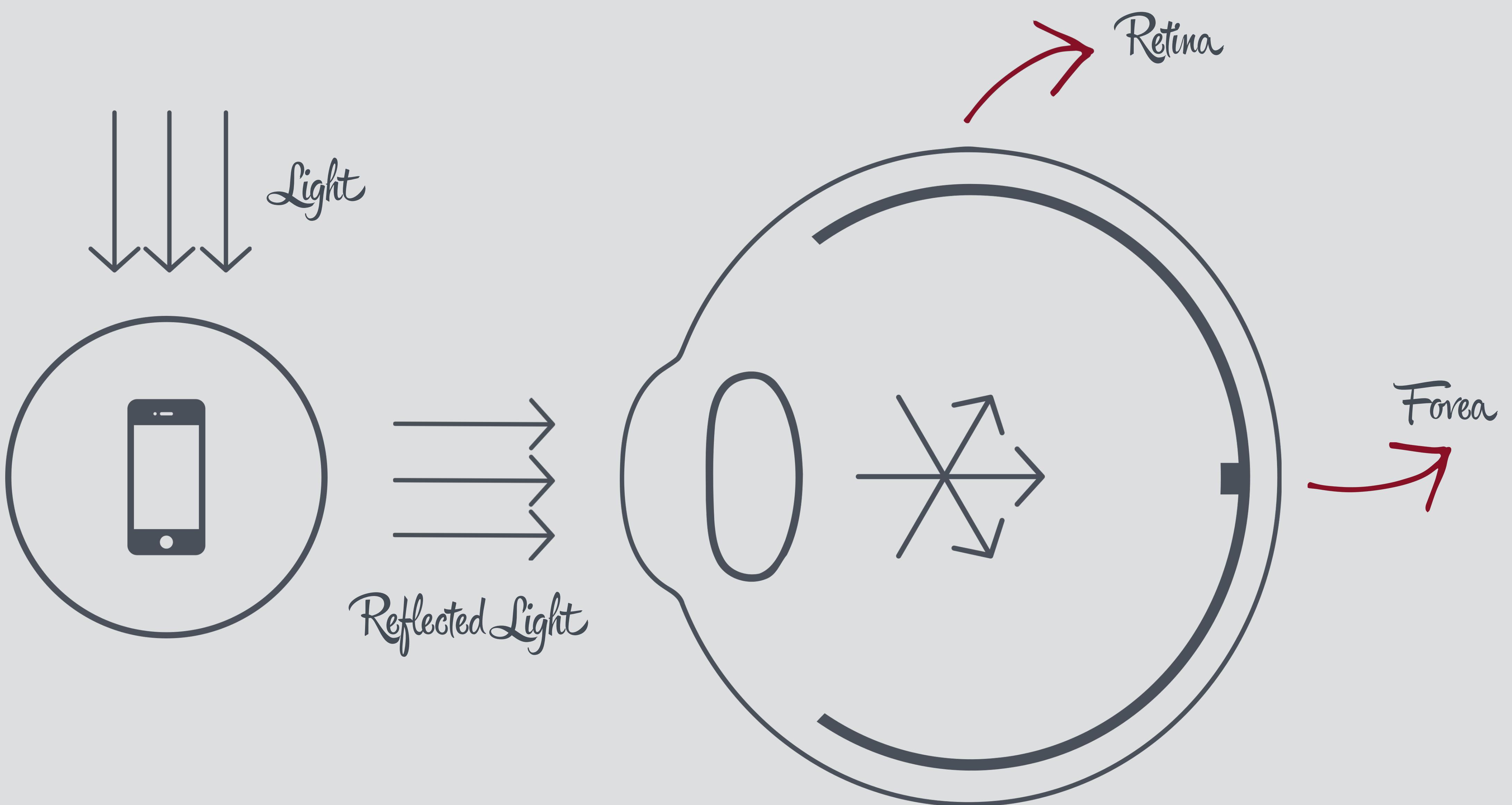
retina

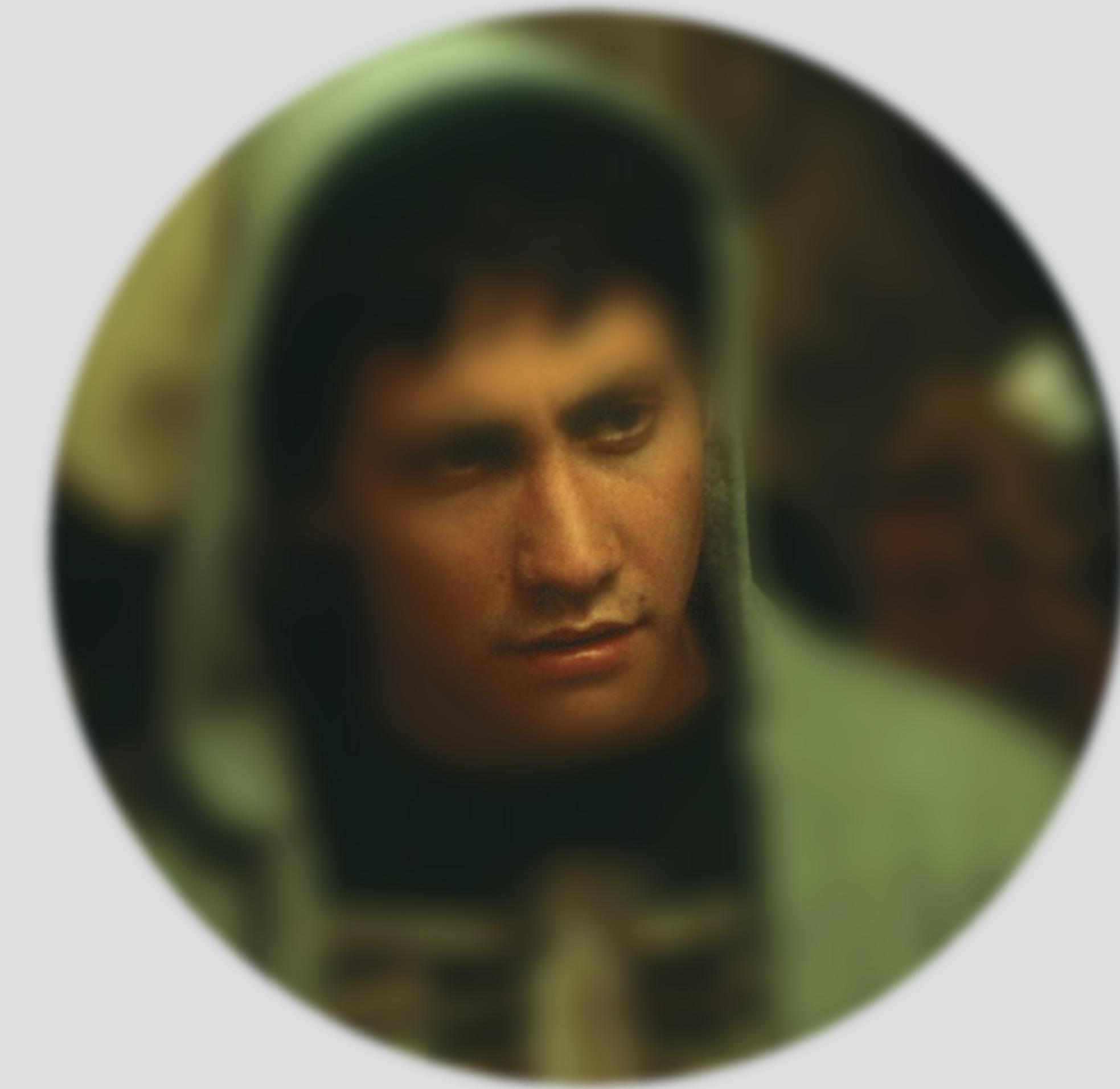
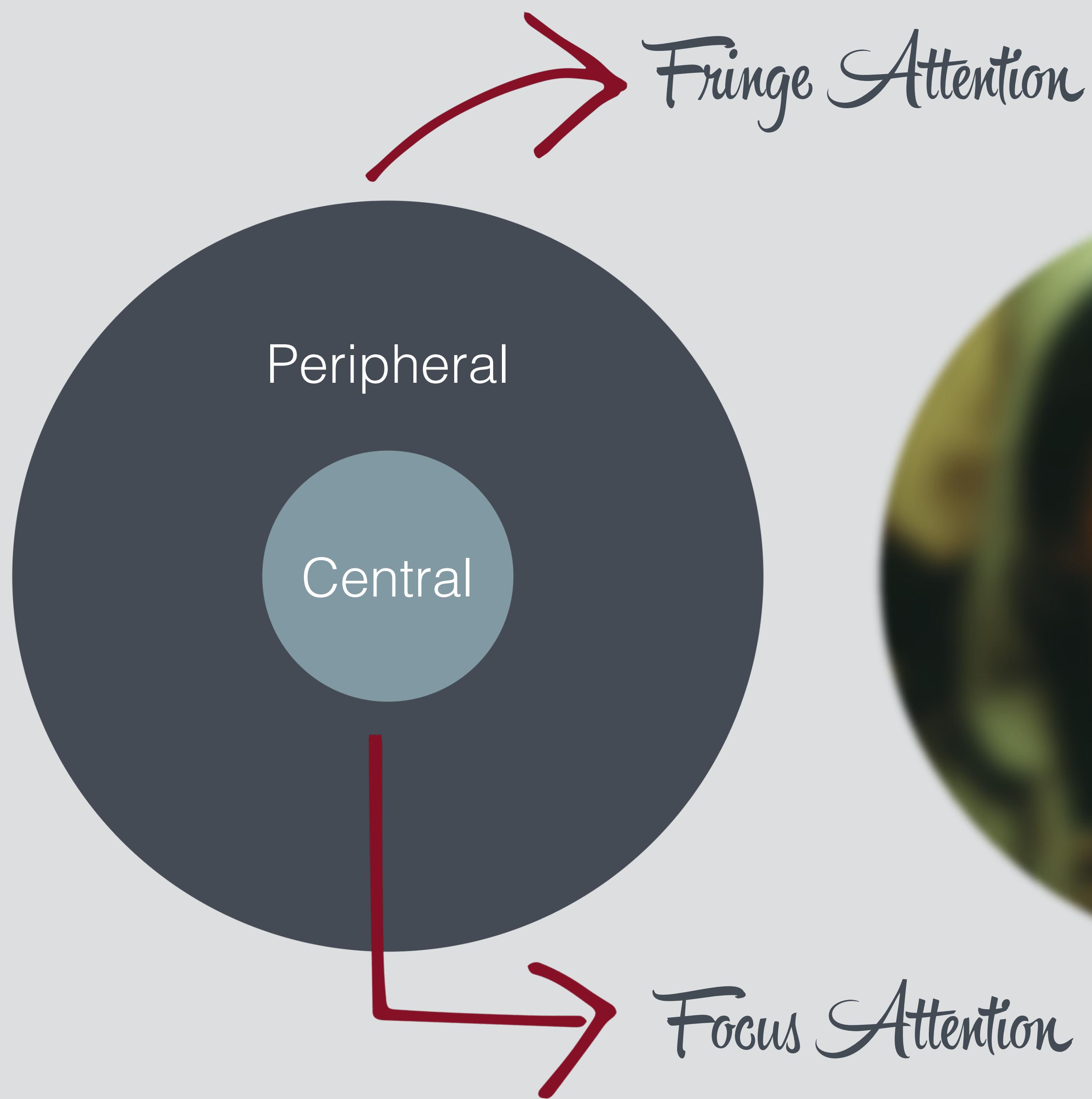
fovea

iris

optic nerve

lens





Fringe Attention

Peripheral

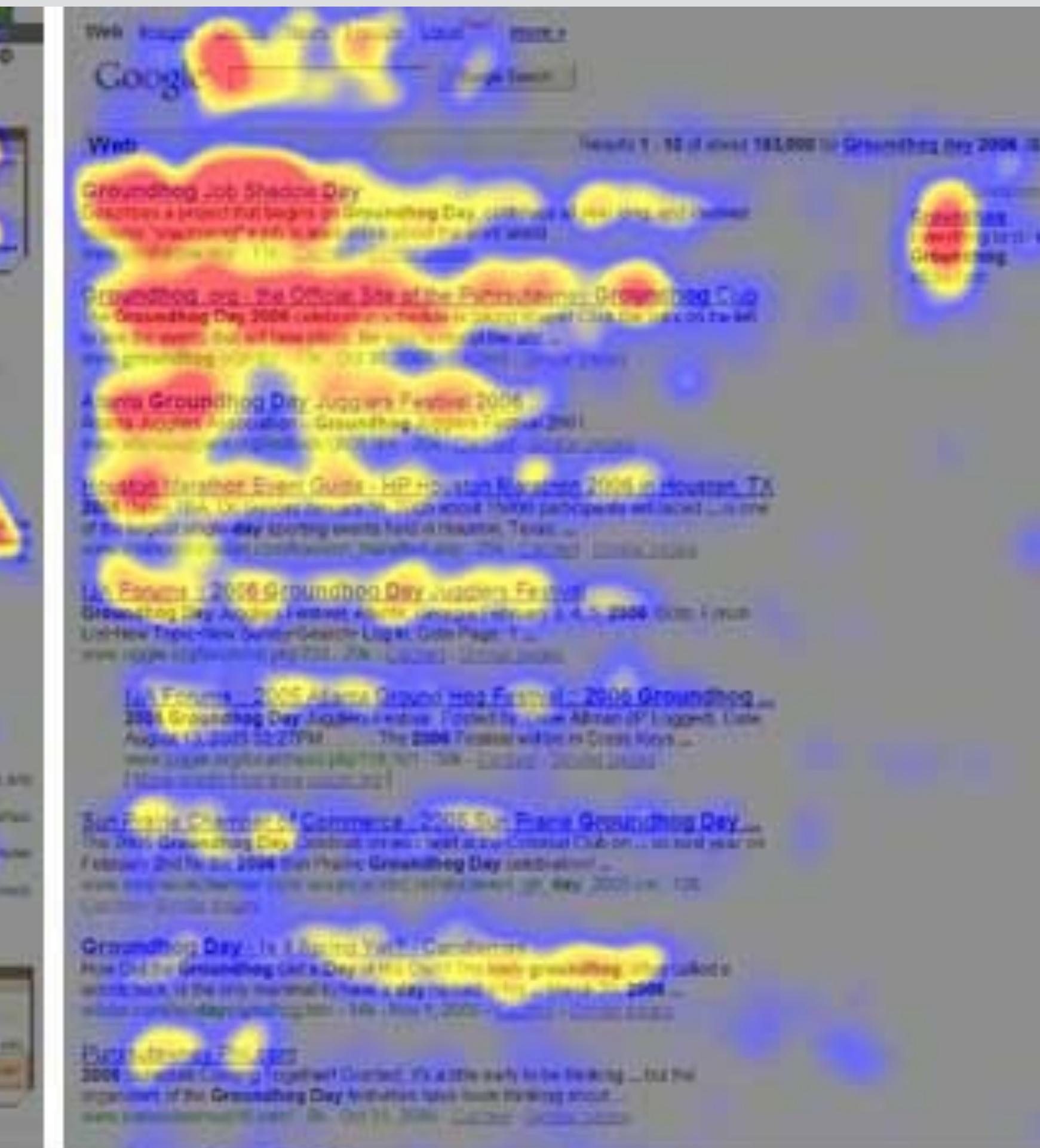
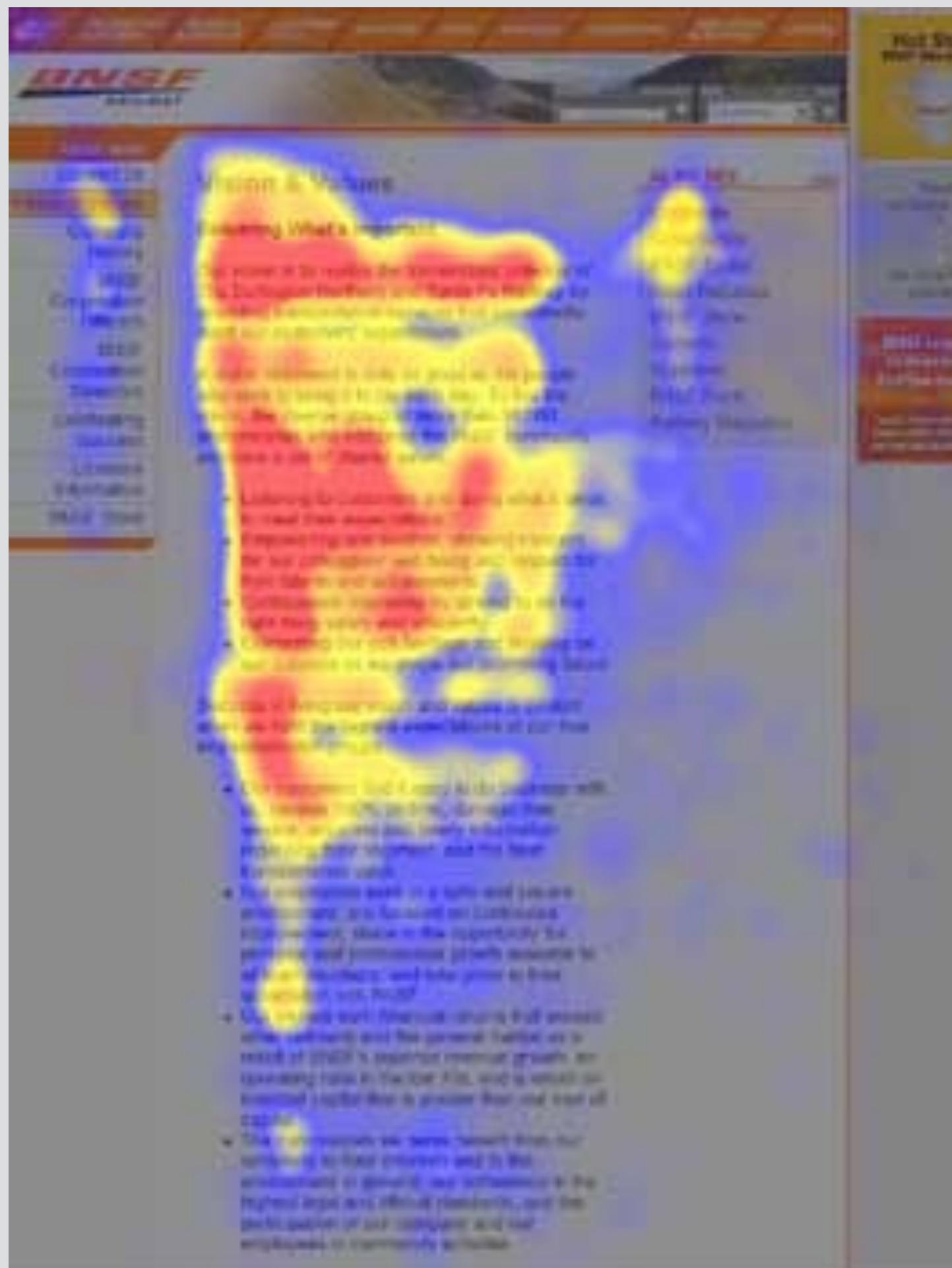
Central

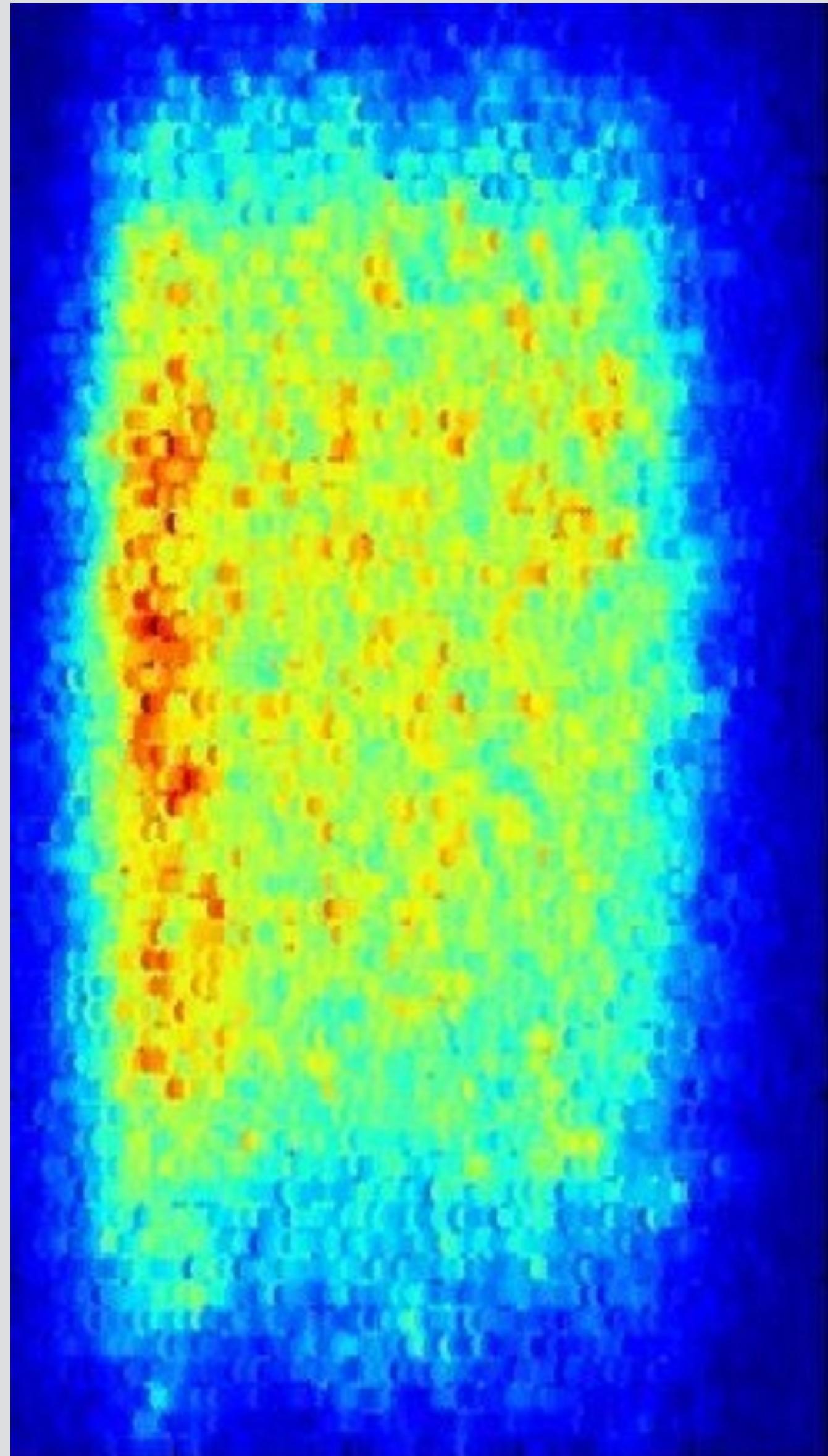
Fringe Attention

Focus Attention

punches on rails

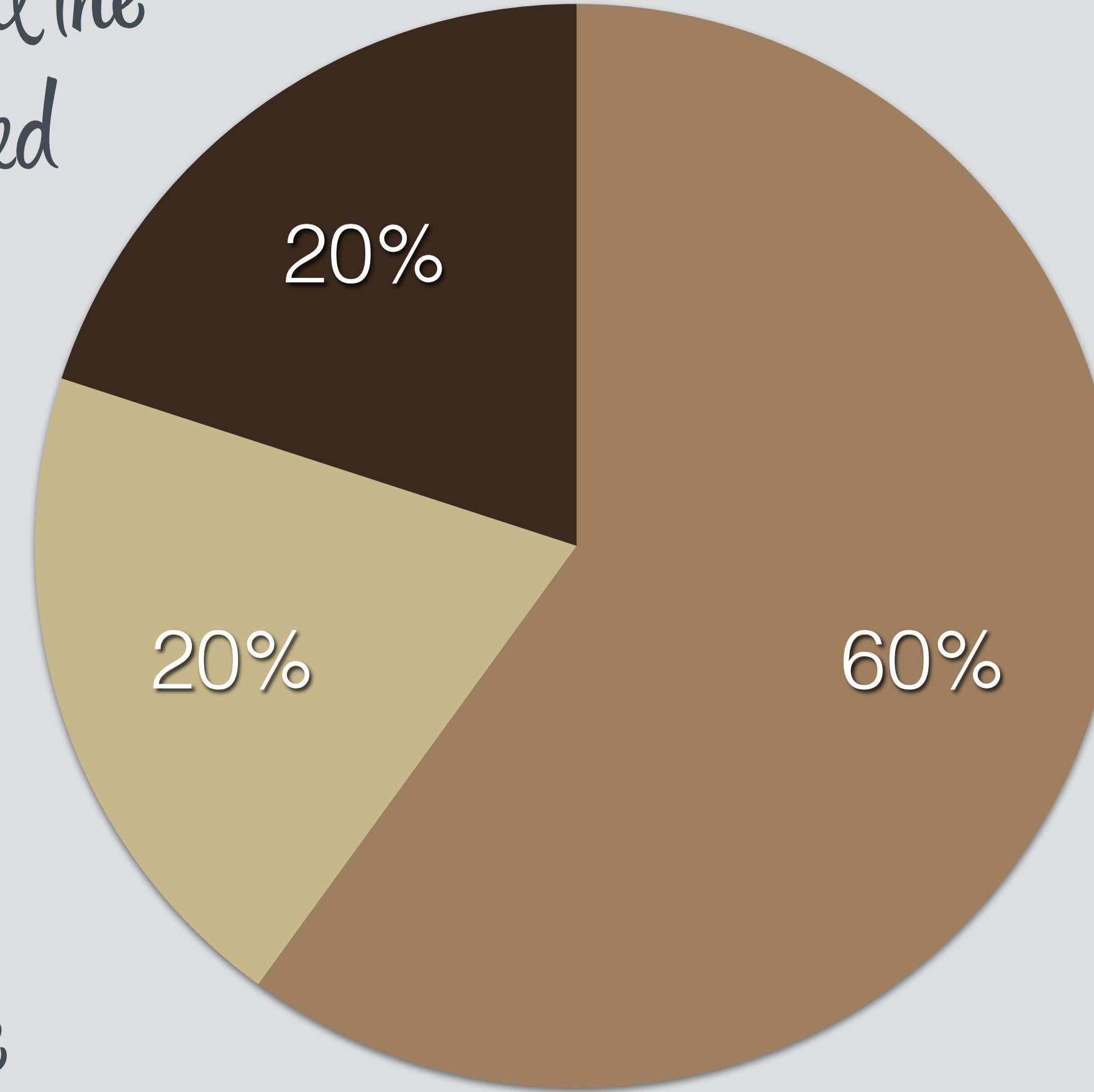
*our brain
attention*





read one page +/- completely
and then scrolled, so that all the
screen's content was replaced
with new text

read line-by-line – they
focused on a single or very
few lines on the screen while
scrolling almost constantly



read a block of
text at a time
before scrolling
to see more

M Beautiful Stories

Welcome to Medium for iPhone

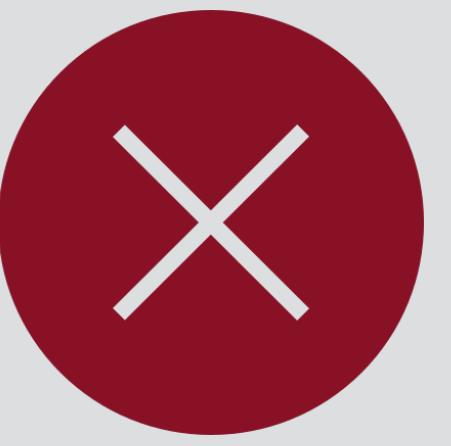
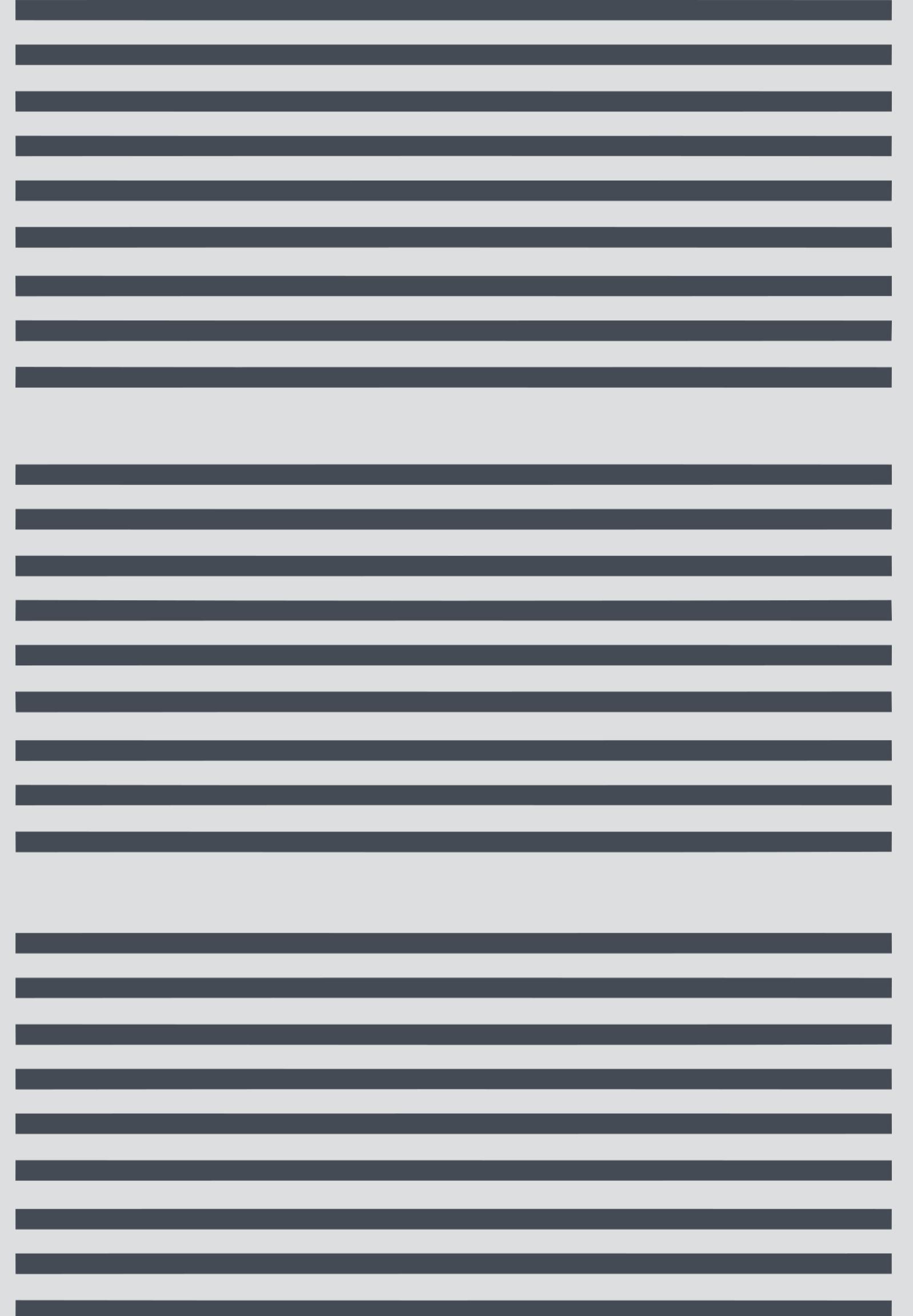
An app for beautiful stories—
wherever you are



Ev Williams

2 min







bad guys out there

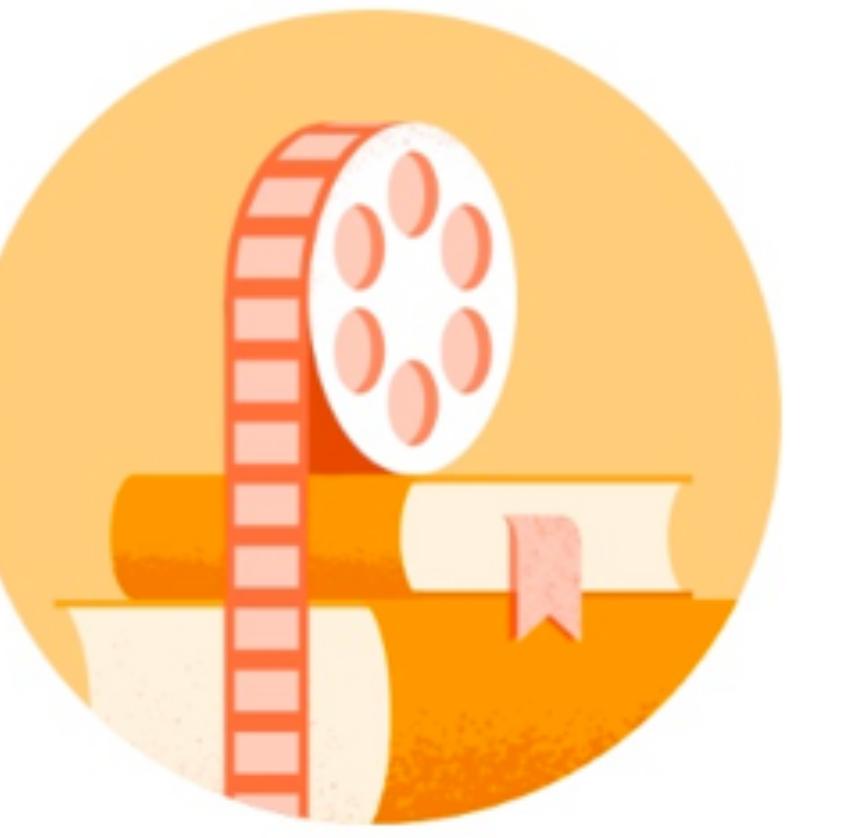
bad guys out there unintuitive empty states



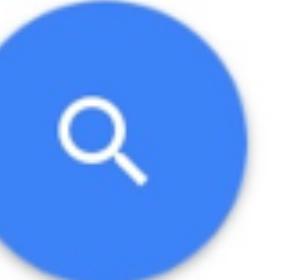
≡ Collections ▾



No collections



Make albums, stories, and more
with the + button at the top

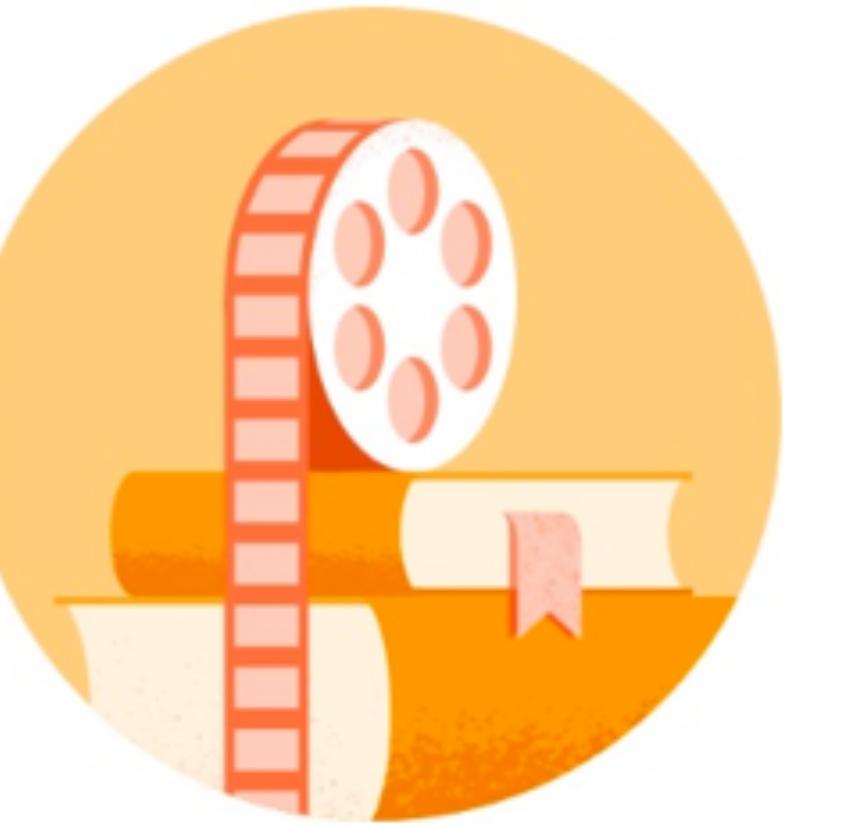


- ✓ well composed layout
- ✓ beautiful graphics
- ✓ following the guidelines

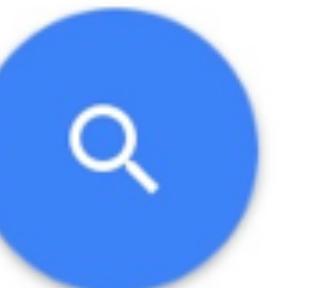
≡ Collections ▾



No collections



Make albums, stories, and more
with the + button at the top



? why is there a big search button
if there are no collections?

? why does the hint itself not
contain an add button?

! the second most prominent
element, the image is obviously
not tappable



Search person or location you're visiting...

Use the searchbar above to search your destination
and start sharing your estimated time of arrival.



Recover Items

Recover

unroll.me



Rollup

Edit



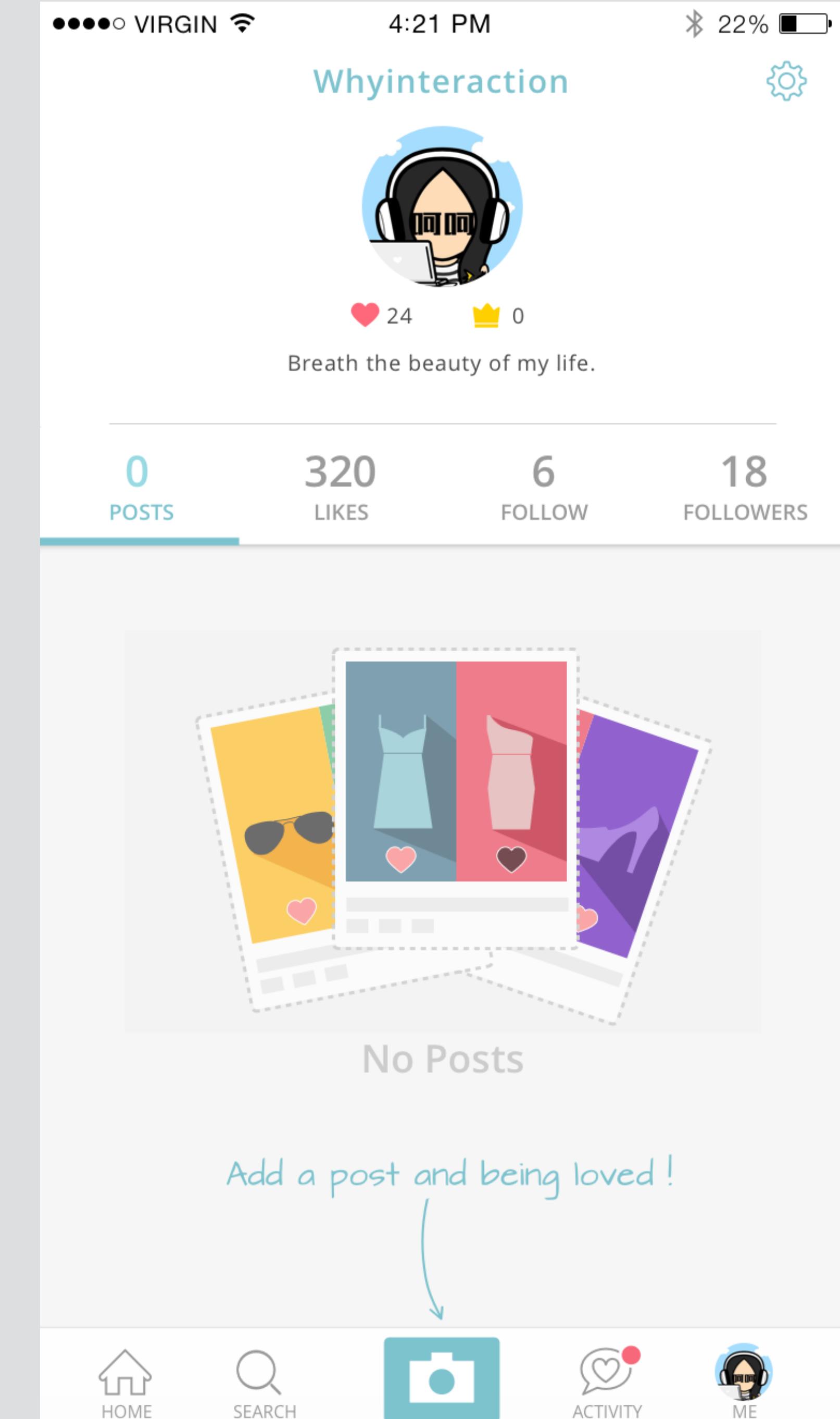
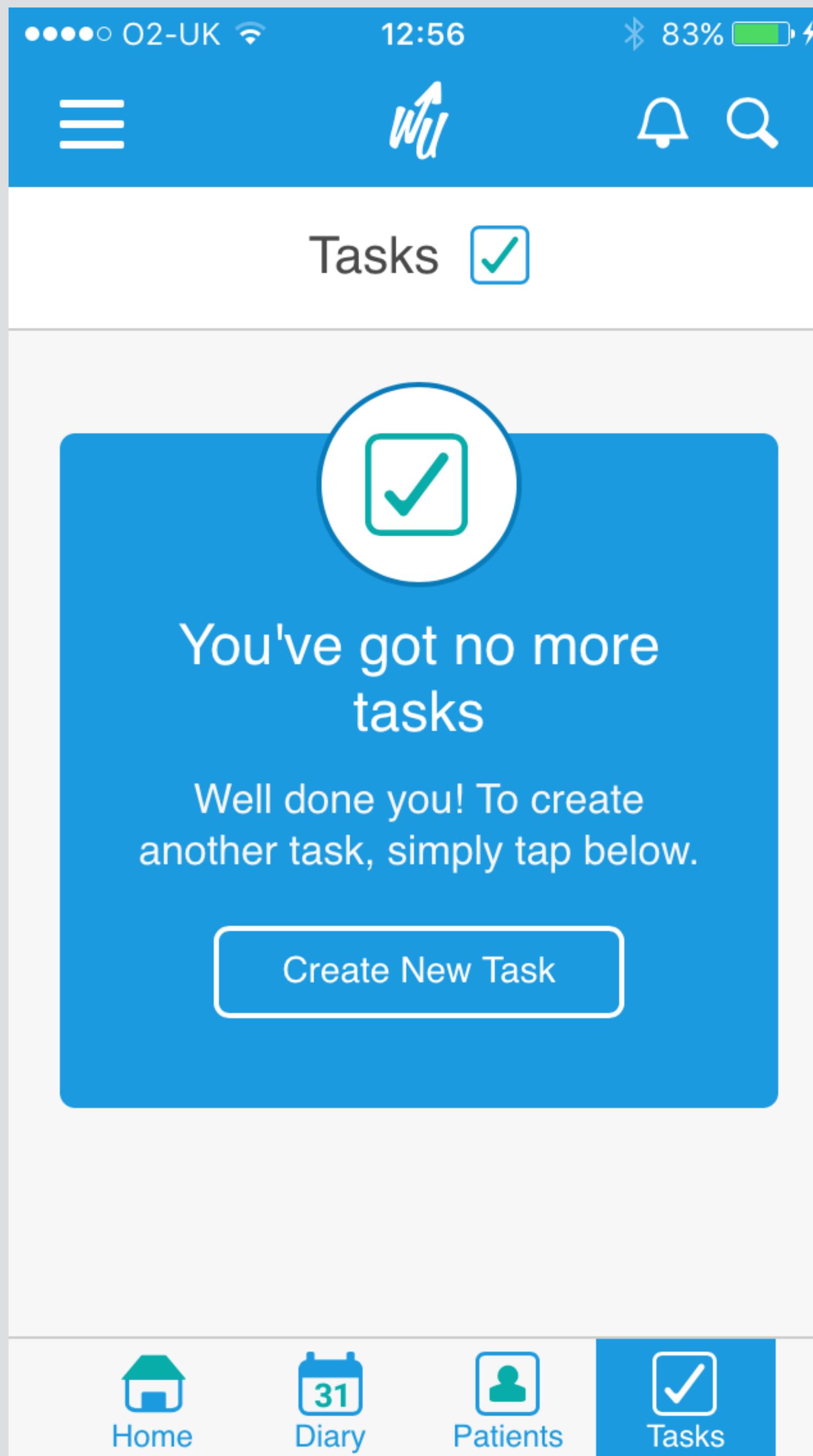
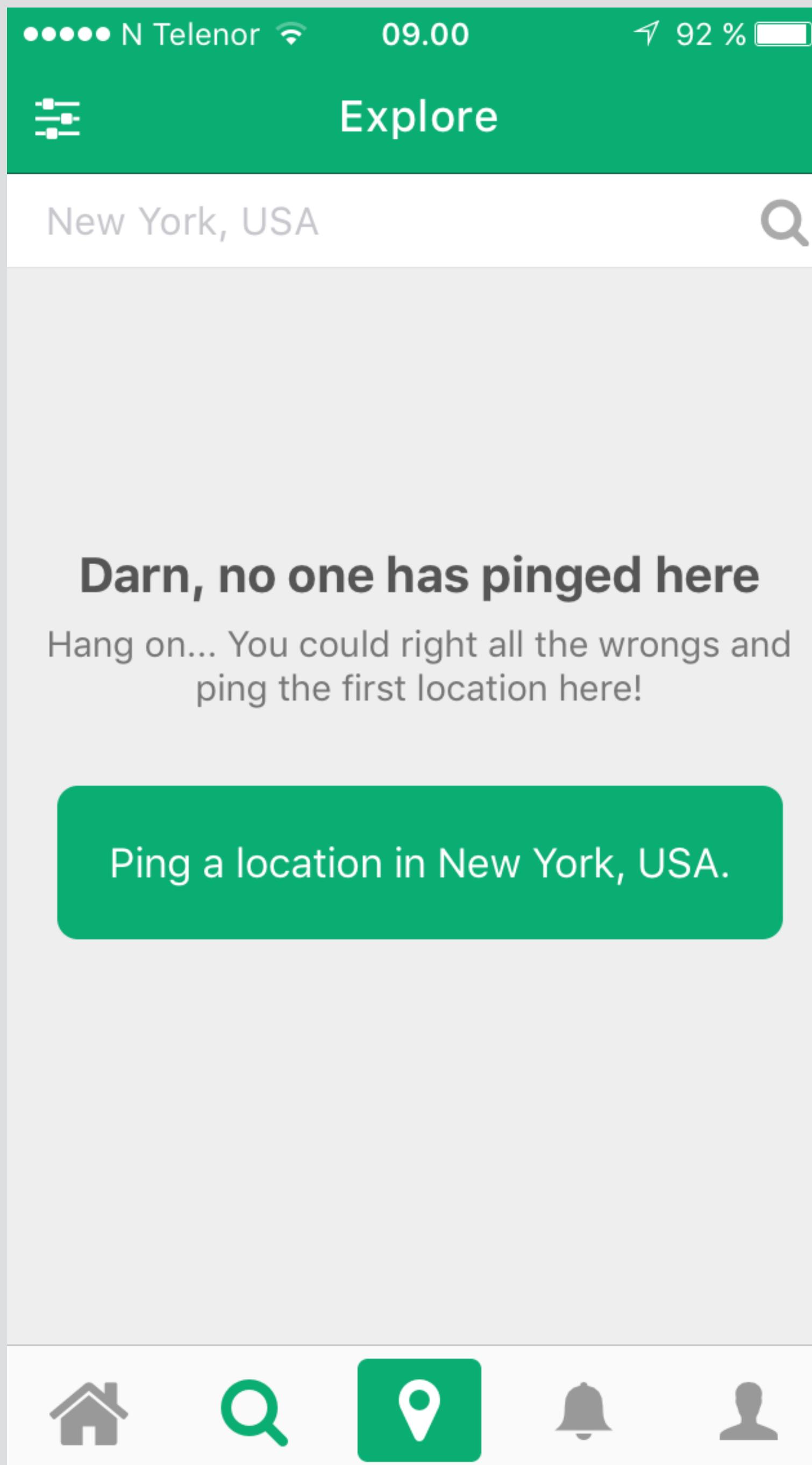
Rollup Unsubscribed Inbox New

No new items

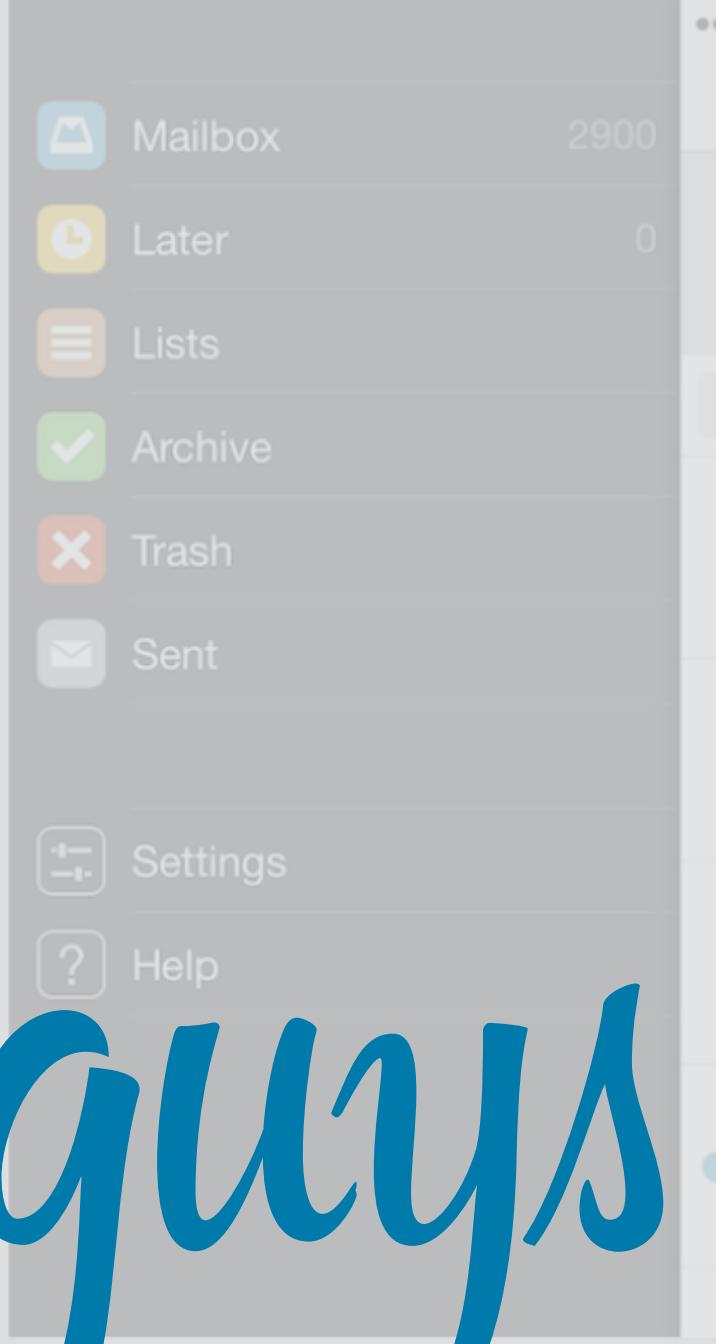
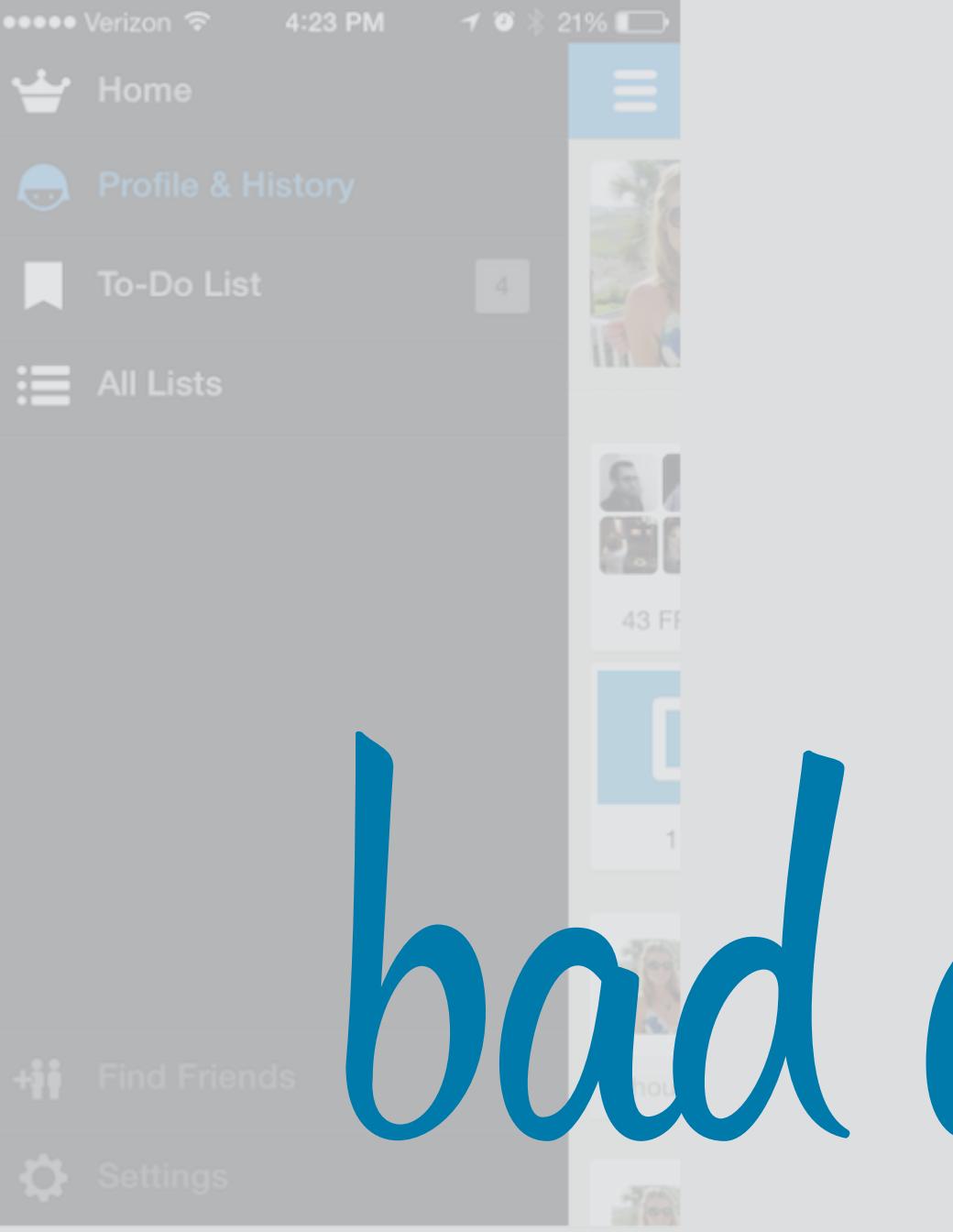
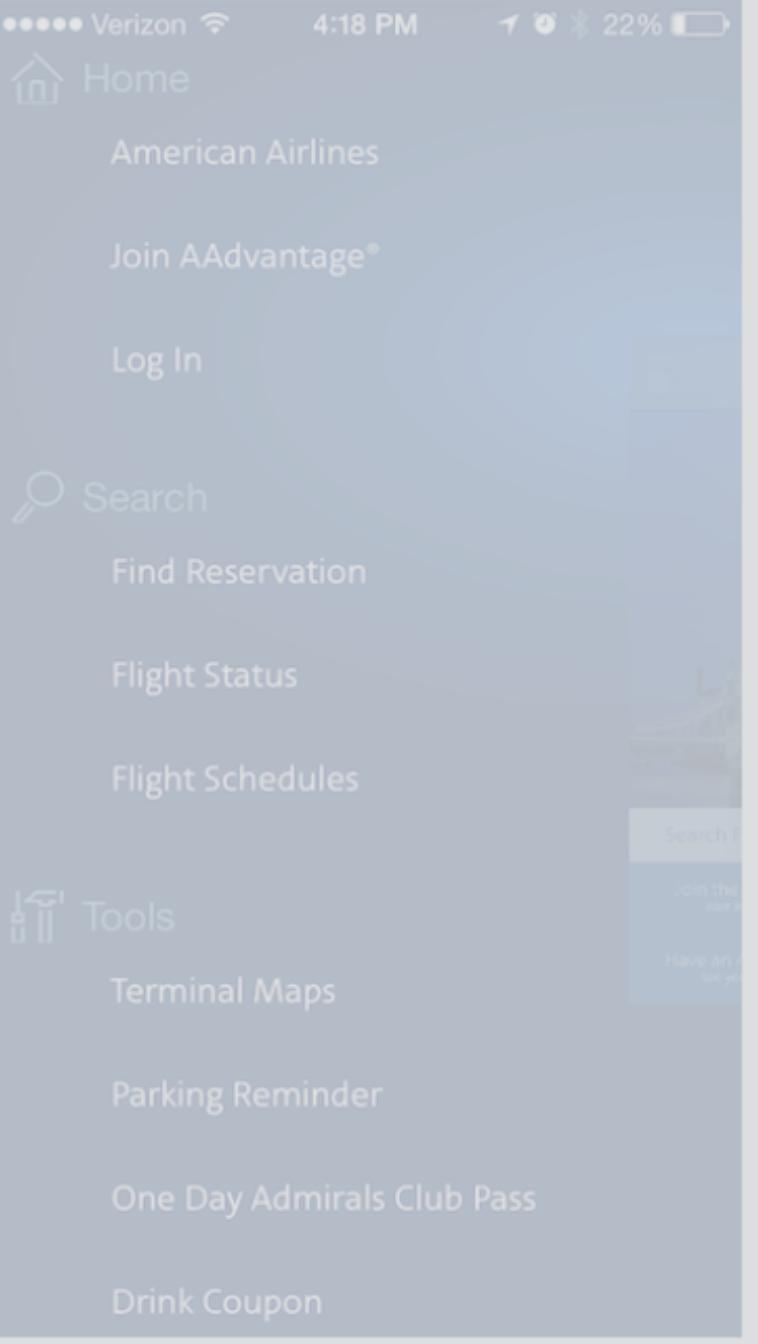
Welcome to your tidy inbox!

Any documents or folders you
delete will show up here. You can
recover items for 7 days after
deleting them.





empty states aren't only about
aesthetics & branding; they have a very
important role in usability!

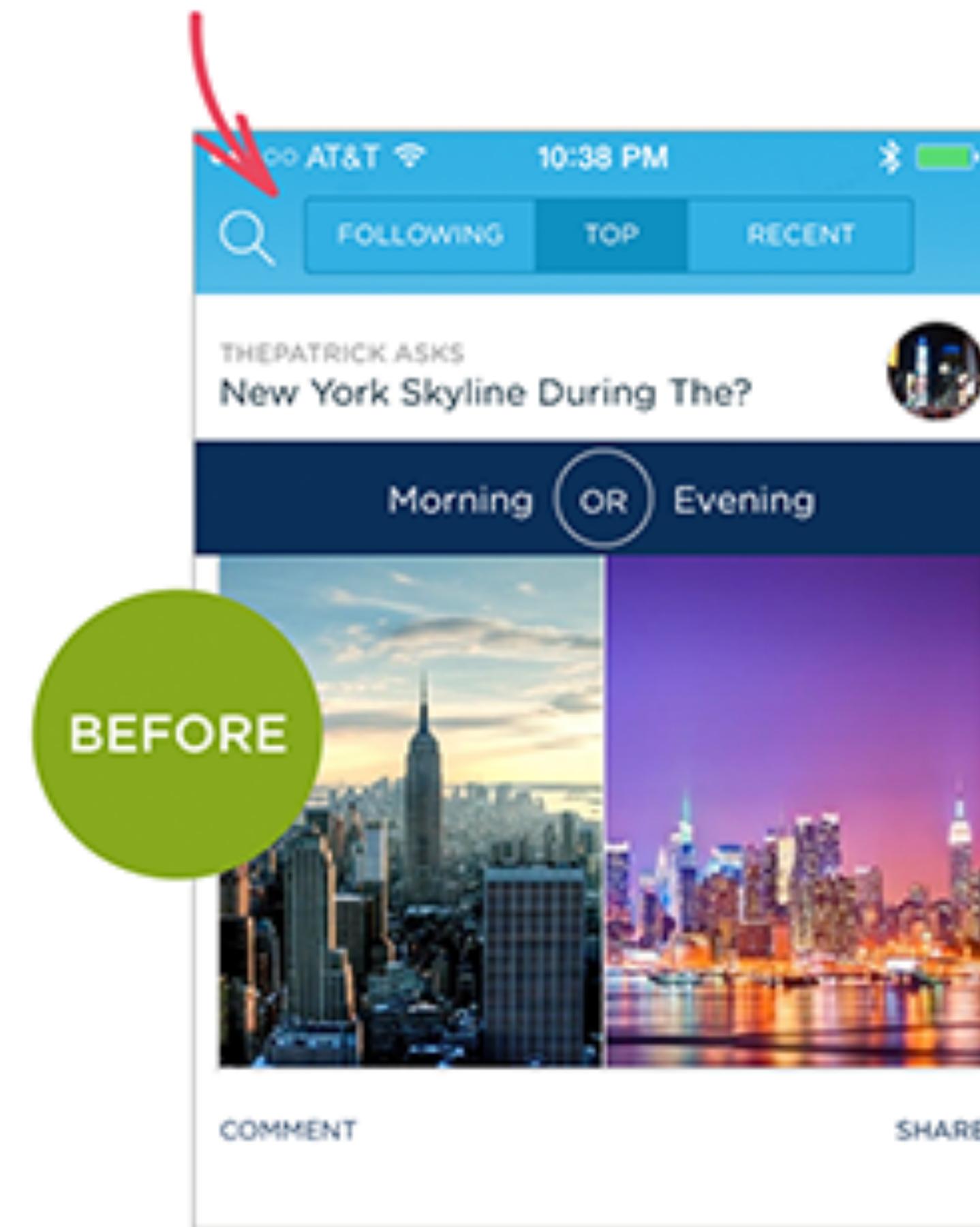


bad guys out there
hidden
navigation

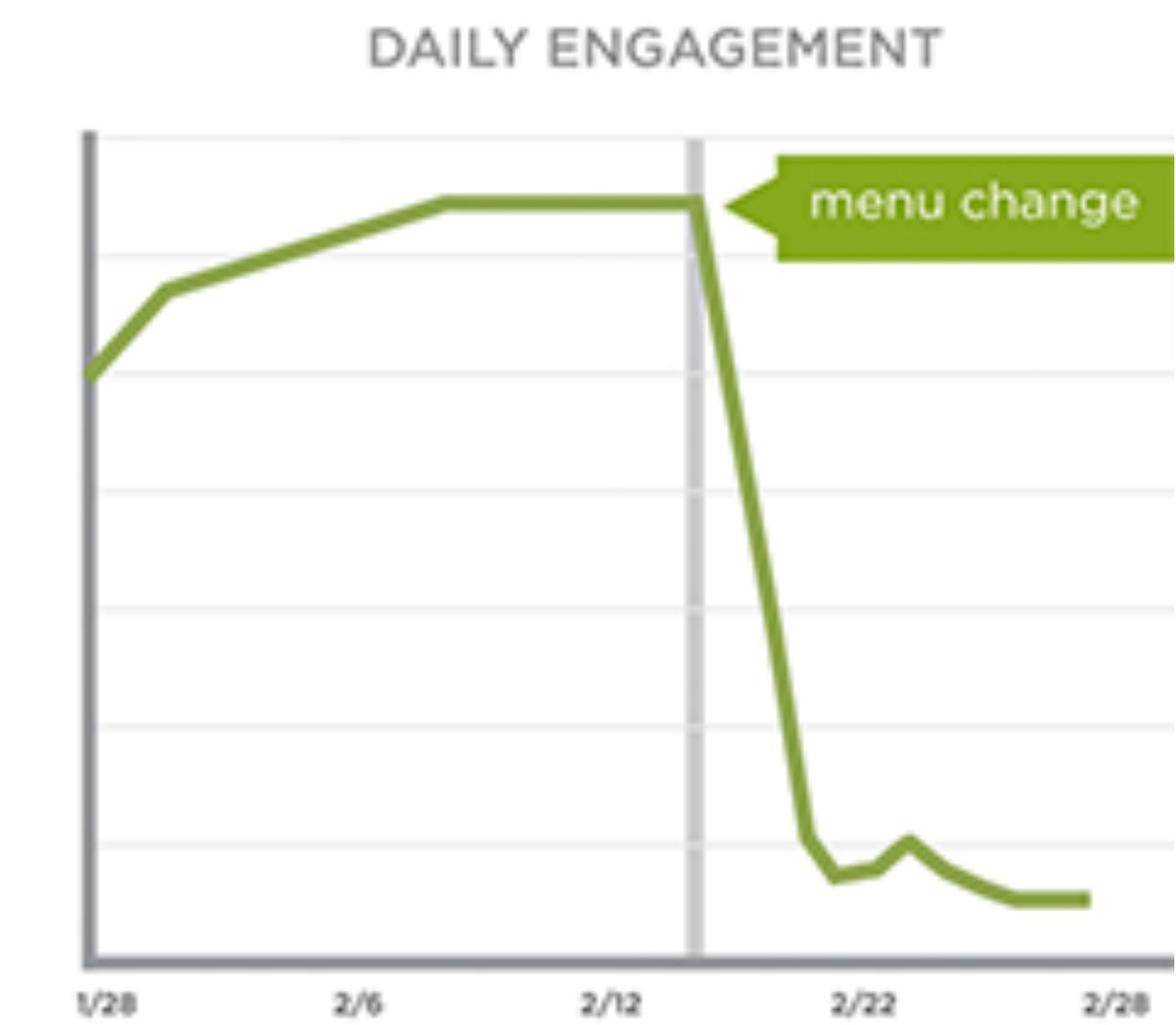
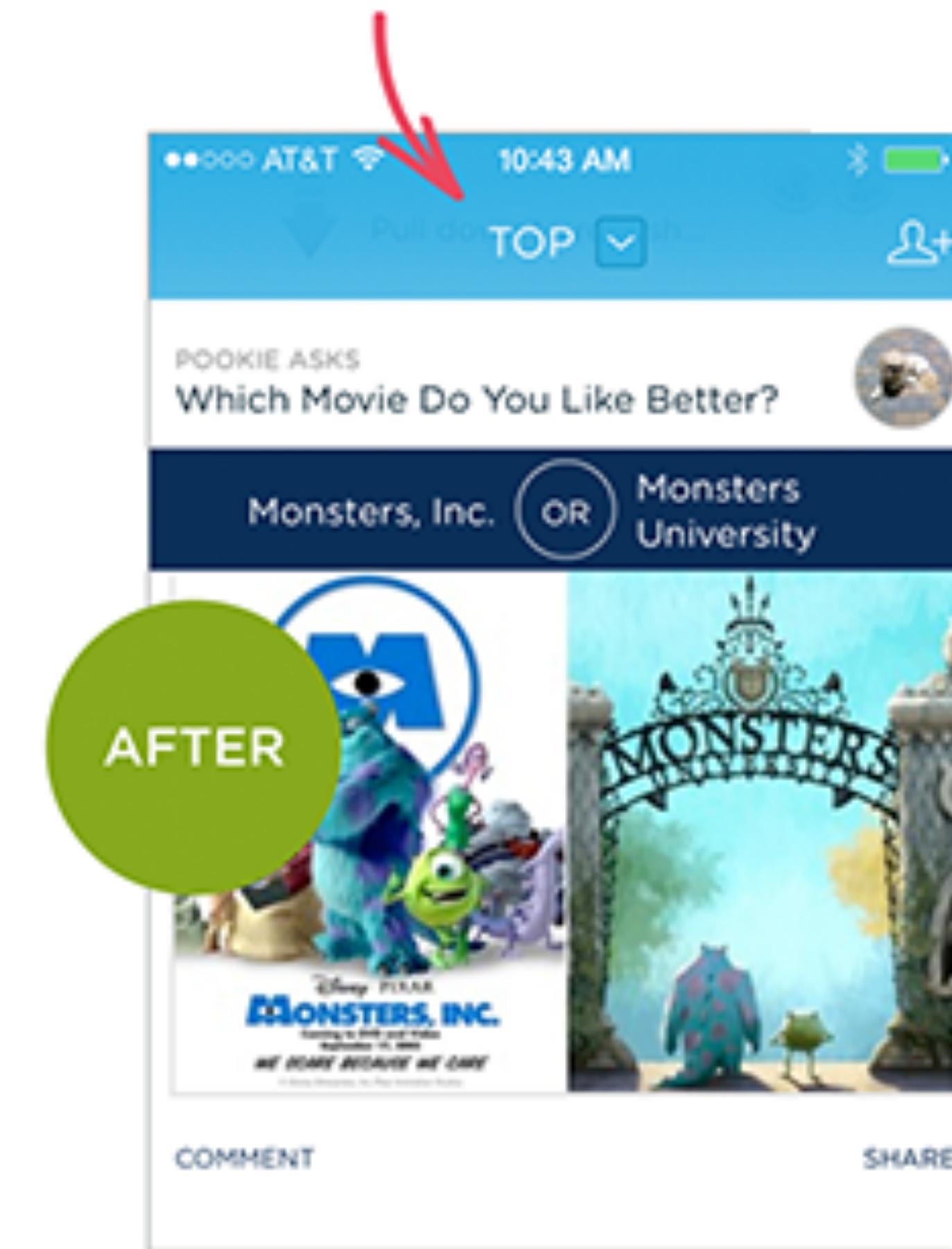


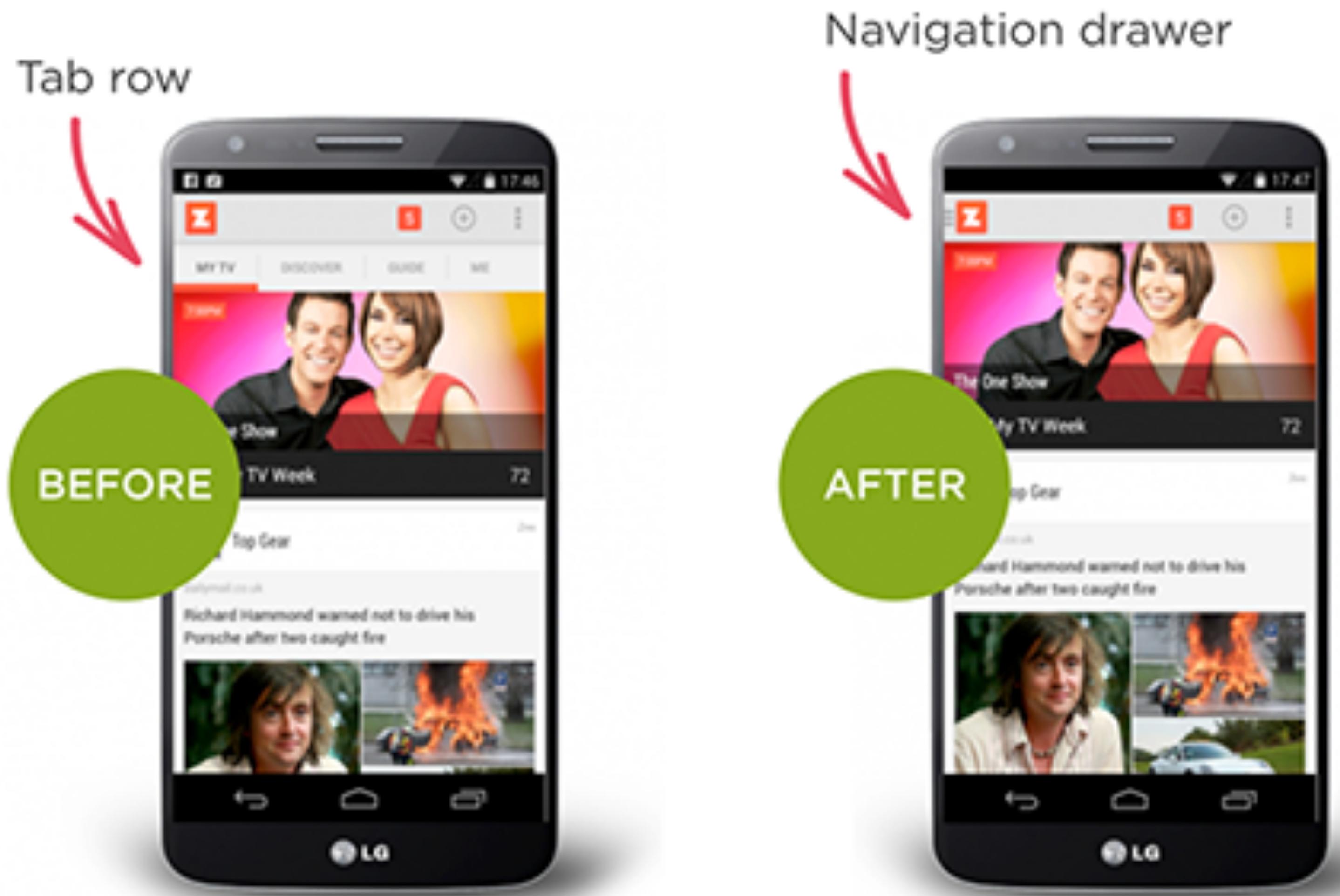
*exposing menu options in a more visible
way increases engagement,
user satisfaction and even revenue.*

Segmented control



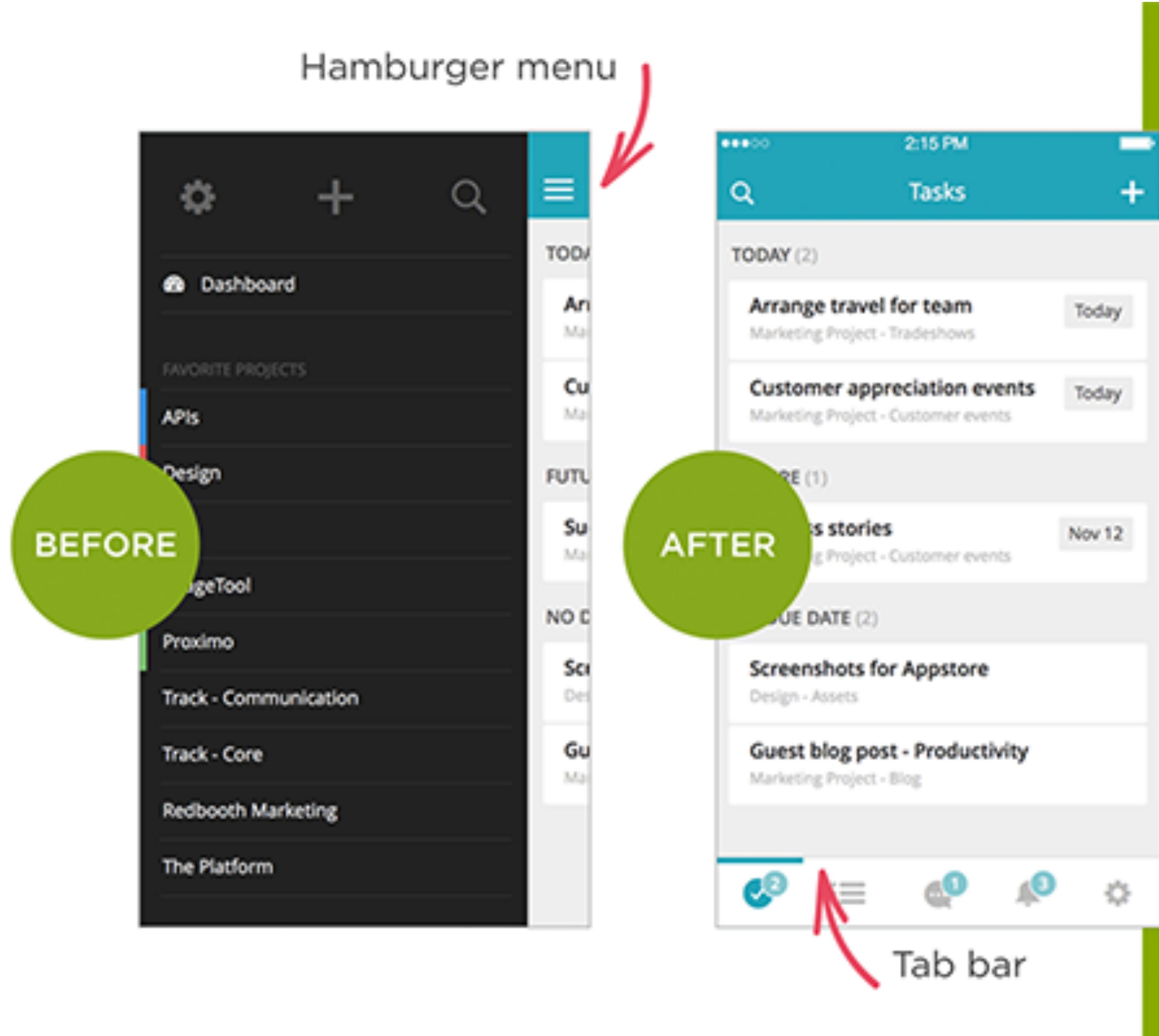
Toggle menu





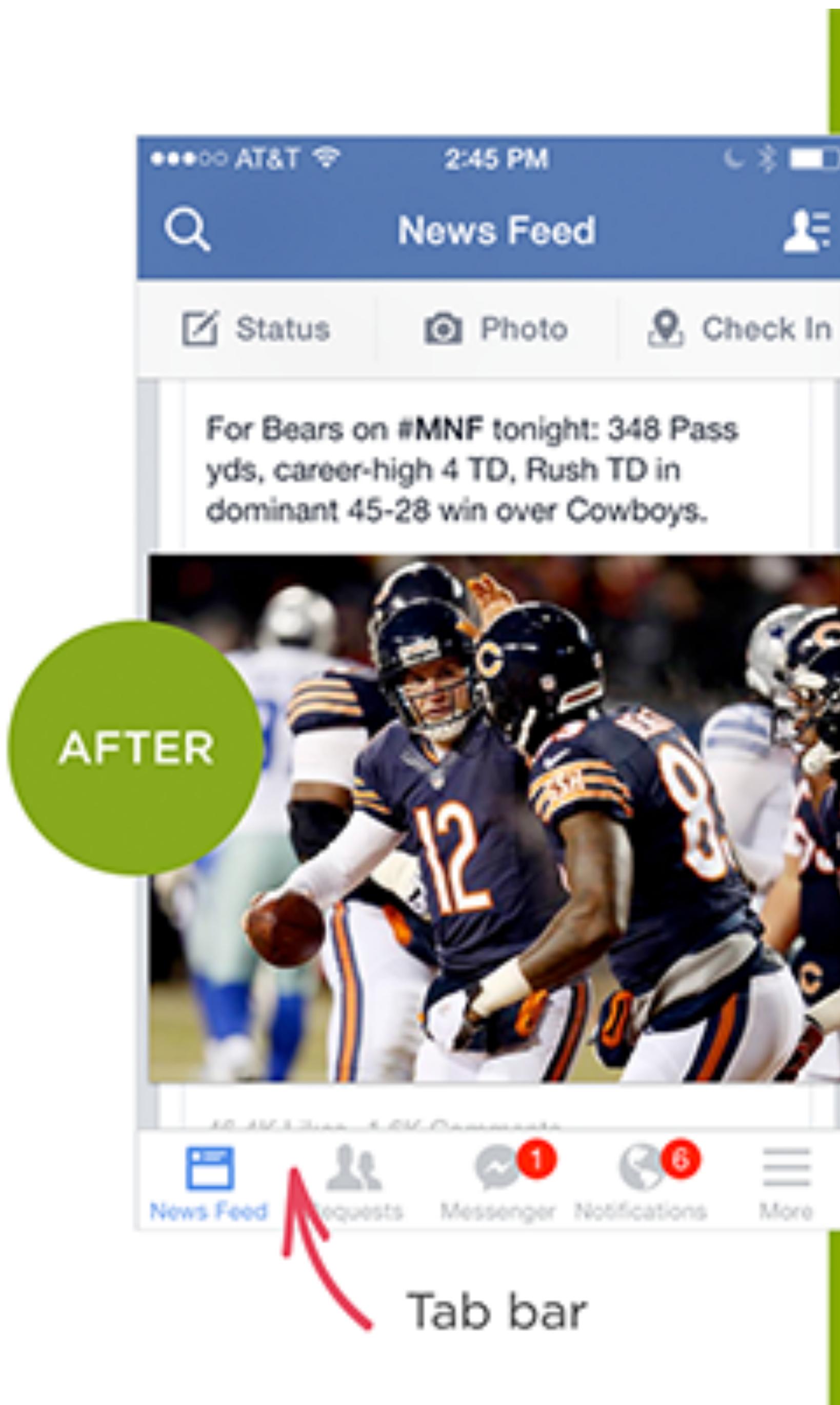
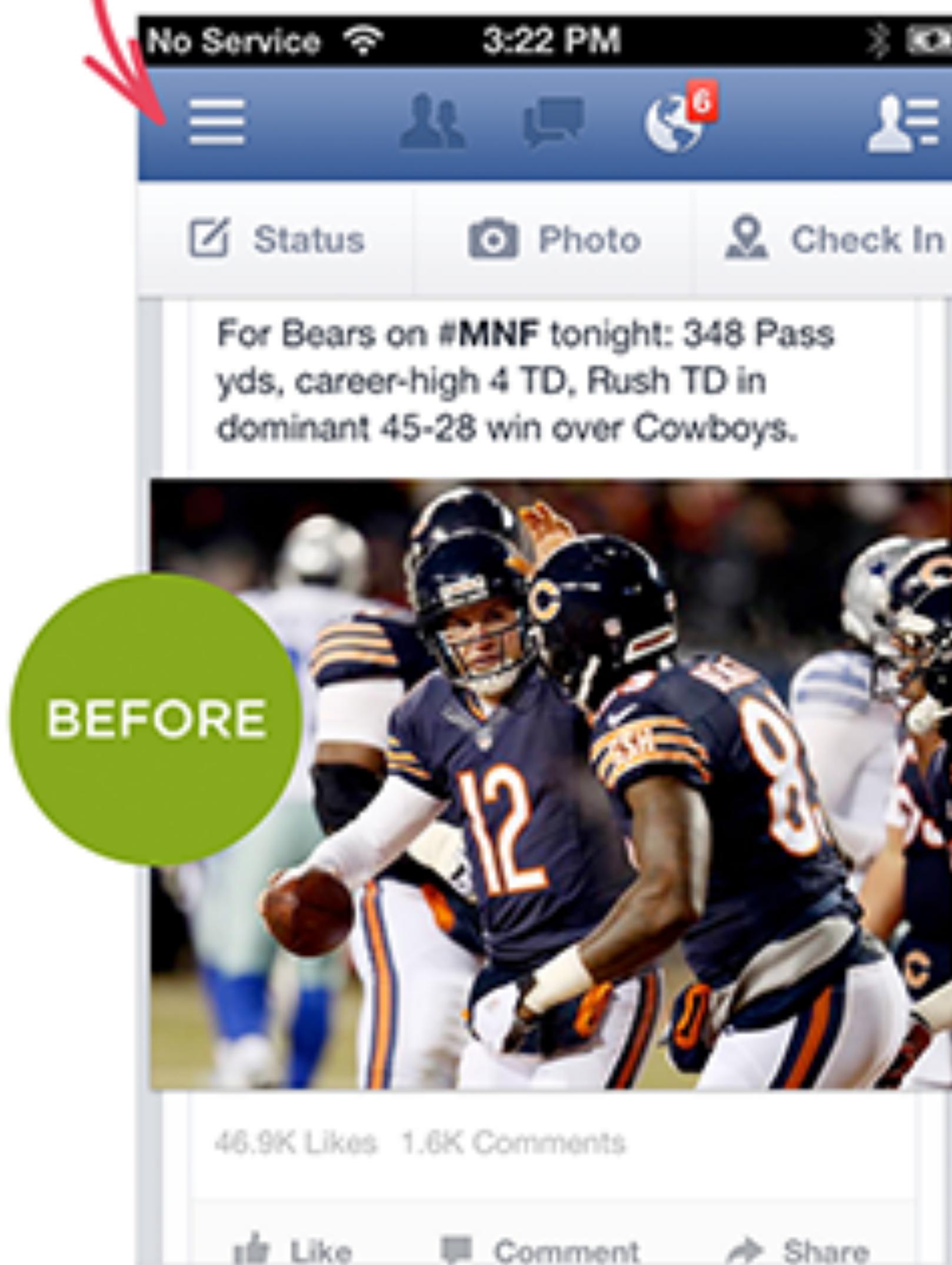
engagement time
halved: weekly
frequency & daily
frequency down;
time spent in app
down.

Hamburger menu



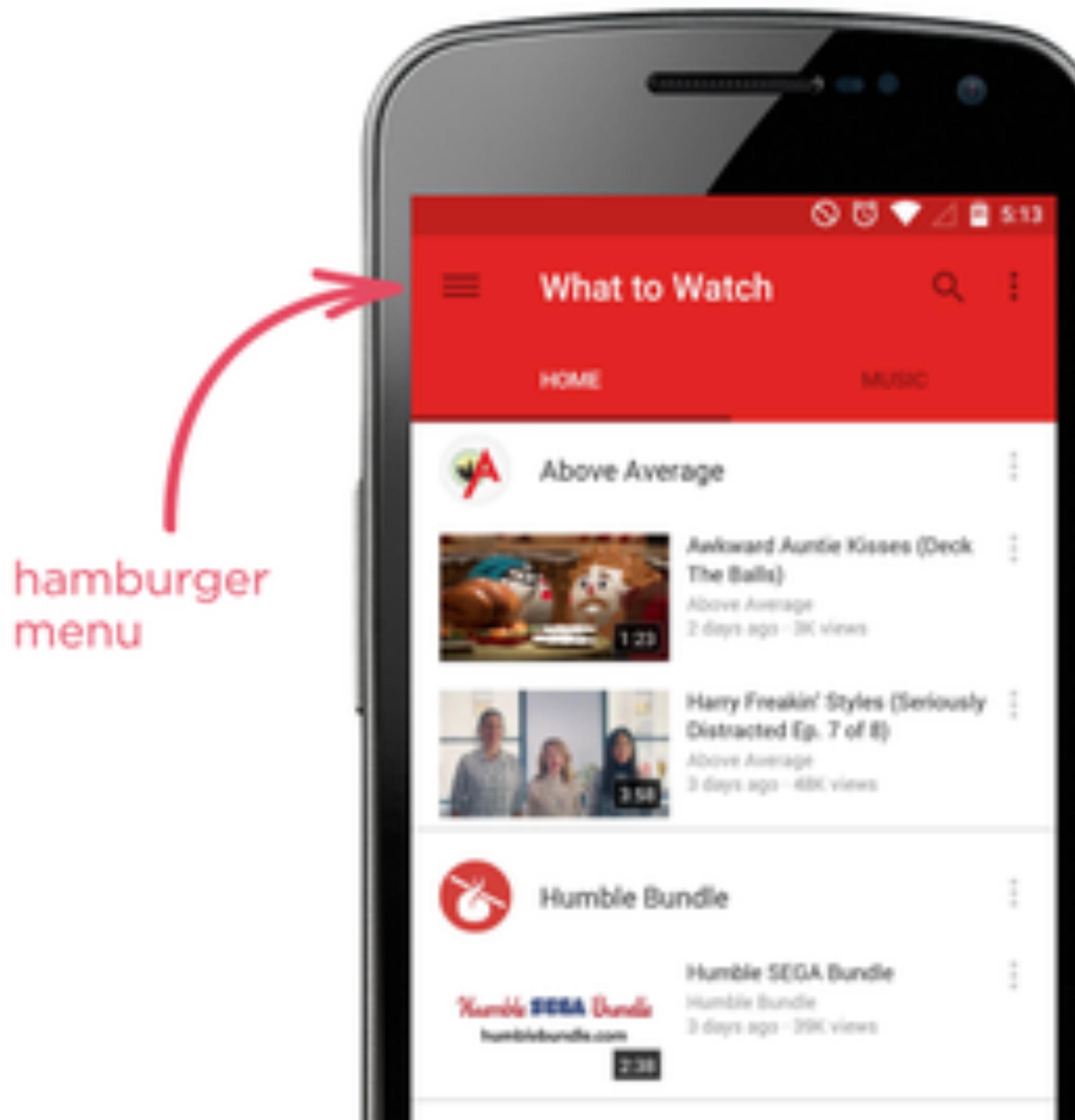
number of sessions more than doubled; session time increased 70%; 65% increase in daily active users.

Hamburger menu

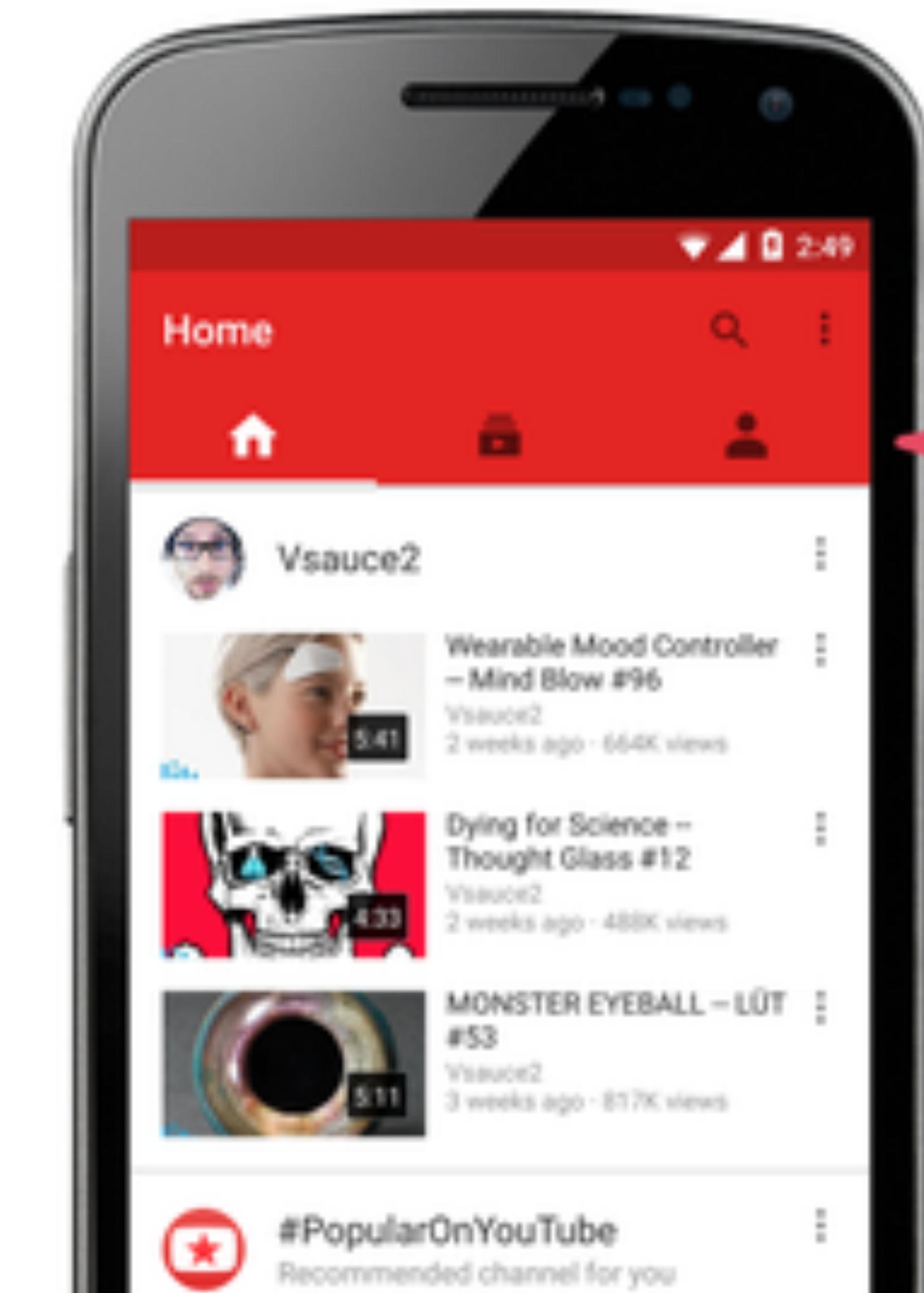


better on:
engagement,
satisfaction,
revenue, speed &
perception of speed
metrics.

YOUTUBE 2014



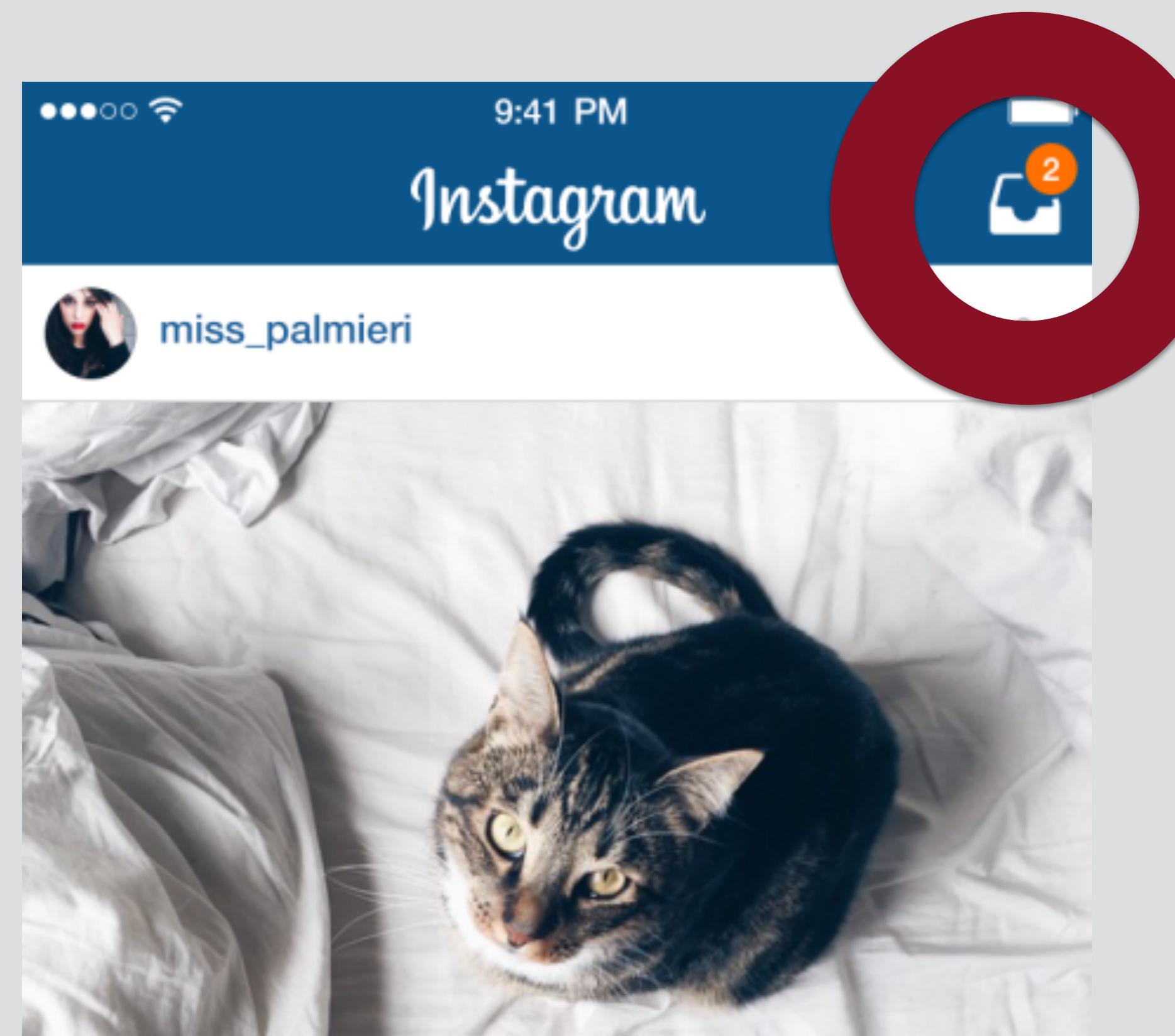
YOUTUBE 2015

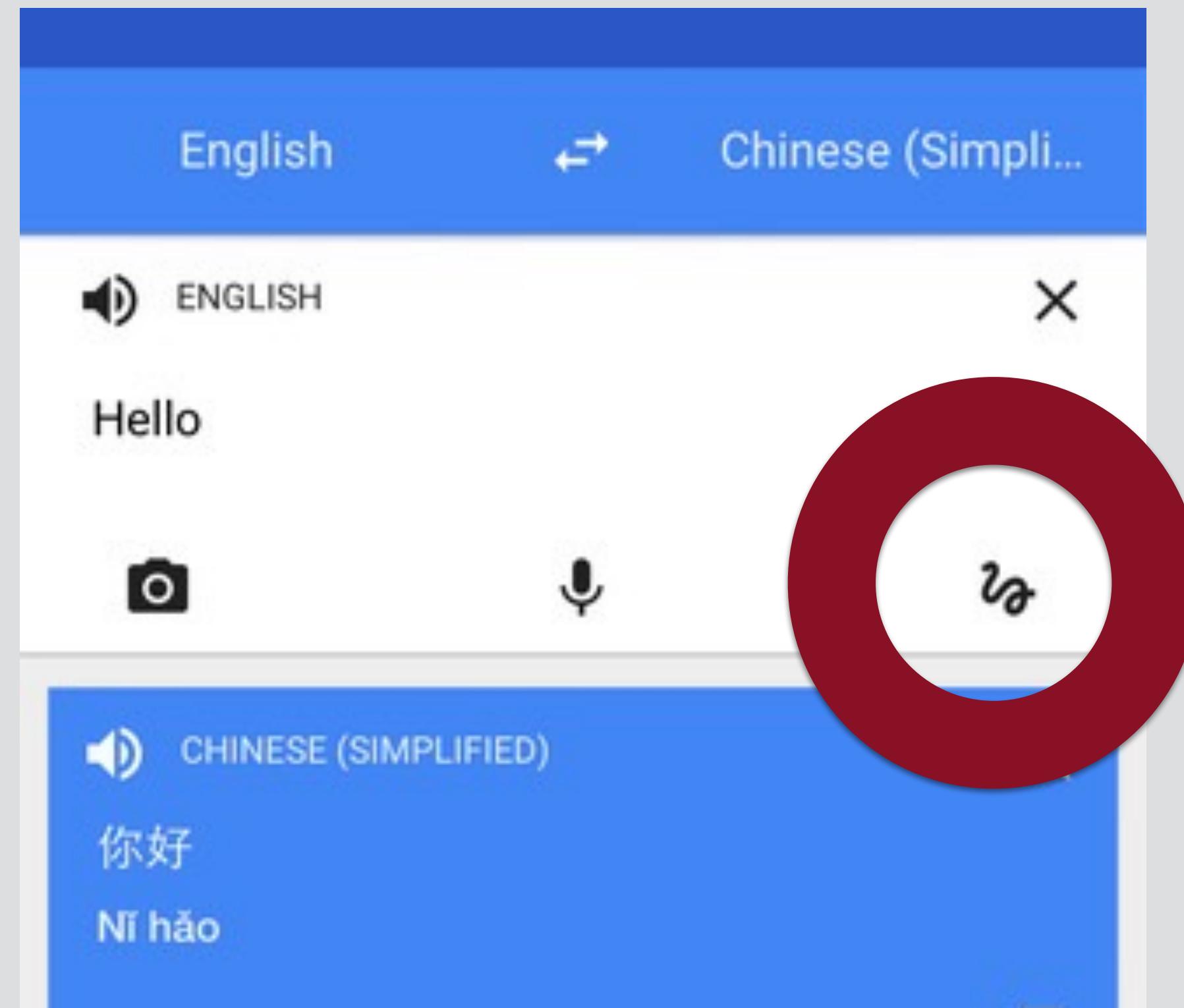


“what's
out of sight
, is out of mind.”



bad guys out there
Icons, icons everywhere





"let's share"



Apple
iOS 7,
Mac OS X
Yosemite

Apple
iOS 6,
Mac OS X
Mavericks

Google
Android

Google
Android
(up to 2011)

Microsoft
Windows 8

Microsoft
Windows
Phone 7
(up to 2012)

Open
Share
Icon

Uploader		Apple iOS 7, Apple Mac OS X Yosemite	Will become more popular Suitable to use in an iOS 7 app
The Outgoing Tray		Apple Mac OS X Mavericks, Pre-Apple iOS 7	Very popular, highly familiar Suitable to use in a general site/app
3 Dots		Google Android, ShareThis	Very popular, highly familiar with Android users Suitable to use in an Android app
The Y		Google Android (up to 2011)	Not popular
The Circle		Microsoft Windows 8	Will become very popular; highly familiar with Windows 8 users Suitable to use in a Windows 8 app
The Gift		Microsoft Windows 8	Used in some sites
The Hands		Open Share Icon	Used in some sites
The Spread			Too complicated
The Graph Diagram			Weird representation
The Open Hand		Old enterprise software	In a state of deprecation
Many People		Google Docs, Collaboration platform apps	Suitable to use only when share means collaboration

"let's share"

"let's share"



Avoid icons with conflicting meanings
Use labels whenever it would help the user
Always test **your design choices**

Basic functionality

can be effectively represented by
icons but for **complex**

features, text labels

should be used.

the best icon is **the one that users**
are **most familiar** *with.*



Single Tap



Double Tap



Press & Hold



Drag



Swipe Up



Swipe Down



Swipe Right



Swipe Left

bad guys out there
gestures

they are always hidden. People
need to remember them. If you hide an
option, less people will use it.

most gestures are not standard and
consistent across
apps yet

"just swipe right"

Mark as Unread

Steam Store
Thank you for your purchase!
Dear zero_insanity, Thank you for your purchase on Steam. If you're new to St

service@intl.paypal.com 6/27/14 >

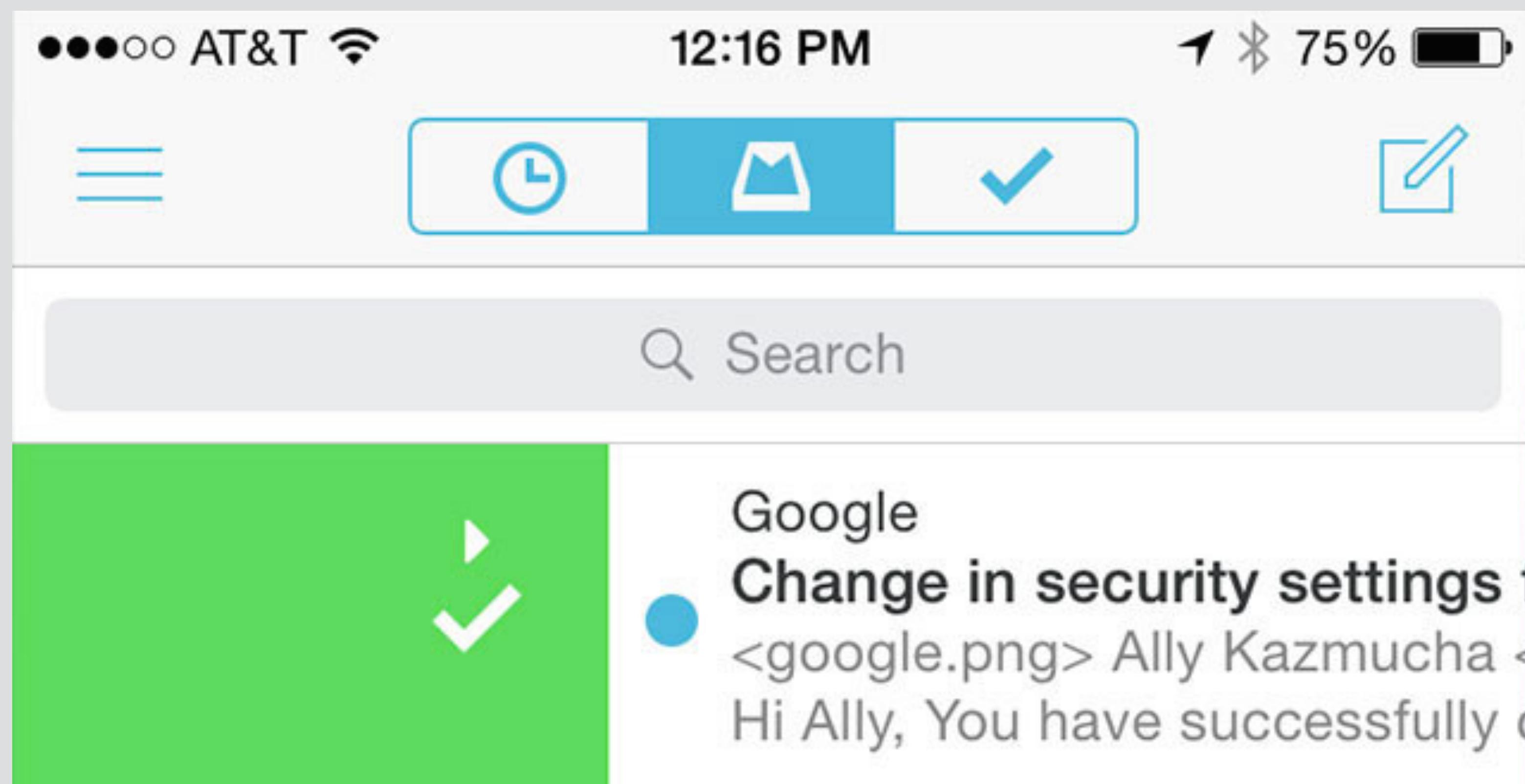
[REDACTED]

[REDACTED]

[REDACTED]

Updated Just Now 

they said





Explore using
the slide menu

Search for stores

Search for deals

30%

30%

30%

Quick
Paw



Tap any

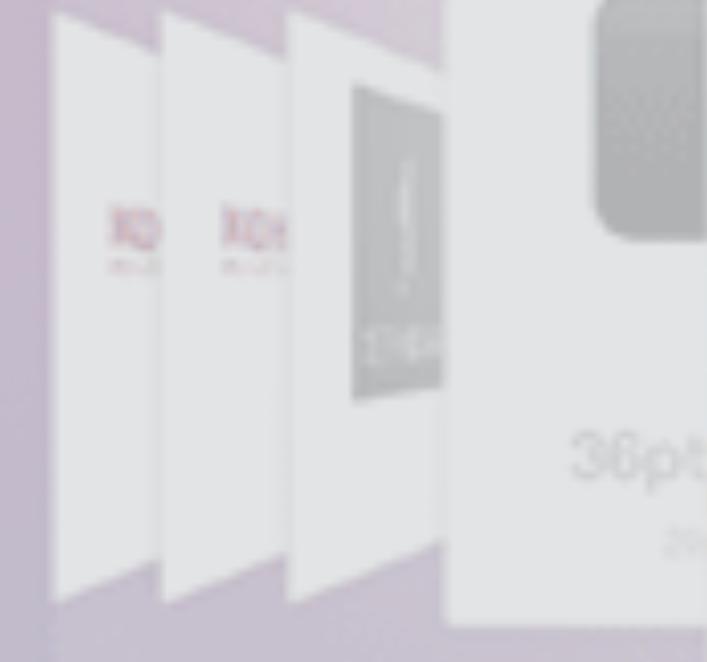
Search for de
stores and expic

Cancel

Get Great
Deals

Search for stores

Today



30%

30%

30%

30%

Find Nearby

Deals

near me

Search for stores

near me

Save Deals for Later

Deals

near me

Search for stores

near me

bad guys out

there

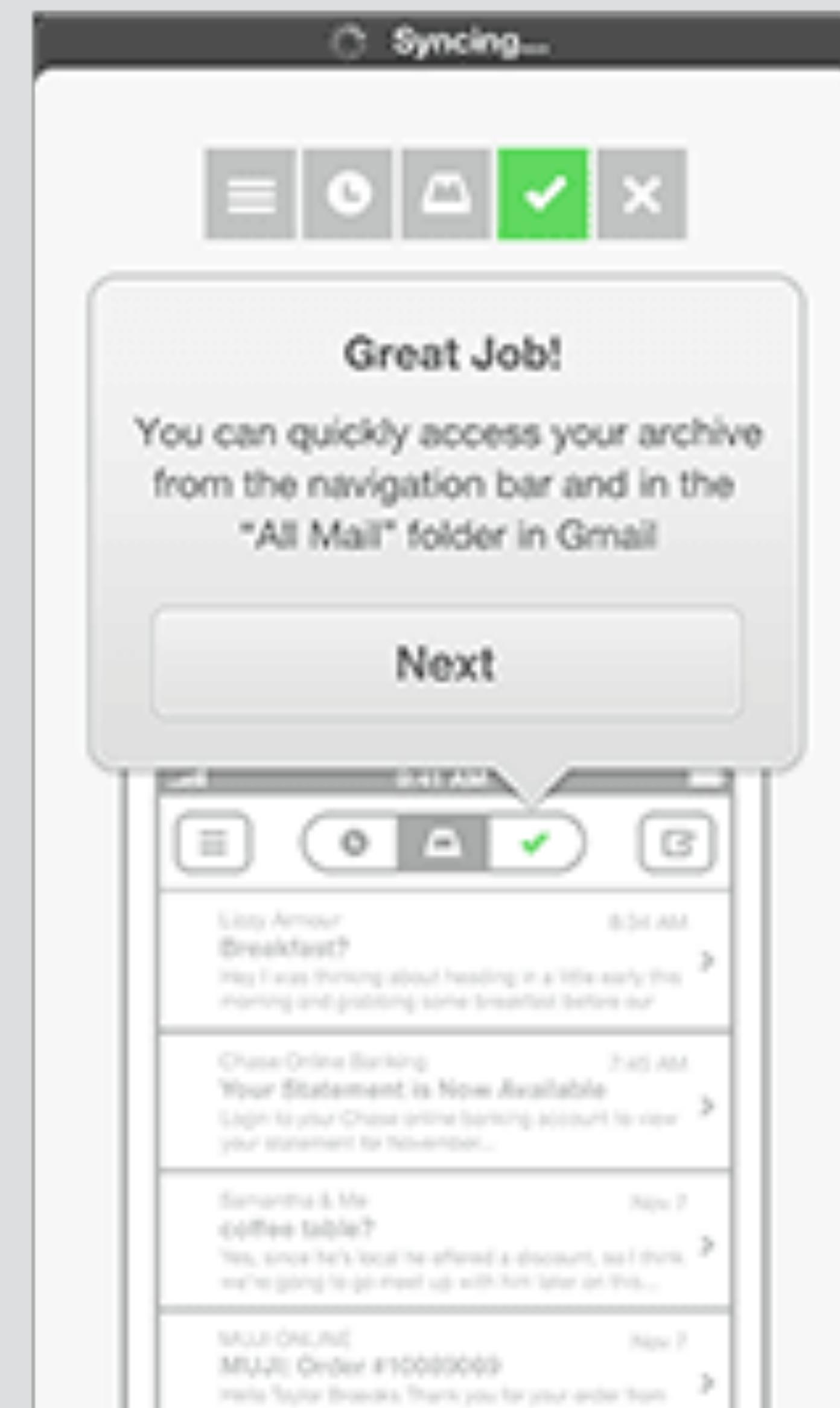
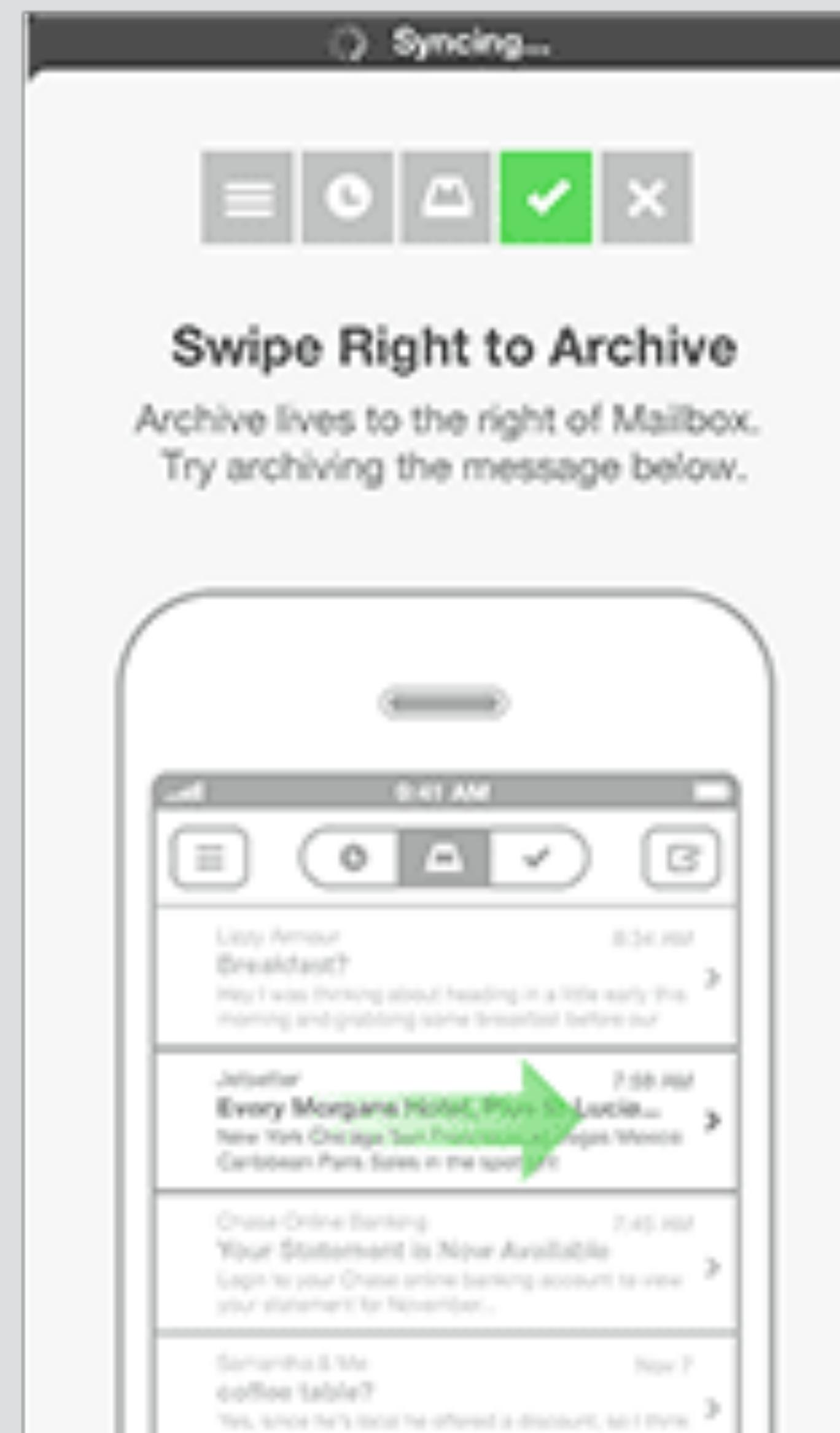
bad onboarding

Next >

Previous

*many users will skip your intro;
they just want to get started with the app.*
*(if they notice your tutorial, they usually forget
everything as soon as they close the overlay.)*

user interface is like
a joke.
*If you have to explain it,
it's not that good*



people learn
best by doing



You can do it.

[Enter with Google Account](#)

[Sign up with Email](#)

[Login](#)



Today



Add task



No tasks for today.

Enjoy your morning.



Today



Today

Early lunch

Inbox 0

1:15 mtg Tap to see options

Inbox 0

3pm meeting Jessica R

Inbox 0

*provide the information in short,
easily digestible chunks*



lessons learnt

don't trust me

in god we trust; all others
must bring data

Do your own thinking.

Do your own design.

Do your own research.

thankx

@ytheimulator
#BEPiD