

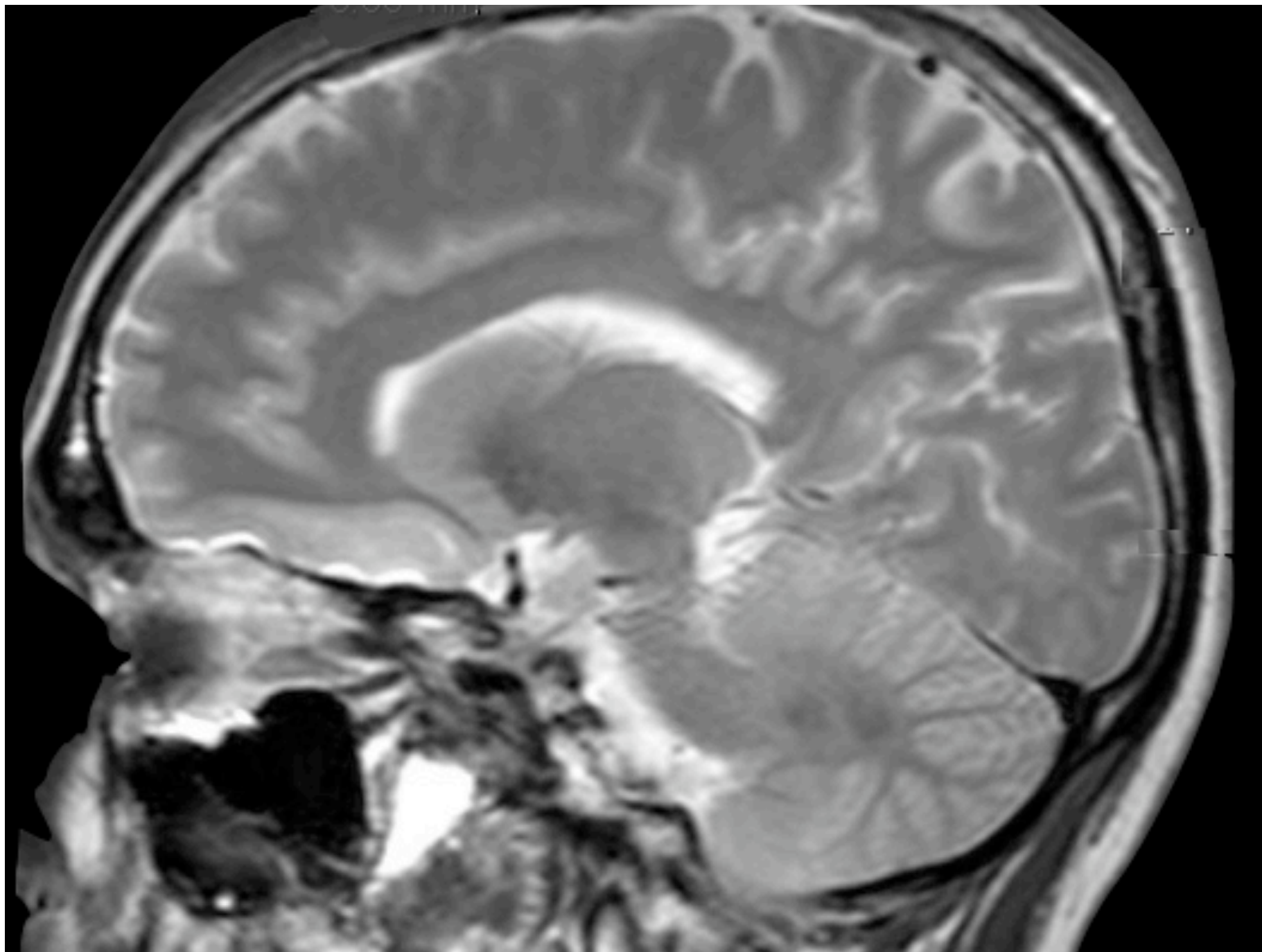
UX for mobile: it's all about **attention**

Dr Chris Atherton, @finiteattention

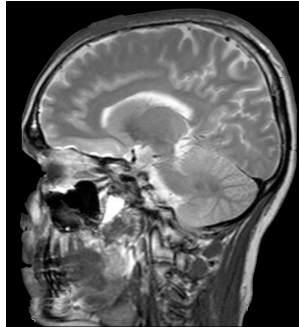
Finite Attention Ltd,

Senior User Experience Consultant at @EqualExperts

< disclaimer >



Site that should know better

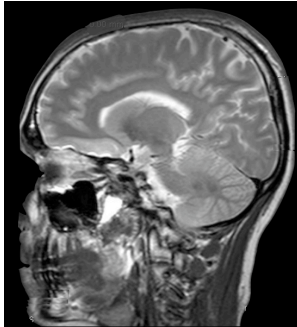


**OBLIGATORY
BUT WHOLLY
UNRELATED
BRAIN PIC**

Title that belongs in a tabloid newspaper

Story about usability or UX or some aspect of software-related human experience that turns out to have no supporting evidence in it from brain studies of any kind, though it may mention the brain several times.

Site that should know better



↑
OBLIGATORY
BUT WHOLLY
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BRAIN PIC

Title that belongs in a
tabloid newspaper

Story about usability or UX on
some aspect of software-related
human experience that turns out
to have no supporting evidence
in it from brain studies of any
kind, though it may mention the
brain several times.

story more likely to be
rated as exhibiting good
scientific reasoning

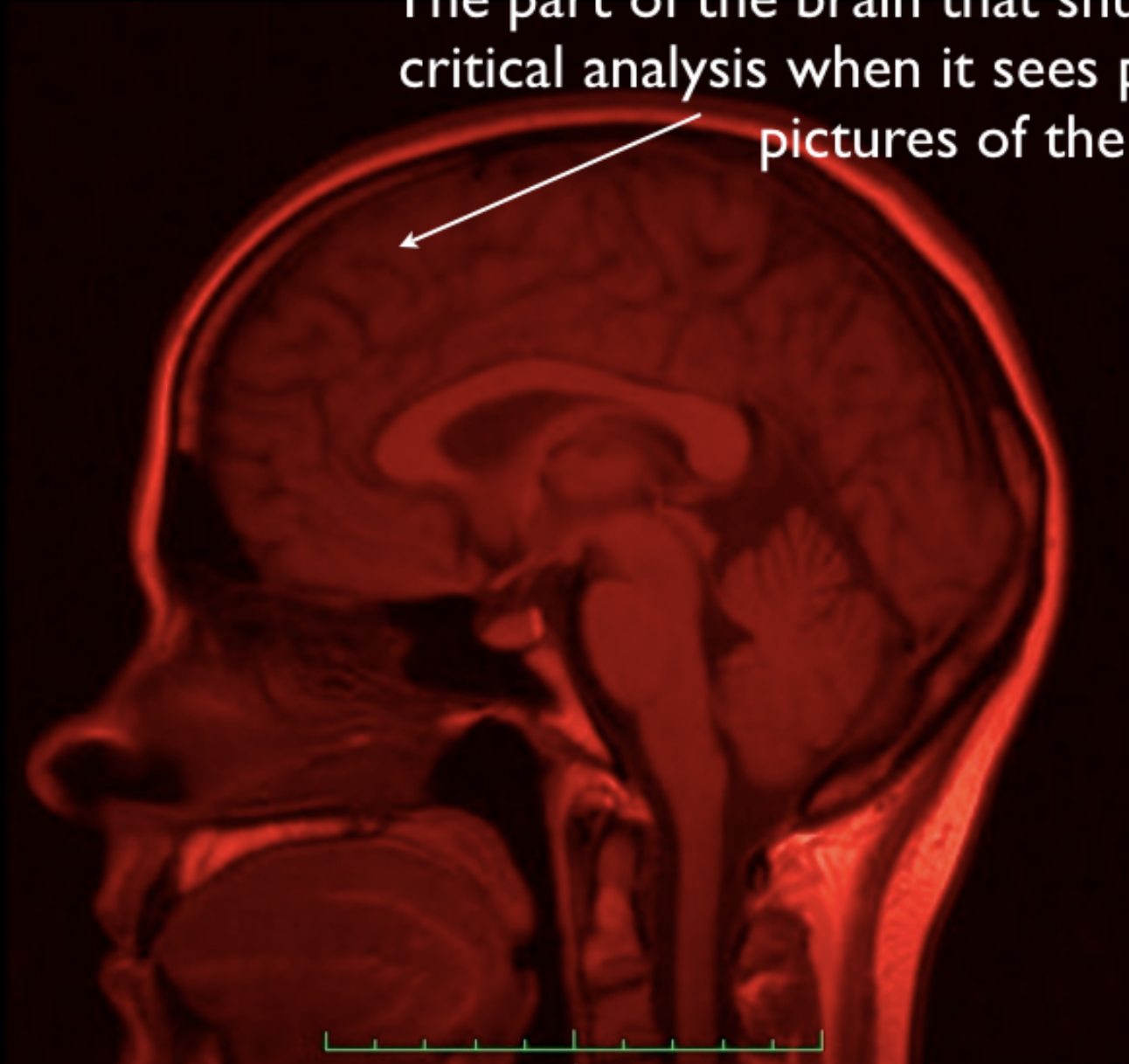
McCabe & Castel, 2008

“the seductive allure of
neuroscience explanations”

Skolnick Weisberg et al., 2008



The part of the brain that shuts off
critical analysis when it sees pretty
pictures of the brain



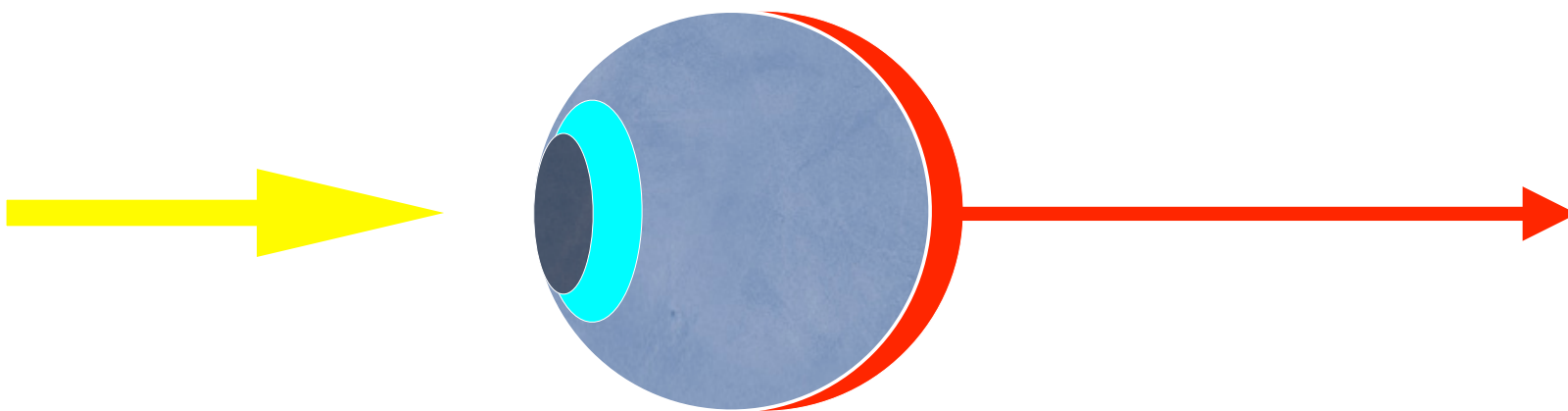
<http://flickr.com/photos/quinn/4252155172>

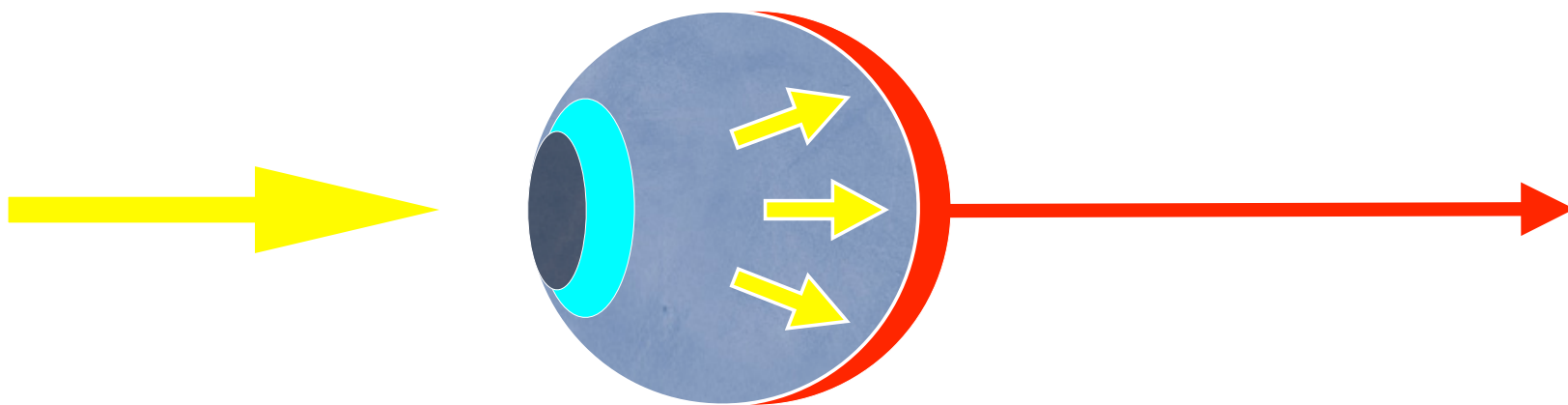
“the seductive allure
of seductive allure”

Farah & Hooke, 2013

</disclaimer>

let's talk about vision



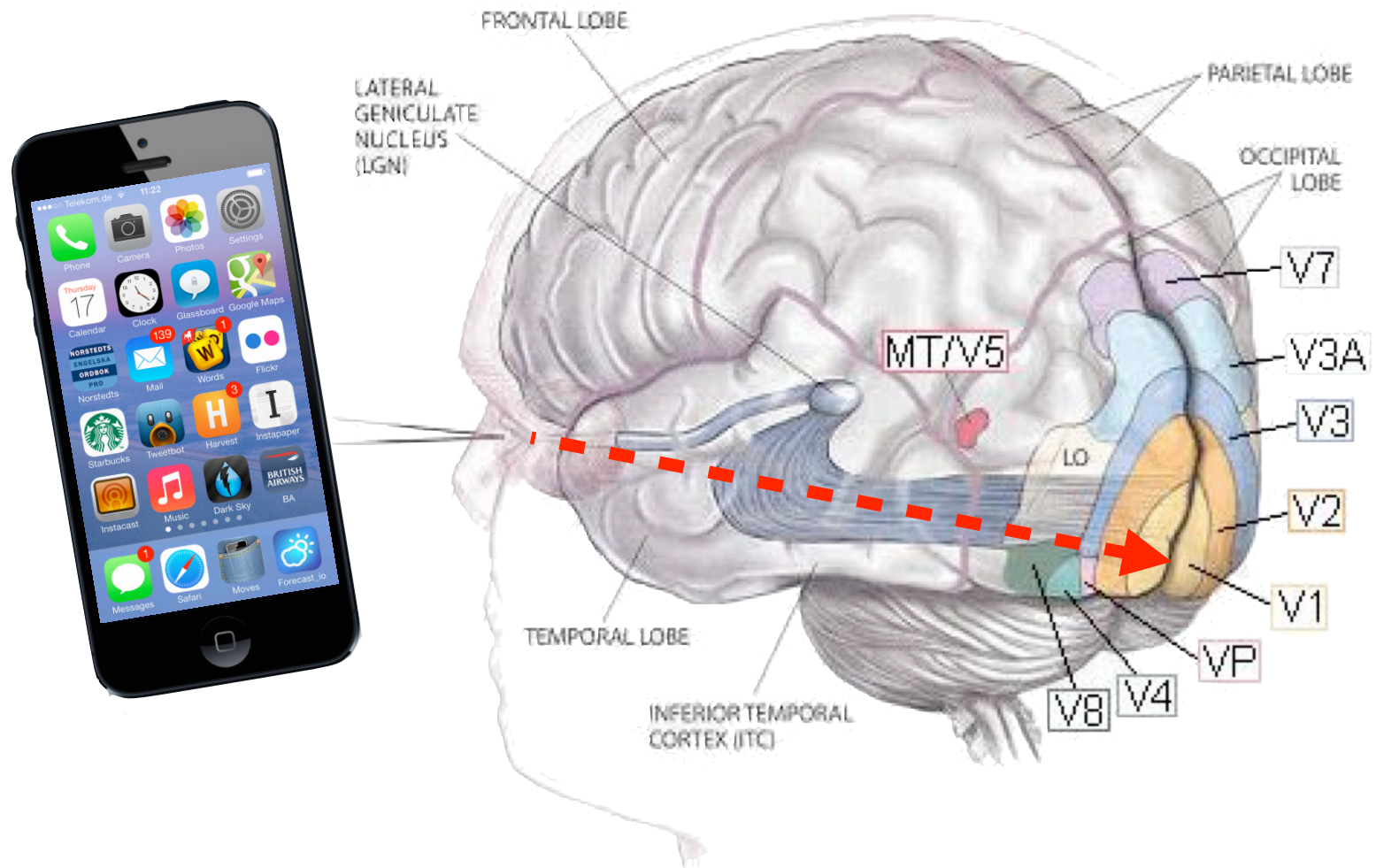


... different neurones already processing
the information from each eye ...

... different neurones encode what you're
looking at, vs. where it is ...

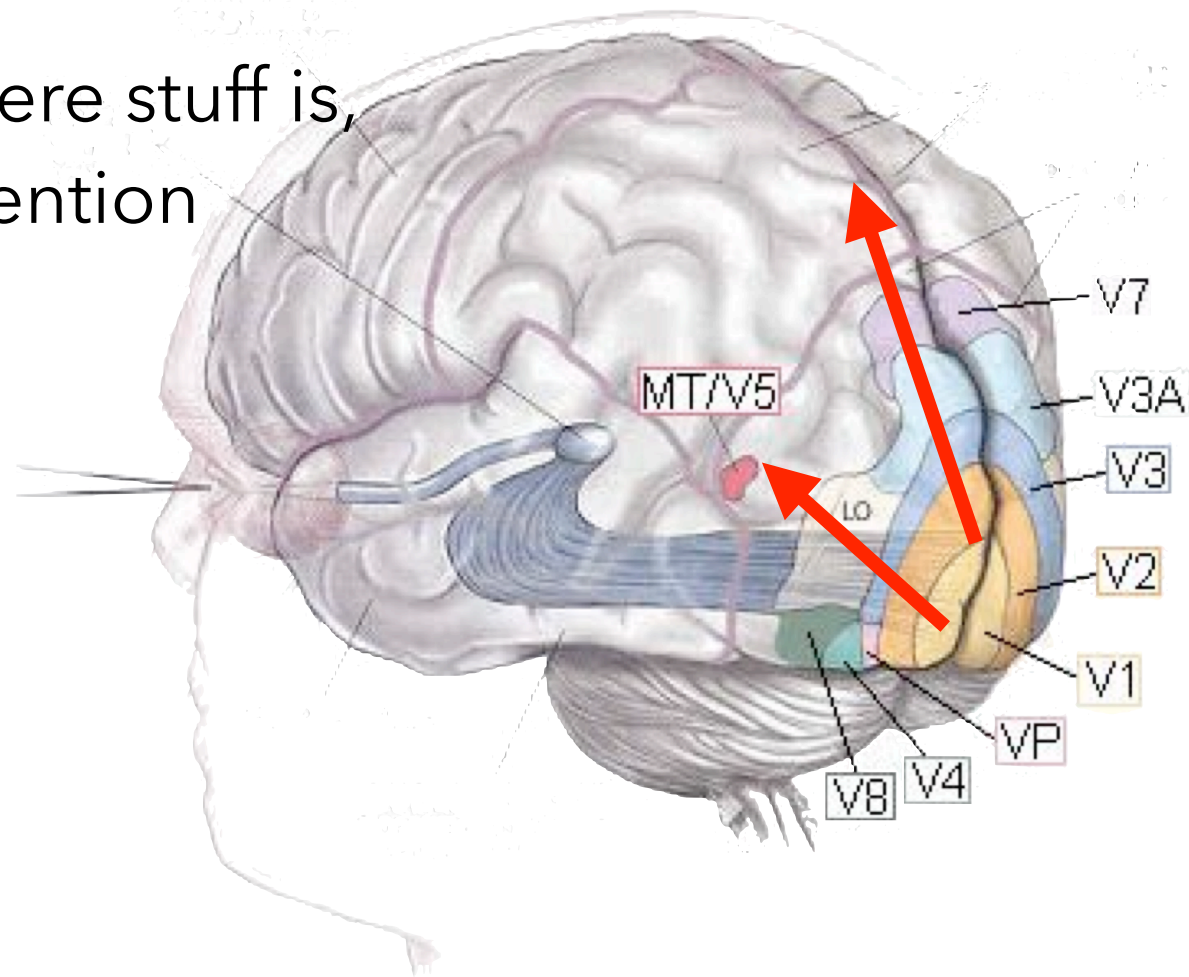
...different neurones encode hue and contrast ...



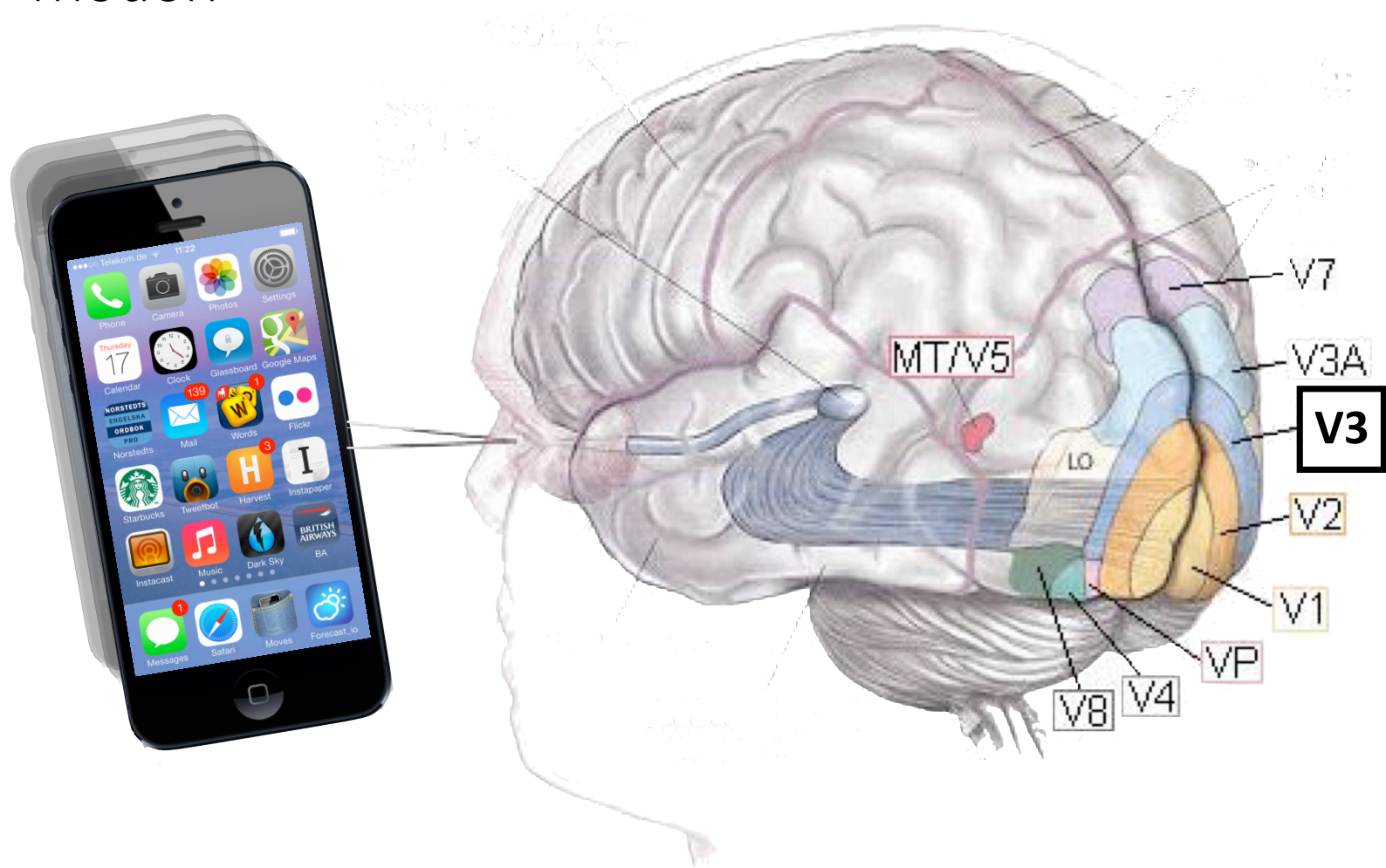


Where

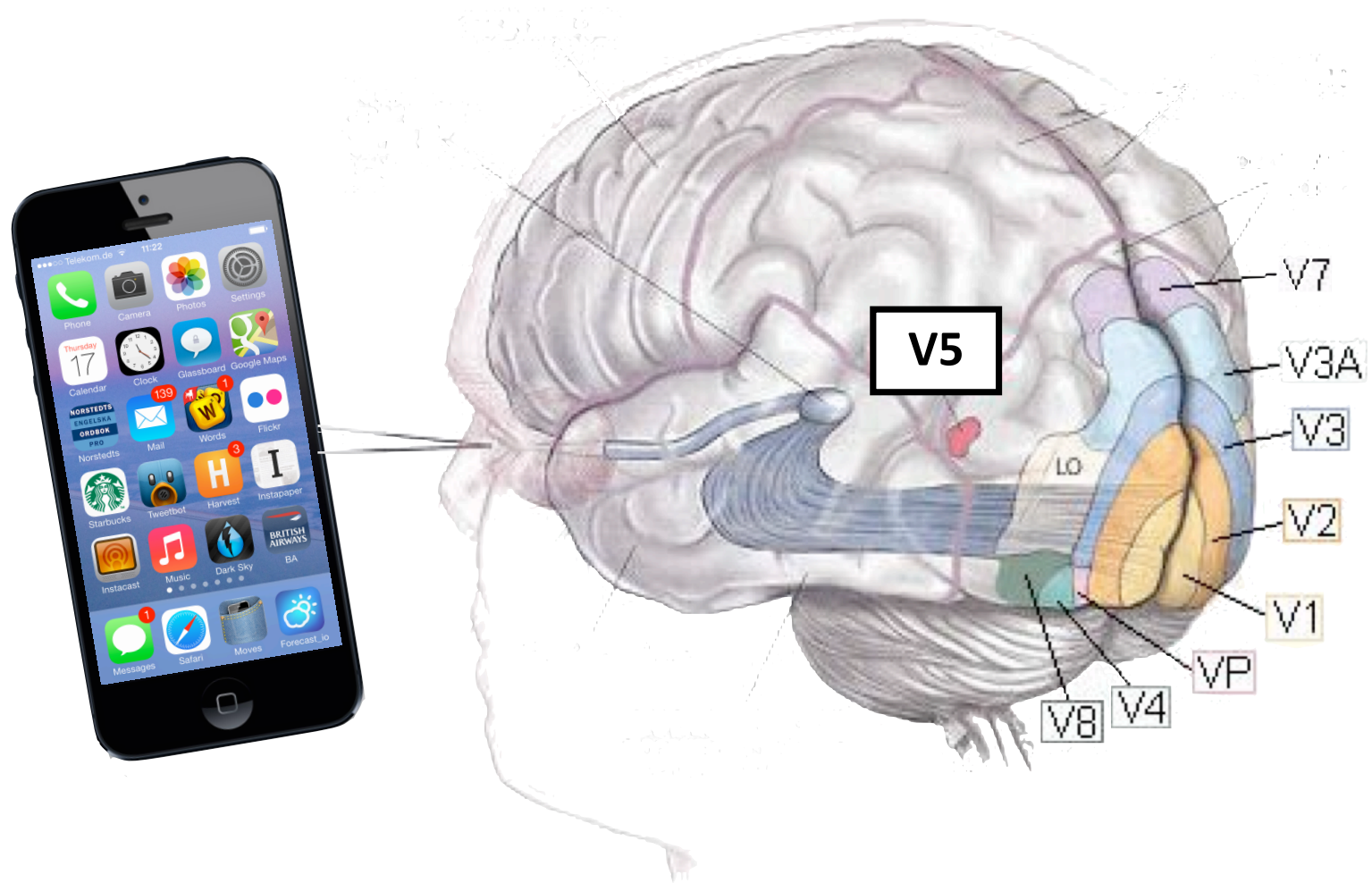
fast pathway;
figures out where stuff is,
grabs your attention



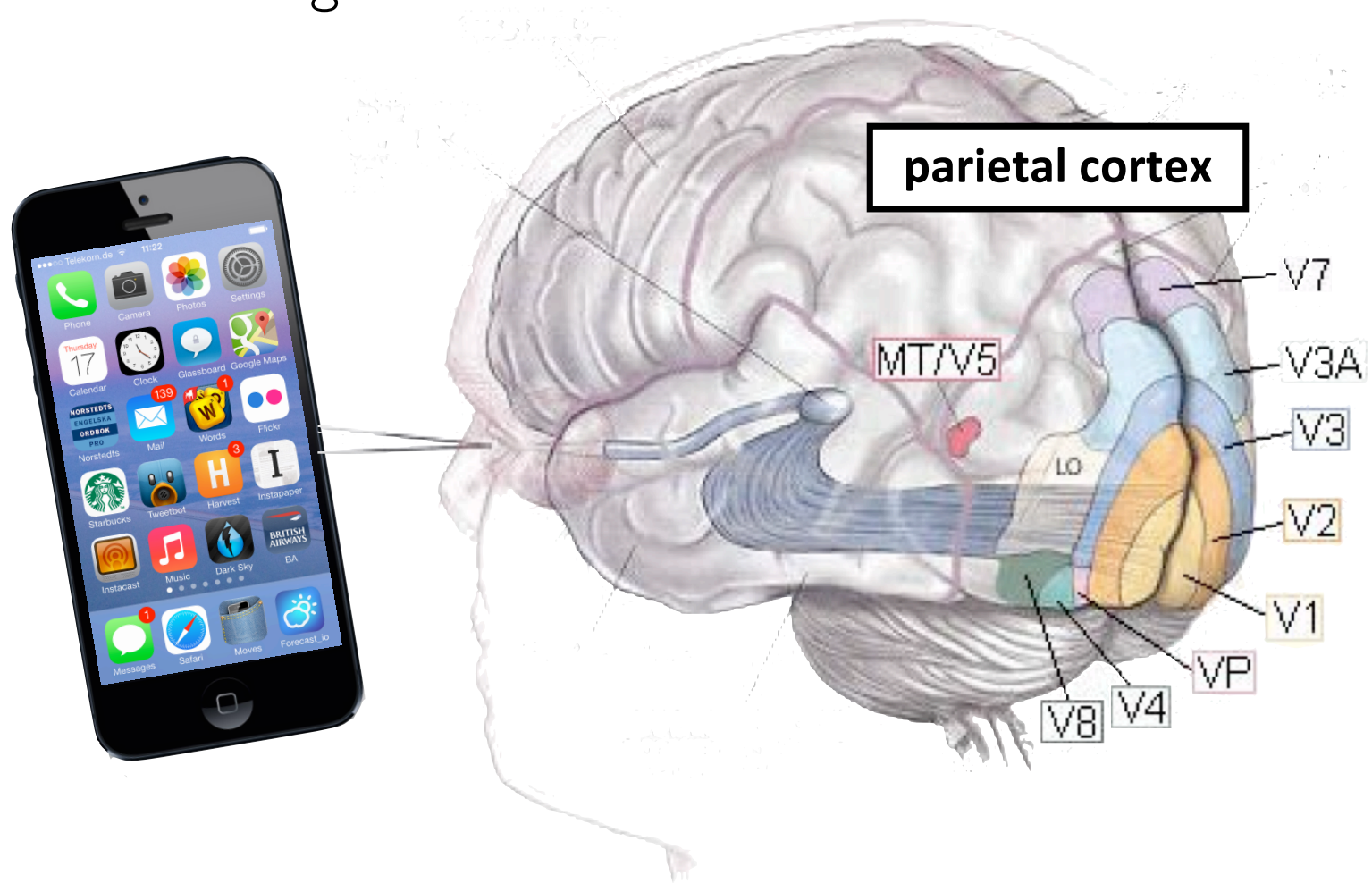
V3 motion

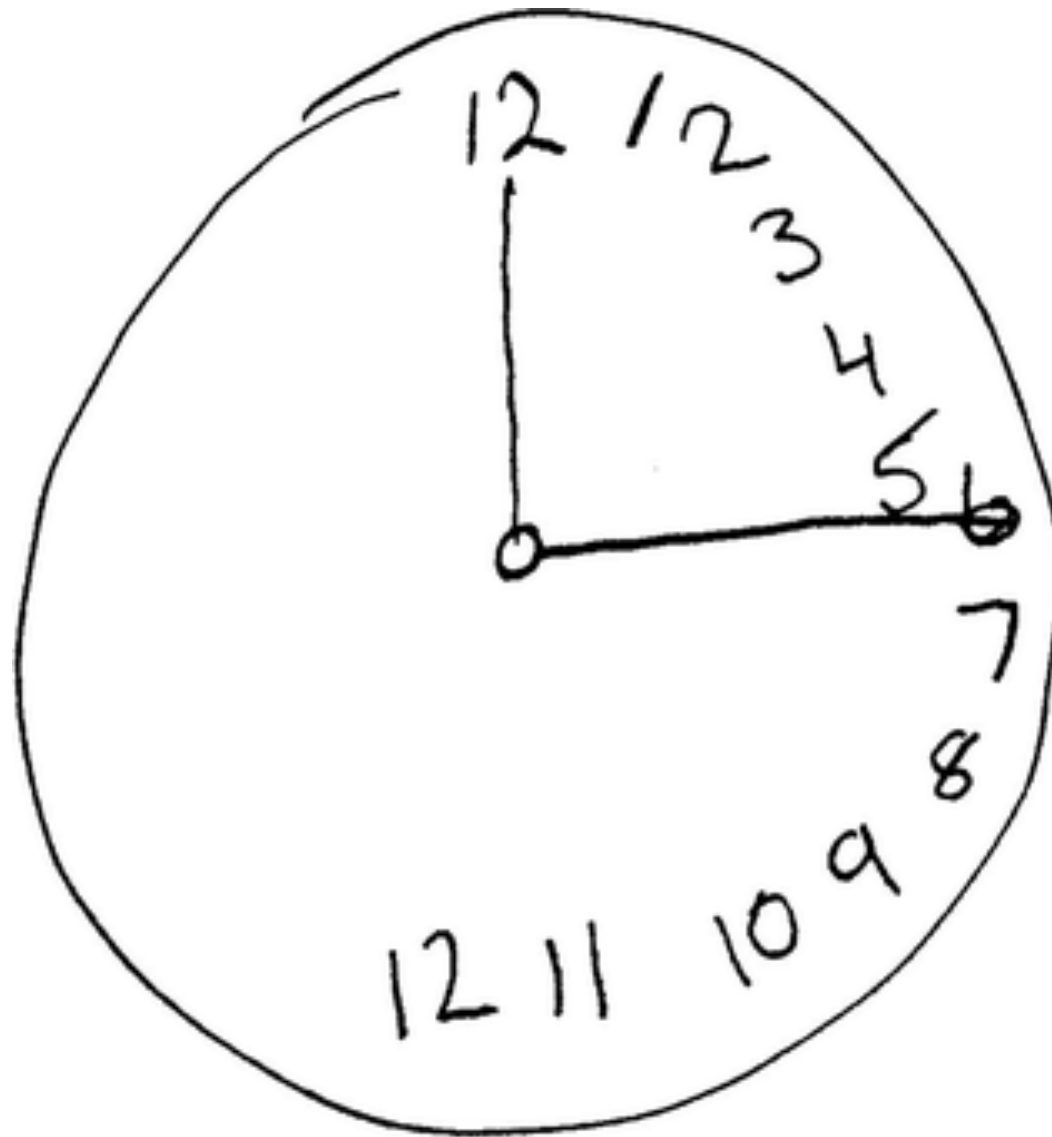


V5 motion and direction

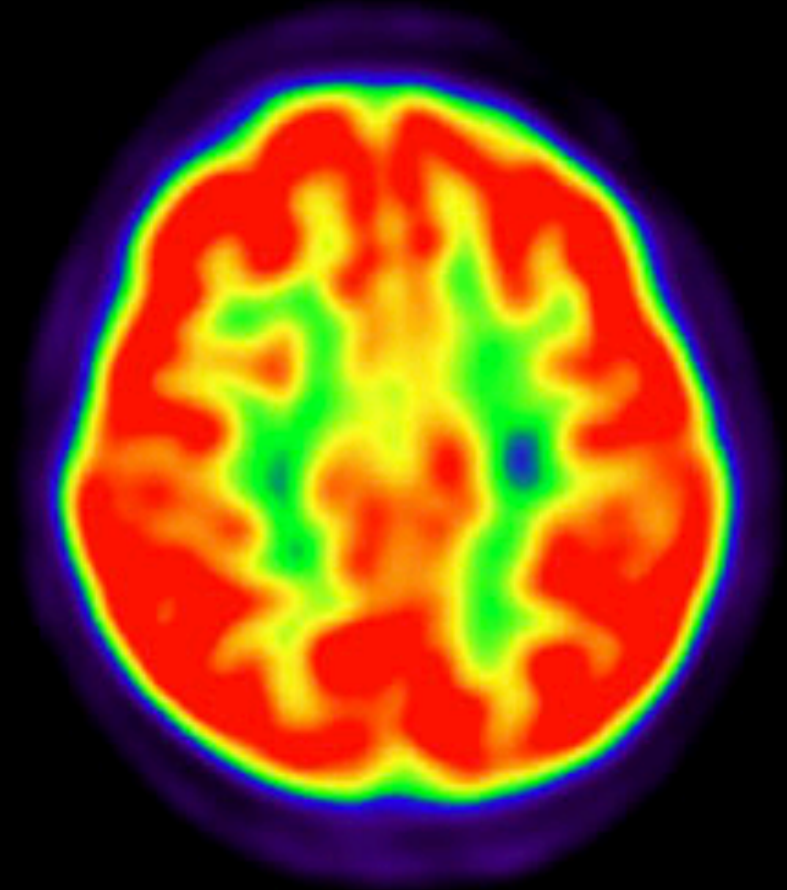


attention management

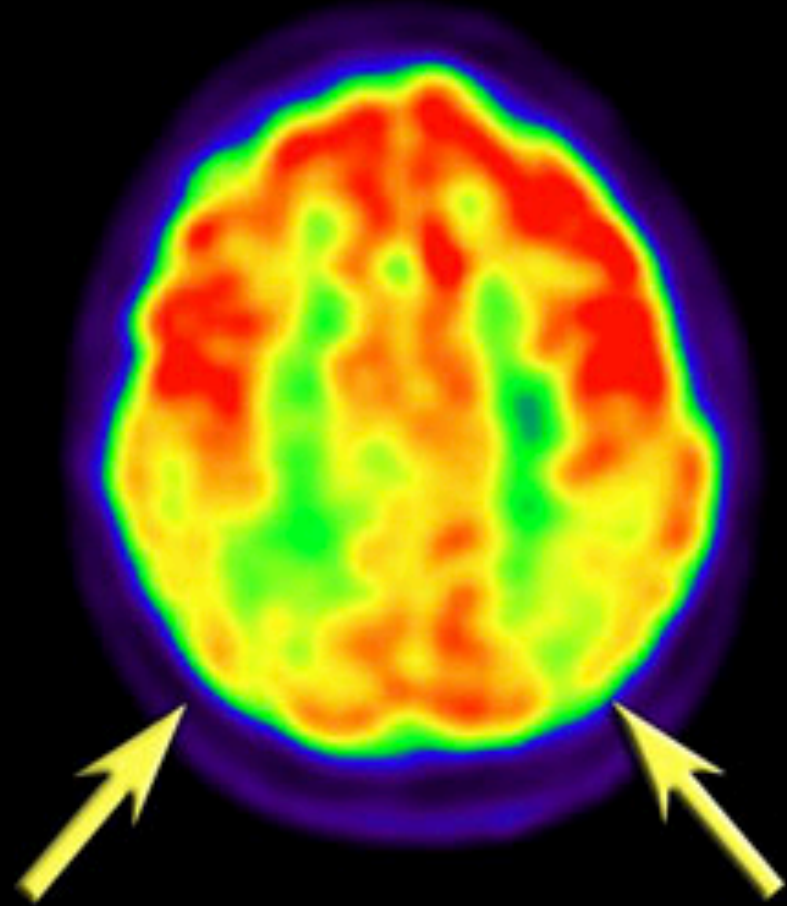




Normal

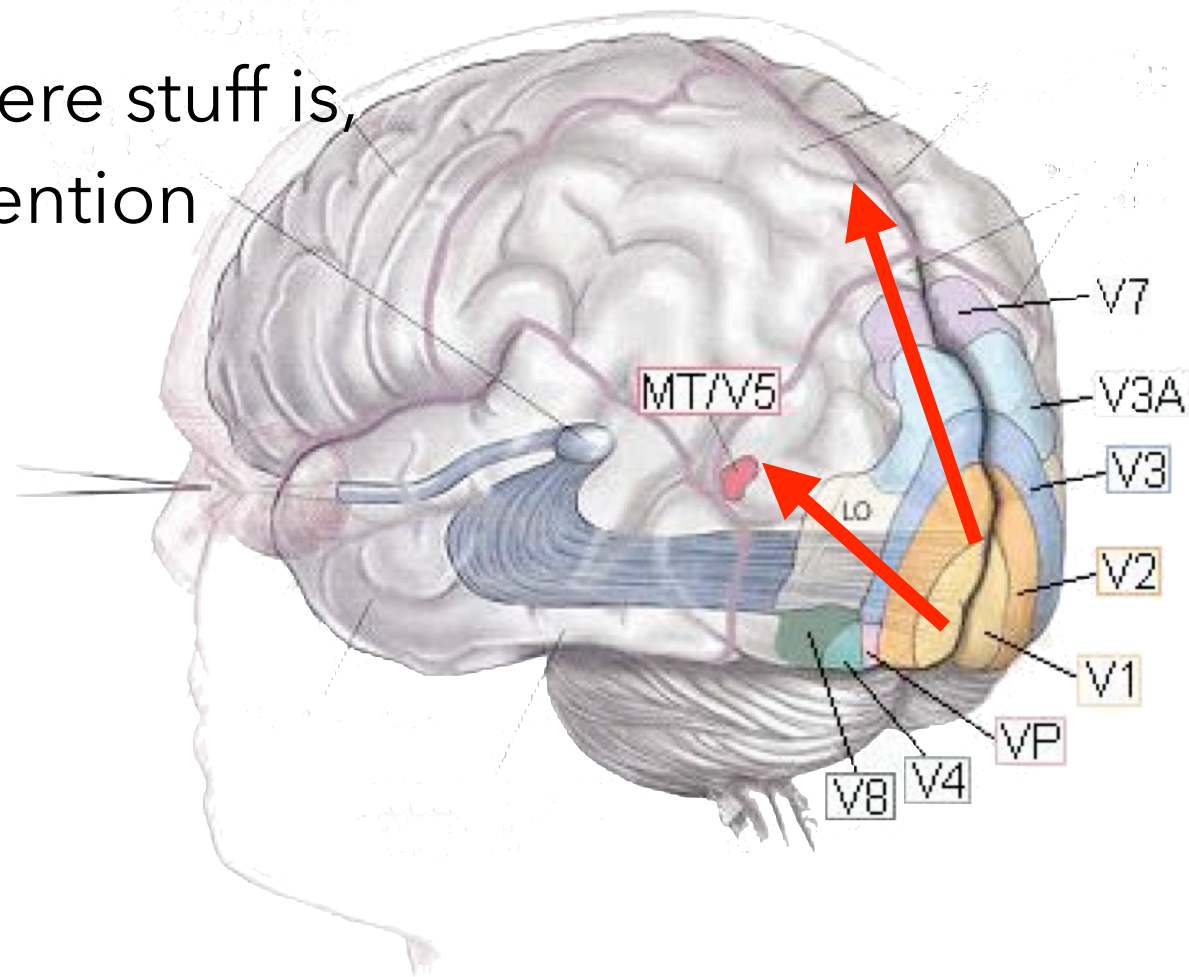


Alzheimer



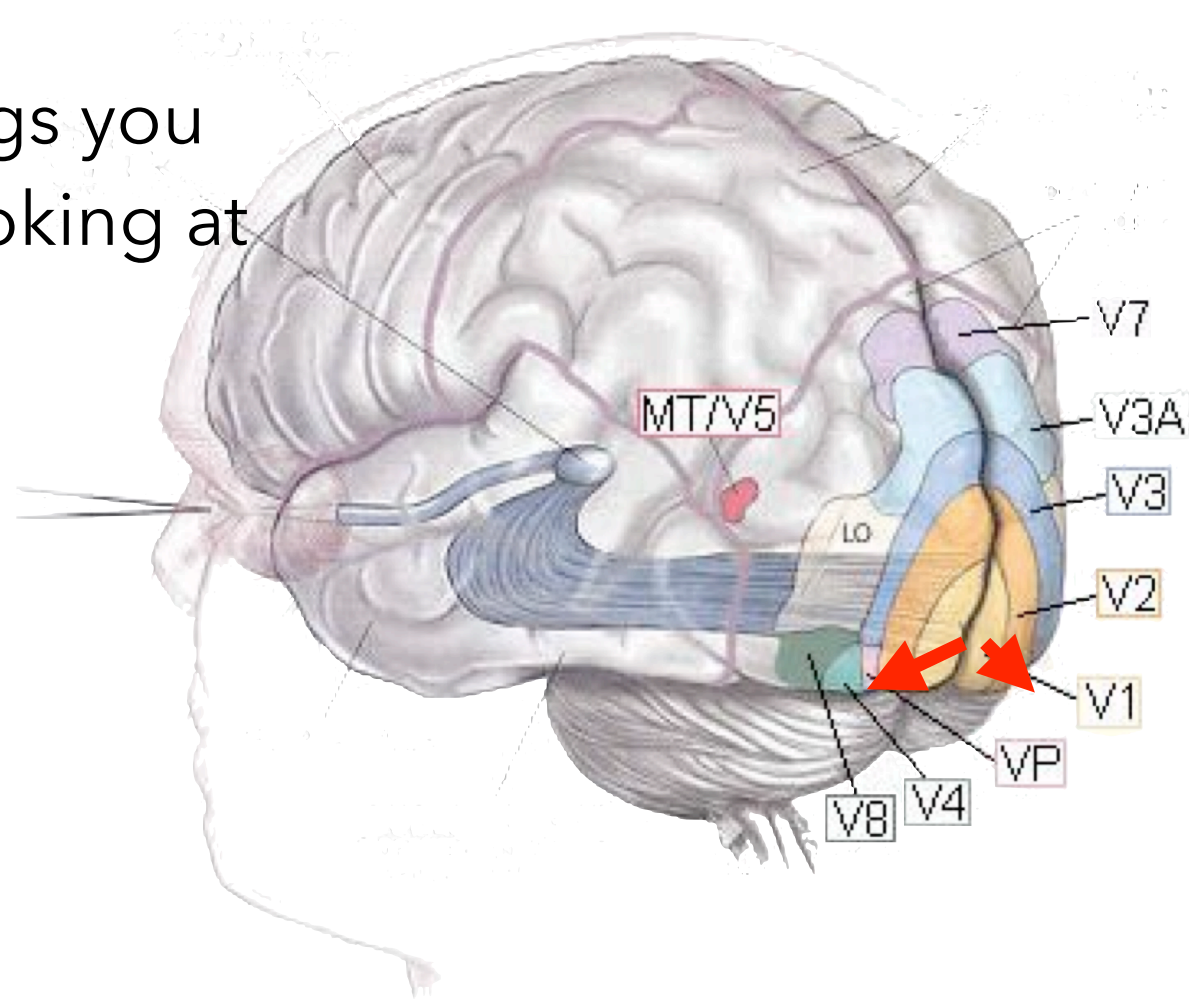
Where

fast pathway;
figures out where stuff is,
grabs your attention

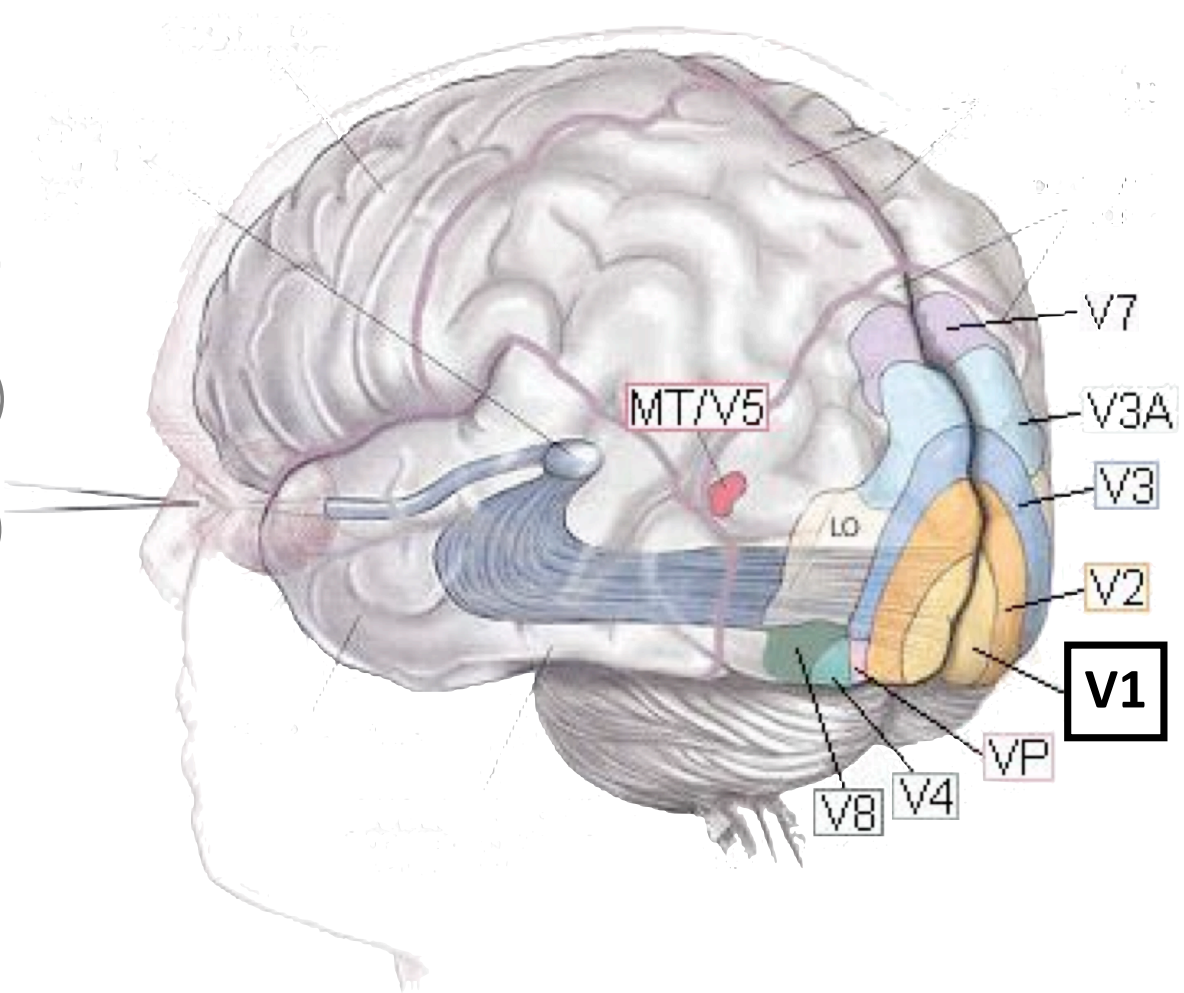
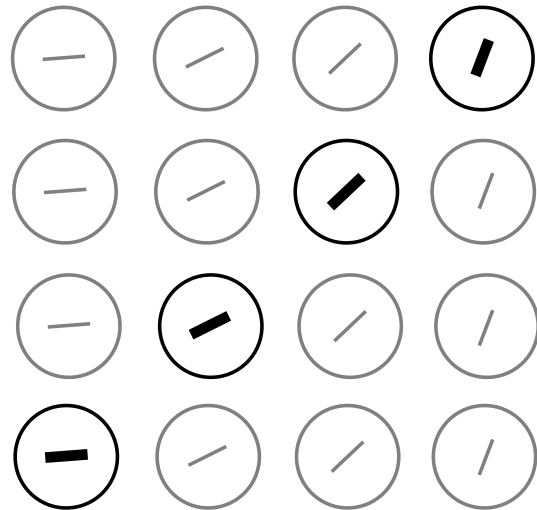


What

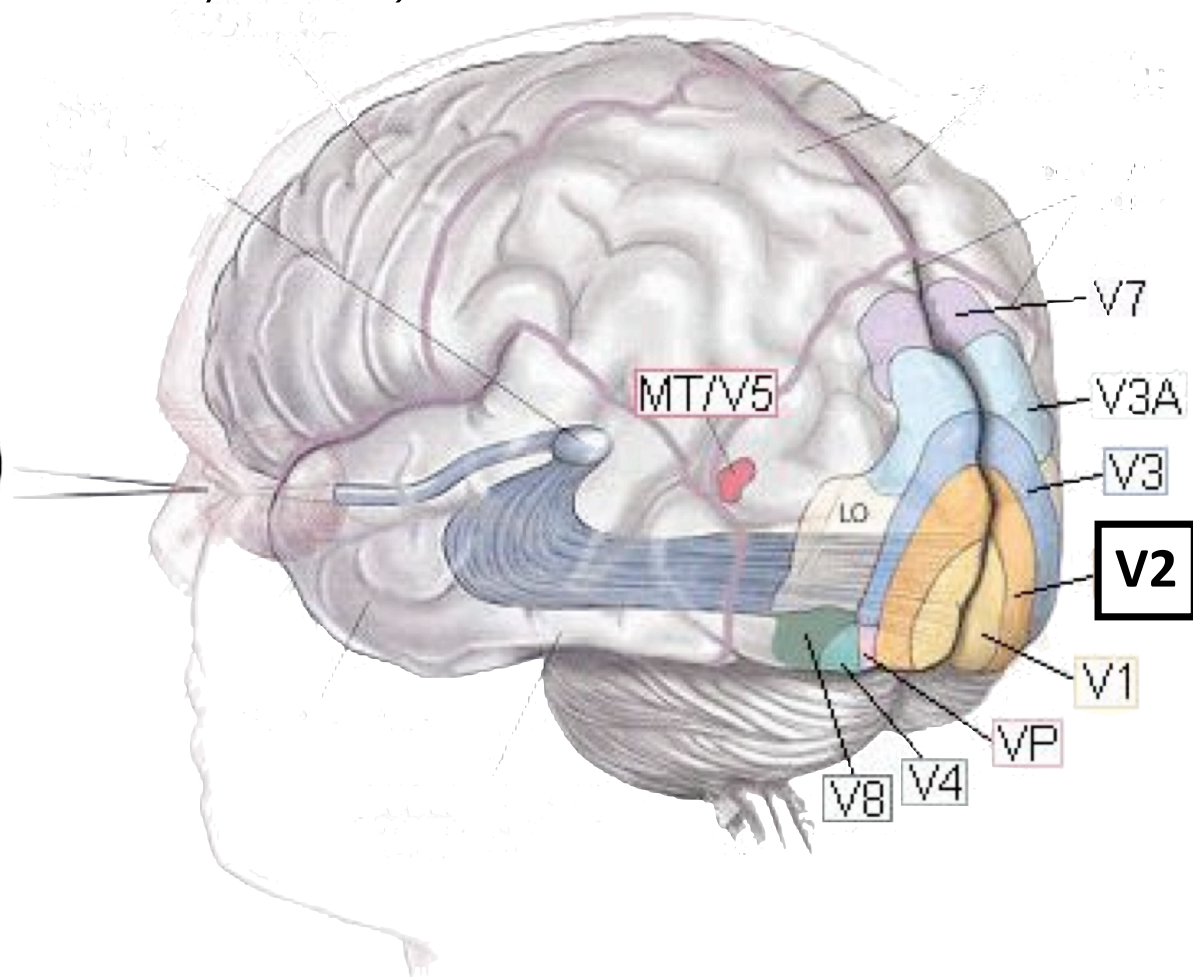
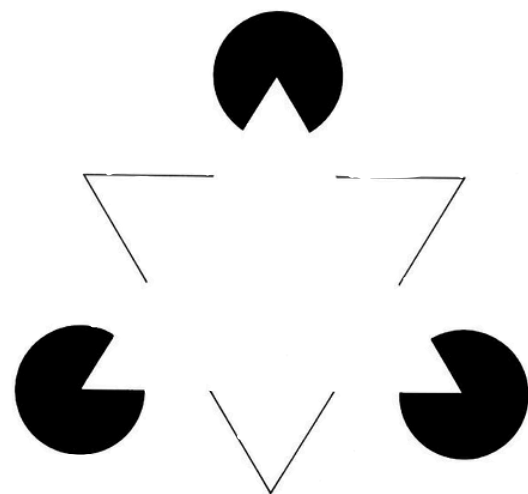
slow pathway;
evaluates things you
are already looking at



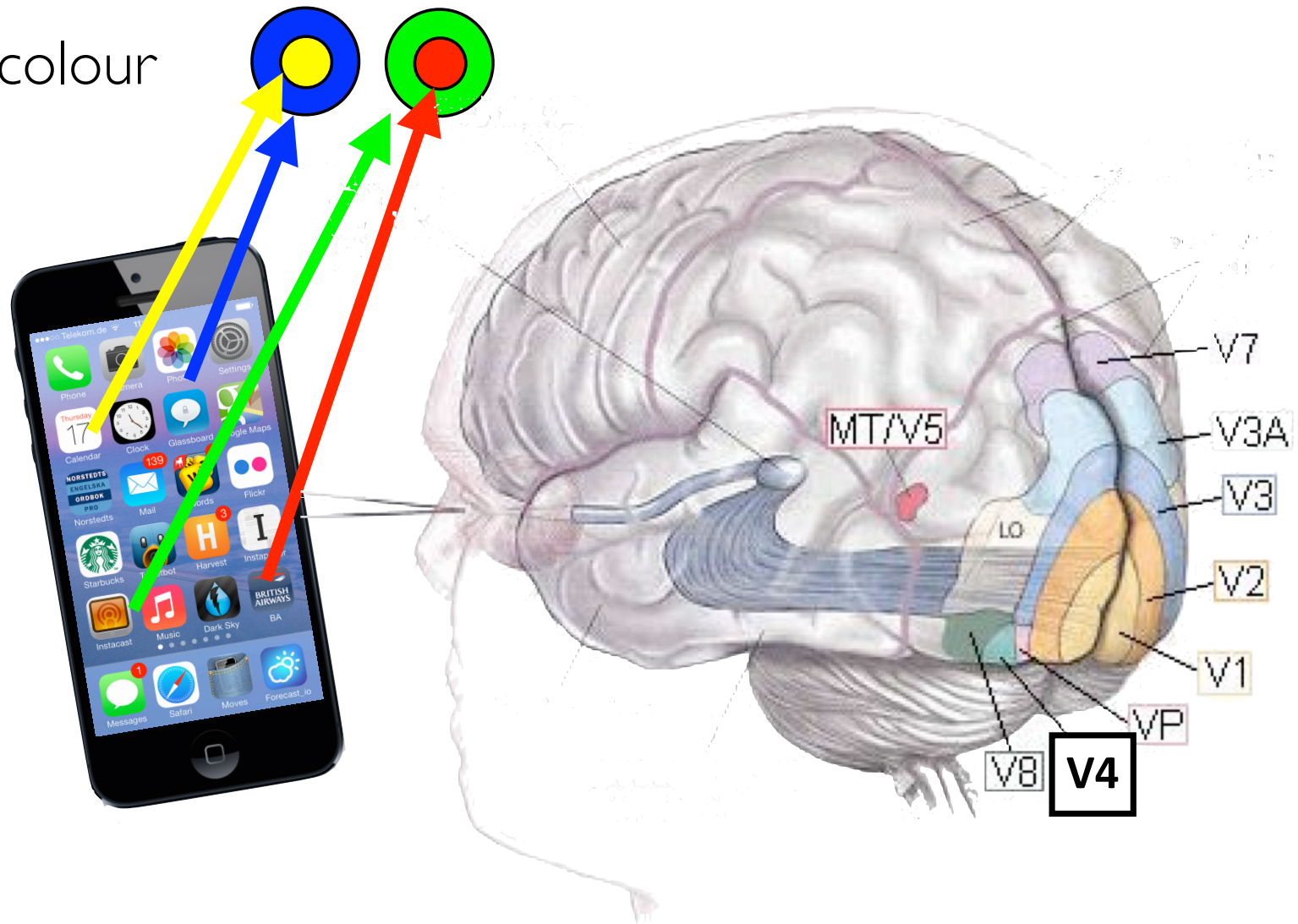
VI line fragments



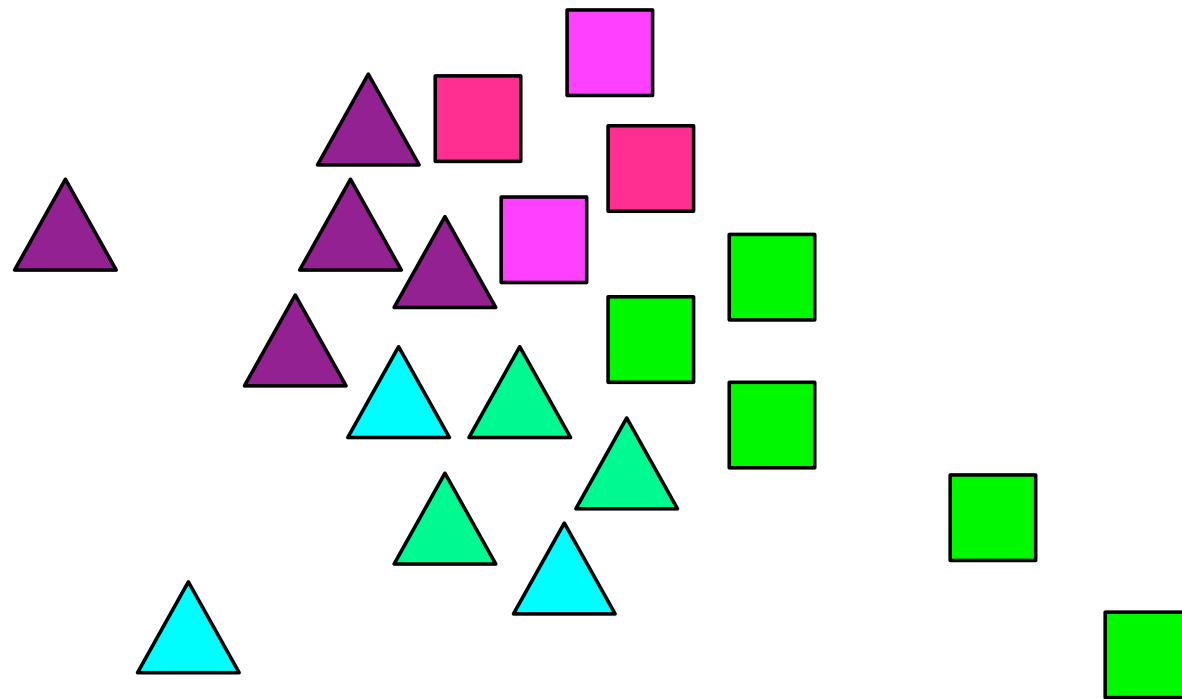
V2 edges (even illusory ones)



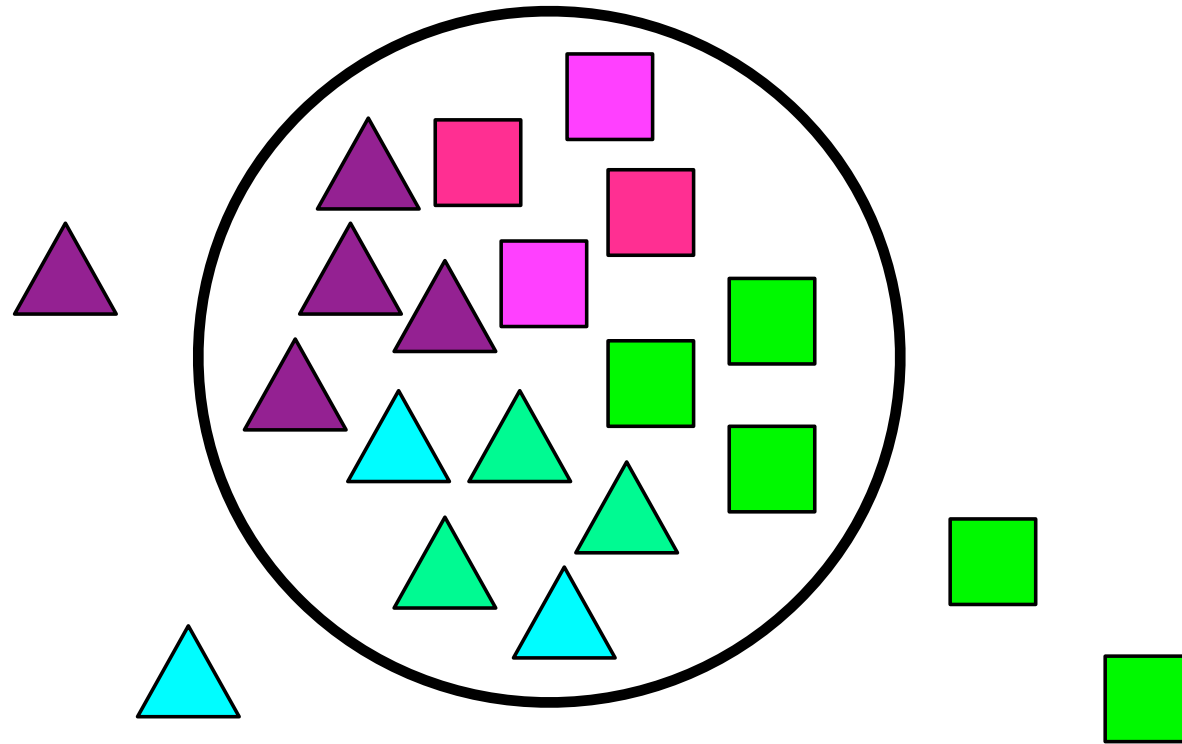
V4 colour



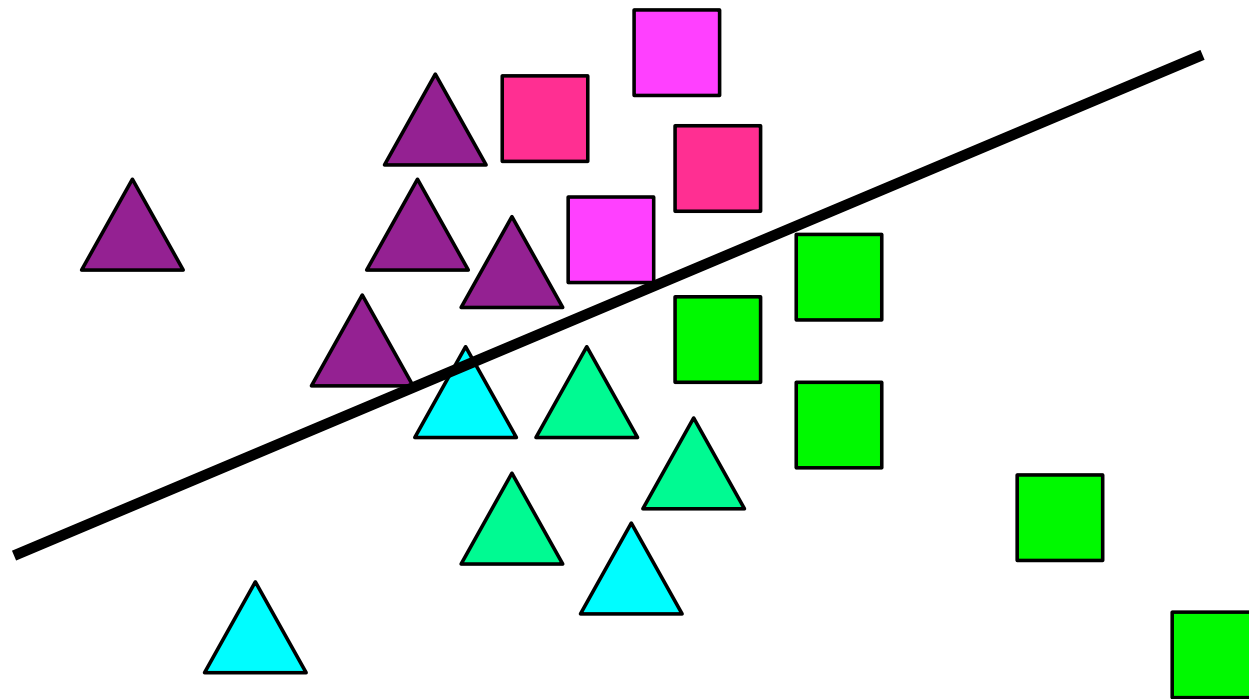
where and then what



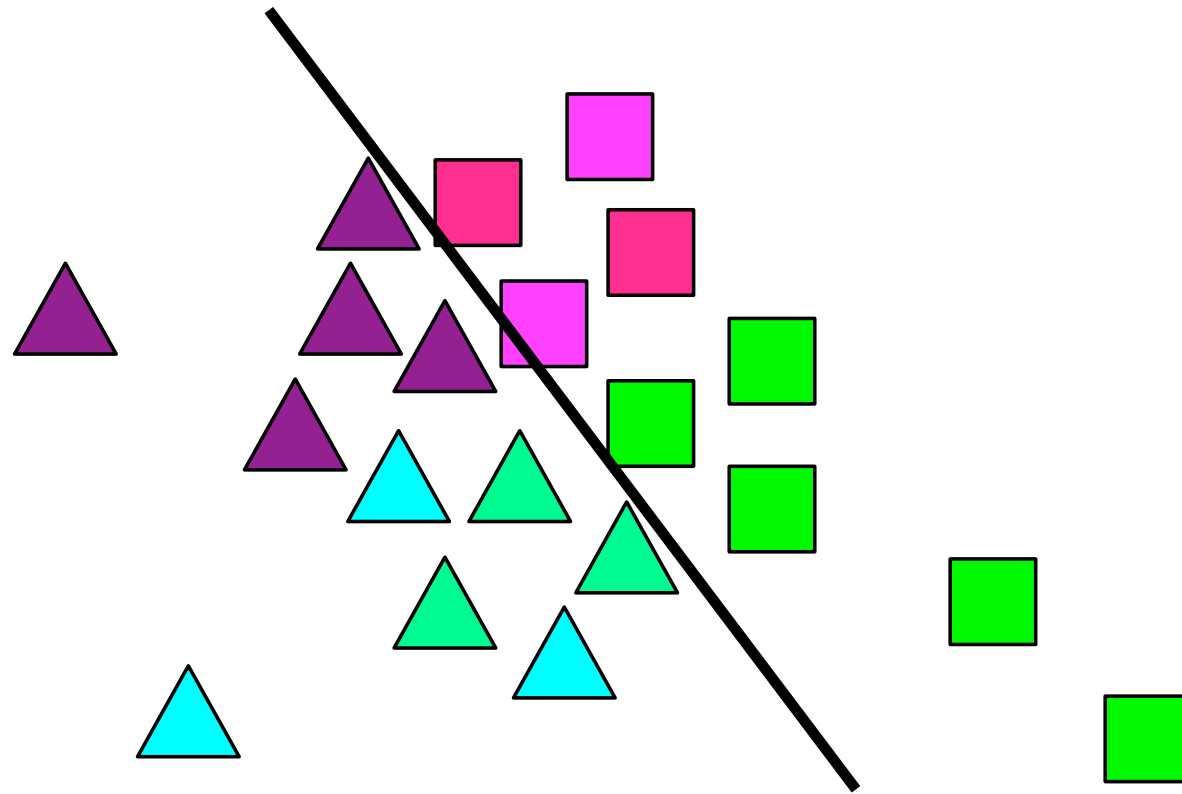
Quinlan & Wilton, 1999

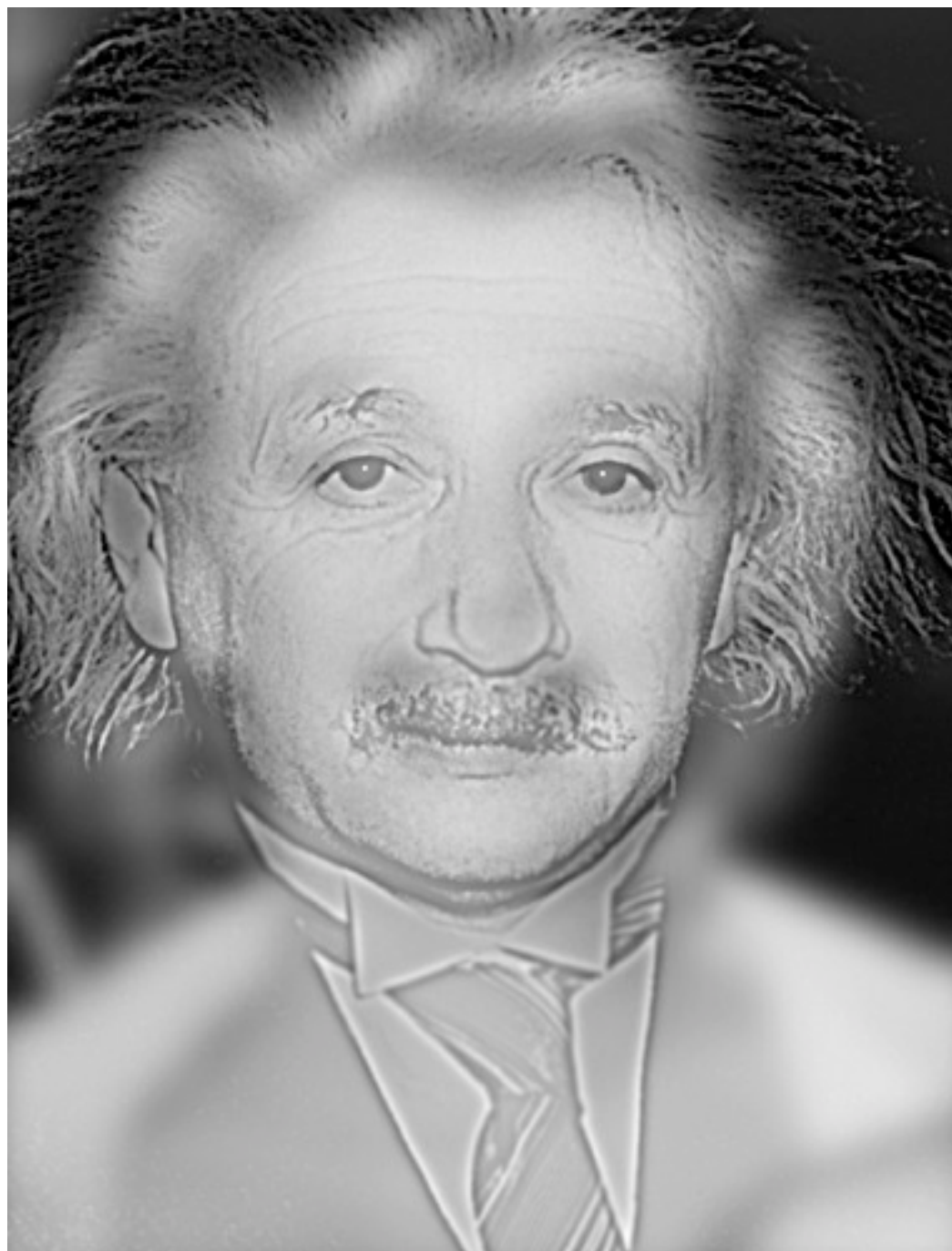


Quinlan & Wilton, 1999

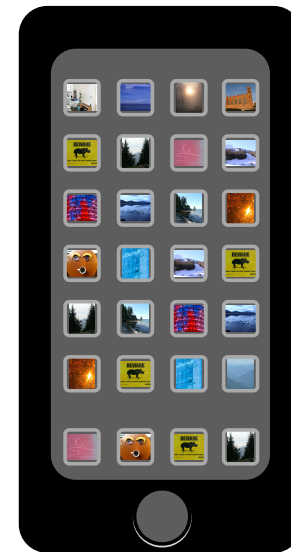
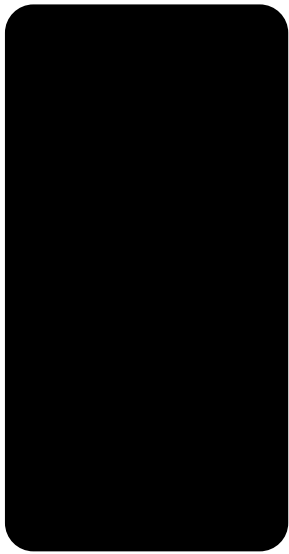


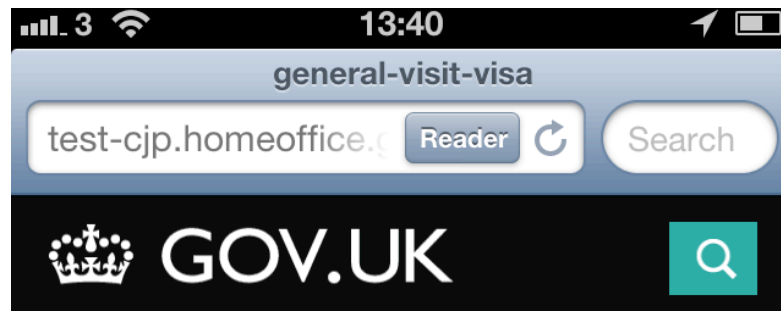
Quinlan & Wilton, 1999





what does this mean
for mobile usability?





[Home](#) > [Visit Visa - General Visitor](#)

Visit Visa - General Visitor

A visa that allows you to come into the UK as a tourist for up to six months. You need a visa if your nationality is not included in the European Economic Area.

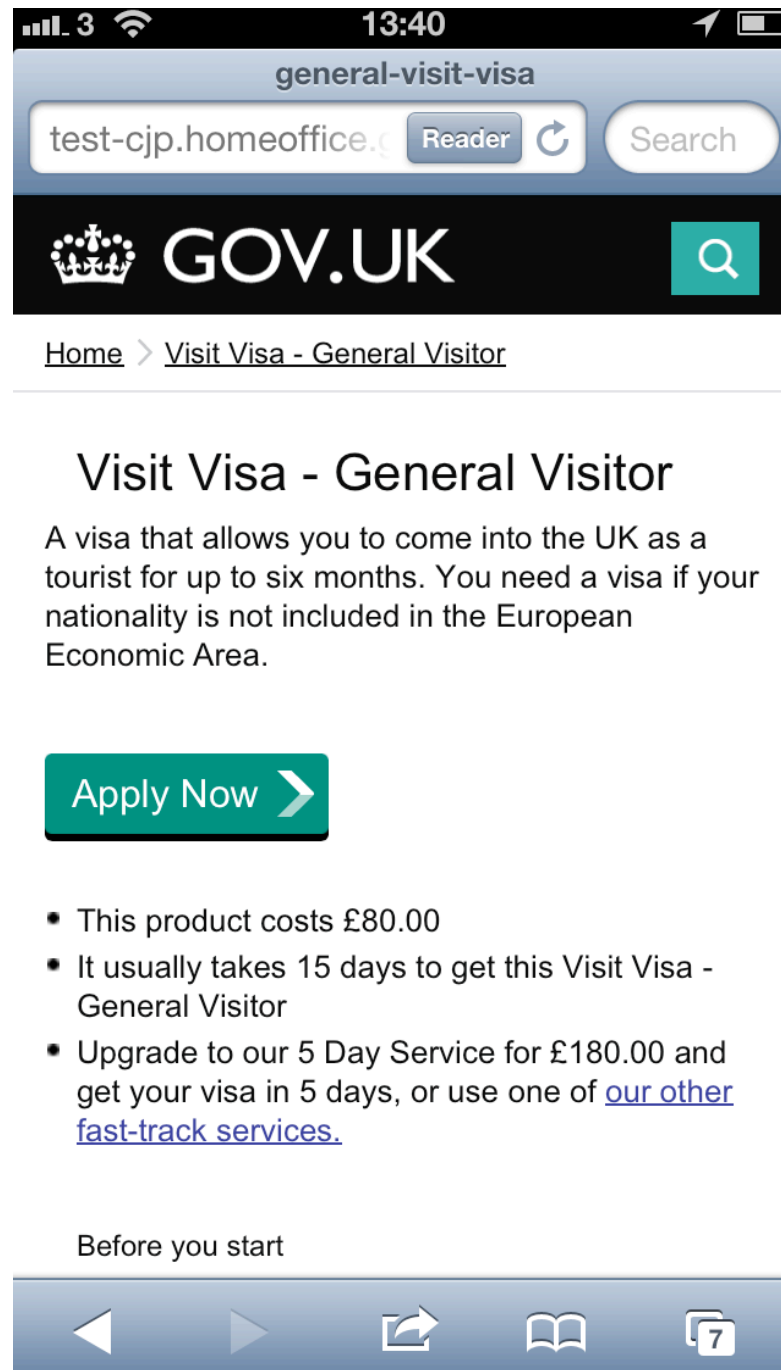
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- This product costs £80.00
- It usually takes 15 days to get this Visit Visa - General Visitor
- Upgrade to our 5 Day Service for £180.00 and get your visa in 5 days, or use one of [our other fast-track services](#).

Before you start







size does matter

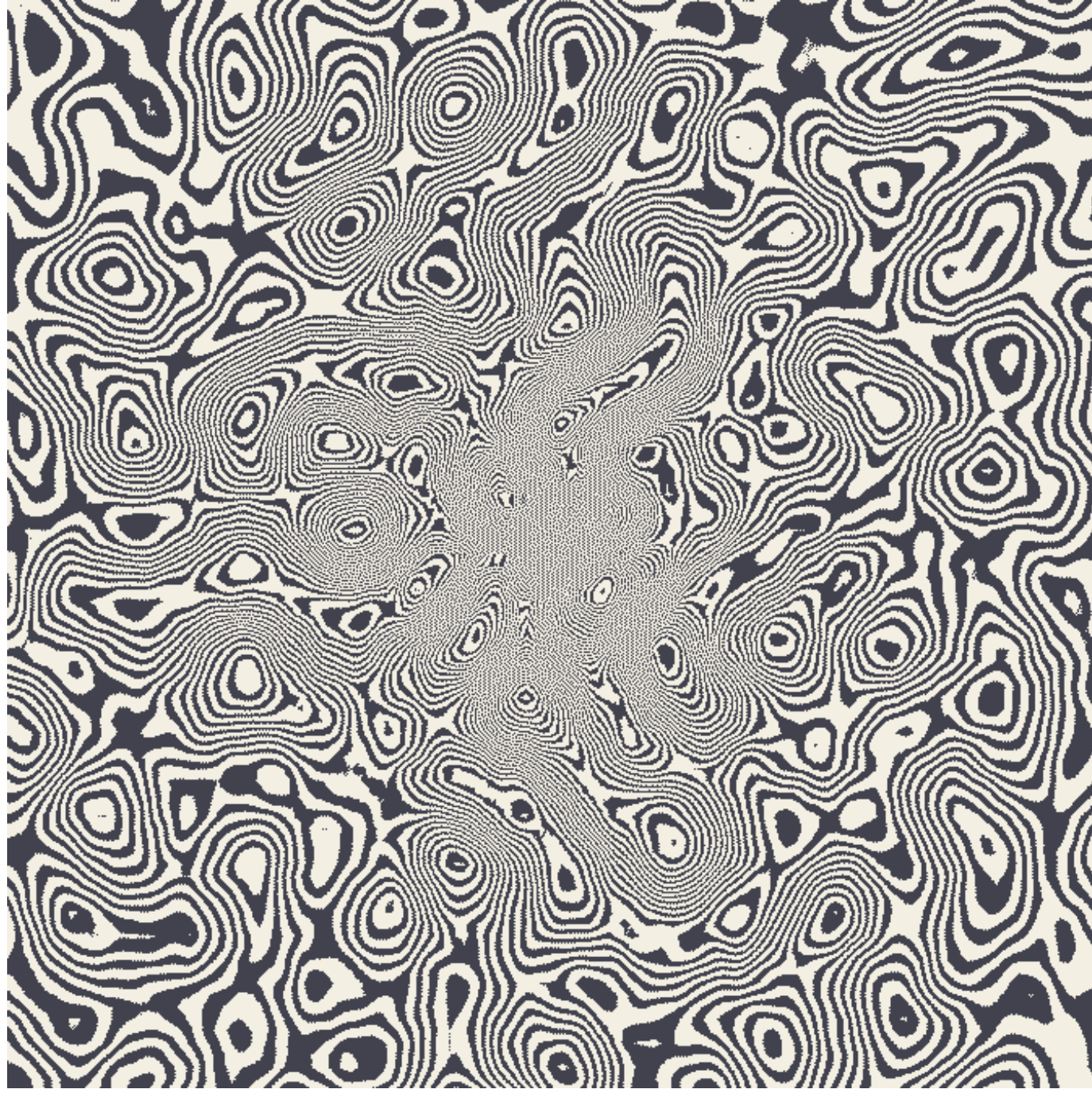
size does matter
(so does location)

everything is a fight
for the user's attention

your attention is
constantly being hijacked

attention likes things
that are **novel**

<http://work.eriksoderberg.se>





2:49



Redmond
Cloudy

46°F 46°
36°

Weather



Coffee
2:30 PM



Tue 18



Messaging



NASDAQ

▲ 4,272.78

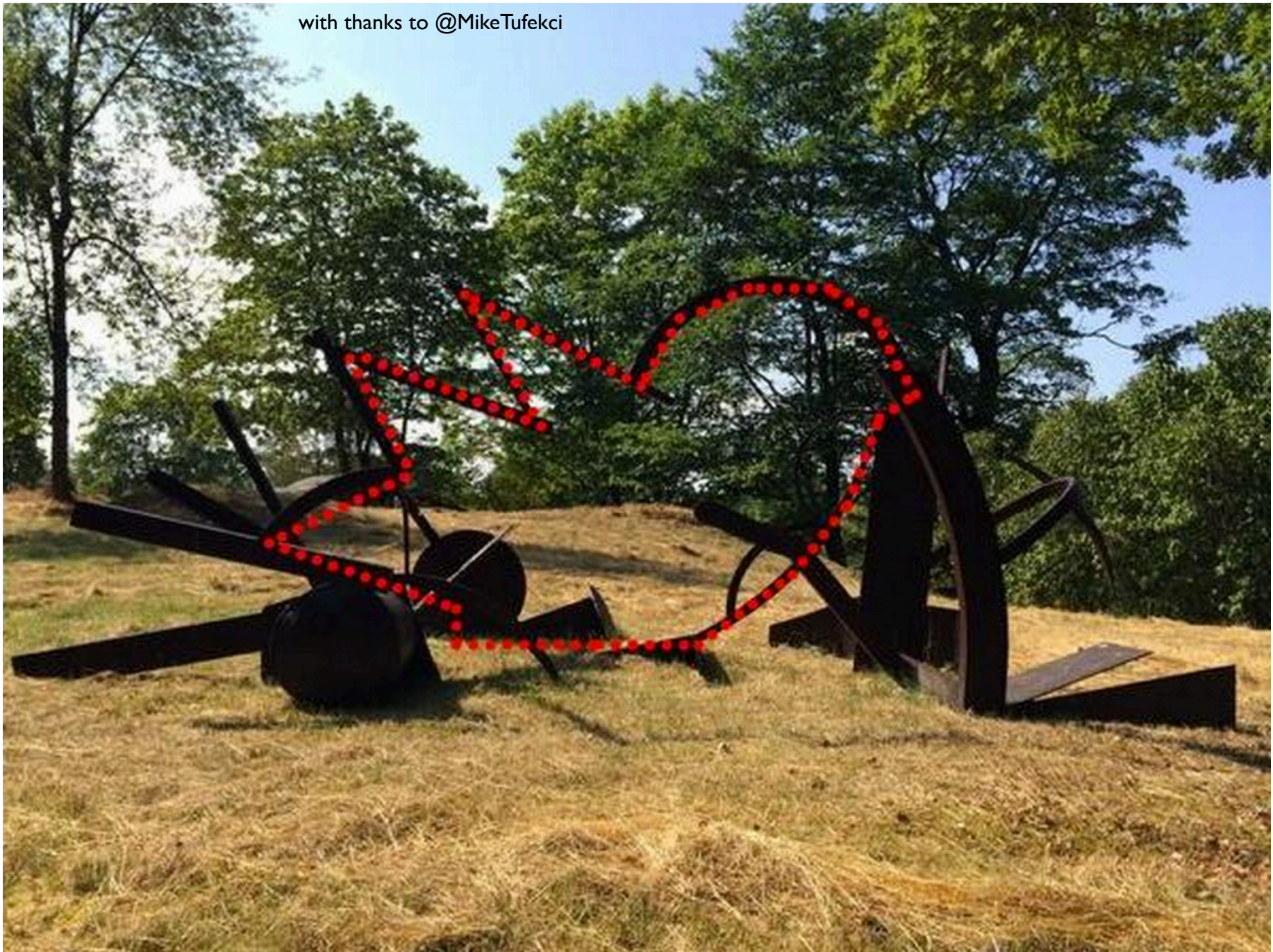
+28.76

4:53 PM EST

attention likes things
that are **salient**



with thanks to @MikeTufekci



TOP FLOOR



17.



Lobby



BASEMENT



Alarm



IN CASE OF EMERGENCY
PRESS ALARMBUTTON
FOR 5 SECONDS
PLEASE WAIT

KONE

"That ancient machine couldn't really do both things at the same time, so it crashed"

- @russolsen



the more calls to action.
the more **attention is split**



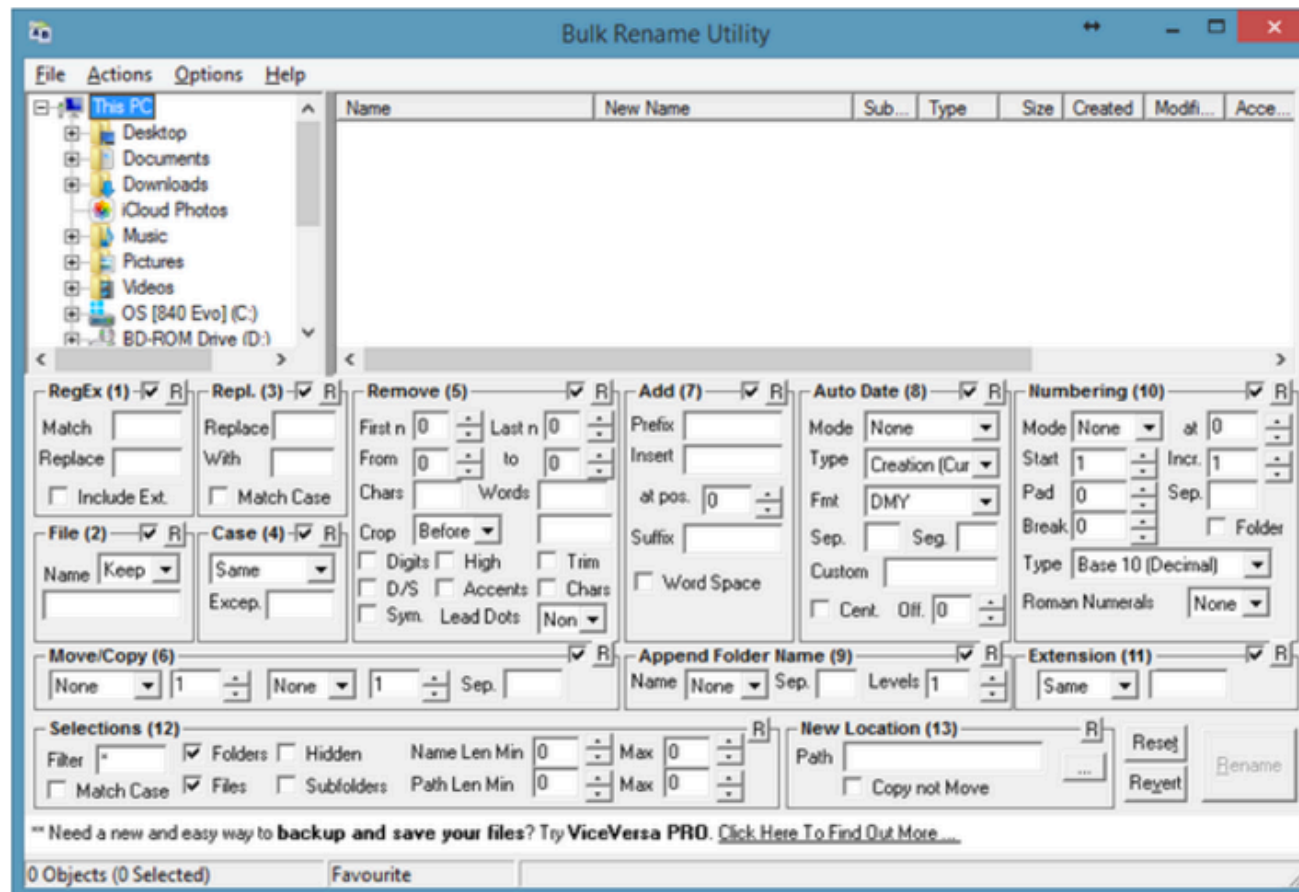
John Bellomy
@cowbs



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Engineers don't let engineers design user interfaces.

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Global Equity Indices			
Ticker	Last	% Change	Volume
IBM CO	188.21	+0.92%	2780200
ALCOA INC	131.48	+0.91%	6128800
ALTRIA GROUP INC	176.82	-0.49%	5382800
AMER INTL GROUP	187.81	-2.35%	3285400
AMERICAN EXPRESS	148.92	-0.37%	7586200
AT&T INC	138.48	+1.83%	11798100
BOEING CO	162.36	-2.57%	4172300
CATERPILLAR INC	167.41	+0.37%	3219200
CITICORP INC	128.11	-2.28%	3638300
COCA-COLA CO	168.98	+0.48%	1626300
DISNEY (WALT) CO	138.87	+1.88%	6244800
DU PONT (E)	165.28	+1.12%	4581800
EDISON MOBIL CORP	99.98	+0.11%	11145300
GENERAL ELECTRIC	138.52	+0.34%	17514800
GENERAL MOTORS	123.88	+3.95%	6340800
HEWLETT-PACKARD	148.34	-0.92%	10248800
HOME DEPOT INC	125.28	-2.22%	6261400
HONEYWELL INTL	157.82	+0.38%	3072400
IBM	188.92	+1.84%	4779800
INTEL CORP	122.54	-0.72%	4497350
JOHNSON & JOHNSON	167.91	+0.16%	5287100
JPMORGAN CHASE	141.33	-2.88%	17516300

Click the button below to see LIVE schedule

See LIVE Schedule

AmEx: 18.81 米アマックス: 10-12月期に特別費用4.4億ドル計上へ

AmEx: 18.82 Canadian Bus: Housing slump and decaying credit quality will

AmEx: 17.98 AmComp, American Express, United Rentals: U.S. Equity Preview

AmEx: 17.98 Morningstar: American Express To Take 4Q Charge Of \$275 Million

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19 Q - NTC 22.54 Q - NTC 22.54 Q - MSFT 34.33 Q - MSFT 34.33 Q - NTC 22.46 Q - NTC 22.46 Q



ideo.org

IBM (International Business...)



NYSE, May 10 4:01pm ET

Open:	203.37	High:	204.53
Mkt Cap:	226.72B	Low:	202.82
Volume:	3,279,558	Avg Vol:	4,690,000

NOK (Nokia Corpora...)



3.66
▲+0.11
(3.10%)

CAJ (Canon Inc.)

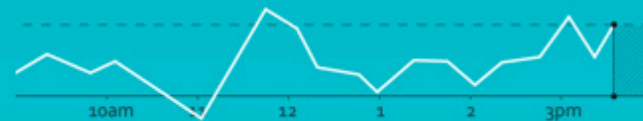


35.34
▼-0.08
(-0.23%)

MSFT (Microsoft Co.)



32.69 ▼-0.03 (-0.09%)



HAP



HPO



when everything is novel
then everything is an
attentional target

Three Characteristics of Great Website Design

Title



Welcome **Googler!** If you find this page useful, you might want to **subscribe to the RSS feed** for updates on this topic.

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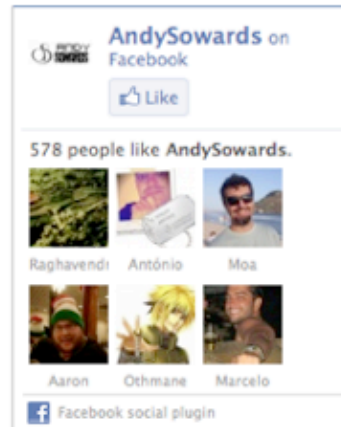


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down there

+1 0

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Spain
France
Italy
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(excess of £75, c

Personal B
(excess of £75)*

Cancellation
circumstan
(excess of £15, c

Ticket Refu
in case of Ryan

Austria
Belgium
Czech Republic
Denmark
Don't Insure Me
Finland
Hungary
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Malta

Don't Insure Me

Atherton
Christine Joy

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SURANCE

INSURANCE PLUS



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- ✓ Buy now, save money
- ✓ Buy up to 2 check-in bags



BOOKING SUMMA

► Passenger(s)

London (Stansted) → K
Wed, 04 Jun 2014 18:25 - 21:45

► 1 Adult, 49.99 GBP

Krakow → London (Sta
Fri, 06 Jun 2014 18:40 - 20:00

► 1 Adult, 42.99 GBP

▼ **Payments -94.84 GBP**

1 x 94.84 GBP -9

▼ **Fees 1.86 GBP**

Credit Card Fee:

TOTAL

0



dark pattern mobile



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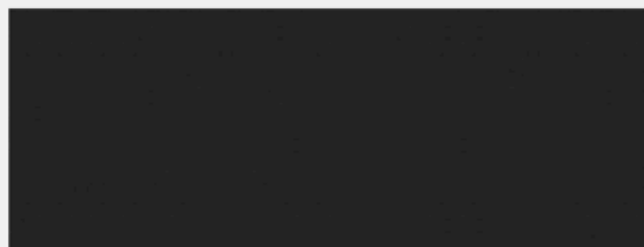
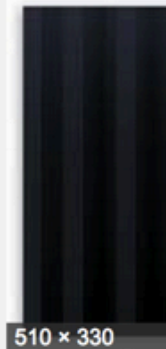
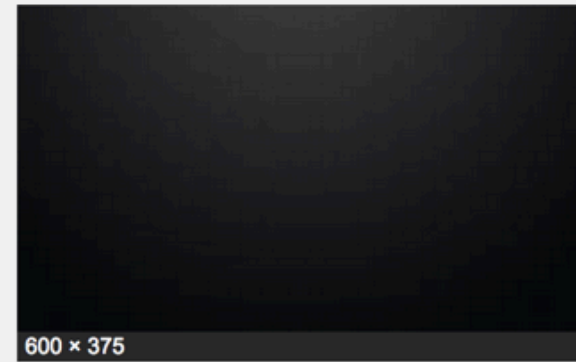
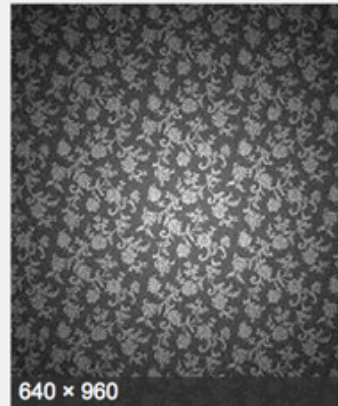
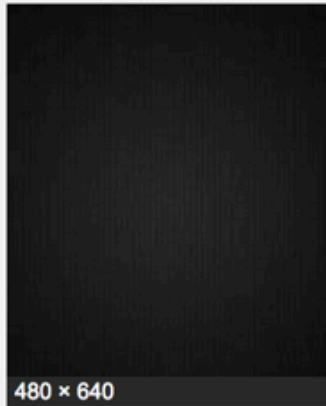
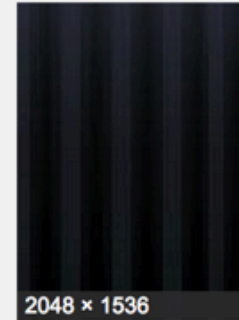
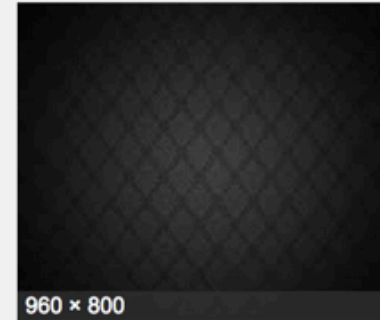
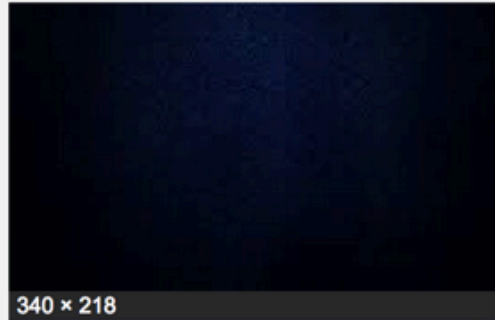
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as simple as possible
but no simpler

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EUROPE

ScreenLink Calculator

ETIOLOGY OF
CARDIOMYOPATHY

Not selected

SELECT

NYHA CLASS

Not selected



SELECT

ECHO AVAILABLE

YES

LVEF % LAST ECHO

%

PRIOR MYOCARDIAL
INFARCTION

NO

> 40 DAYS AGO

NO

ARRHYTHMIAS HISTORY

Not selected

SELECT

PRIOR SUDDEN
CARDIAC ARREST OR VF

NO

SYNCOPE

Not selected

SELECT

CALCULATOR

MENU

failures of UI are often failures
of **attention management**

Type of travel document

Please tell us the following information, as it is appears in your travel document.

What is your nationality?

Nationality

What is your date of birth?

Day Month Year

What is your travel document number?

Which country issued this travel document?

Country

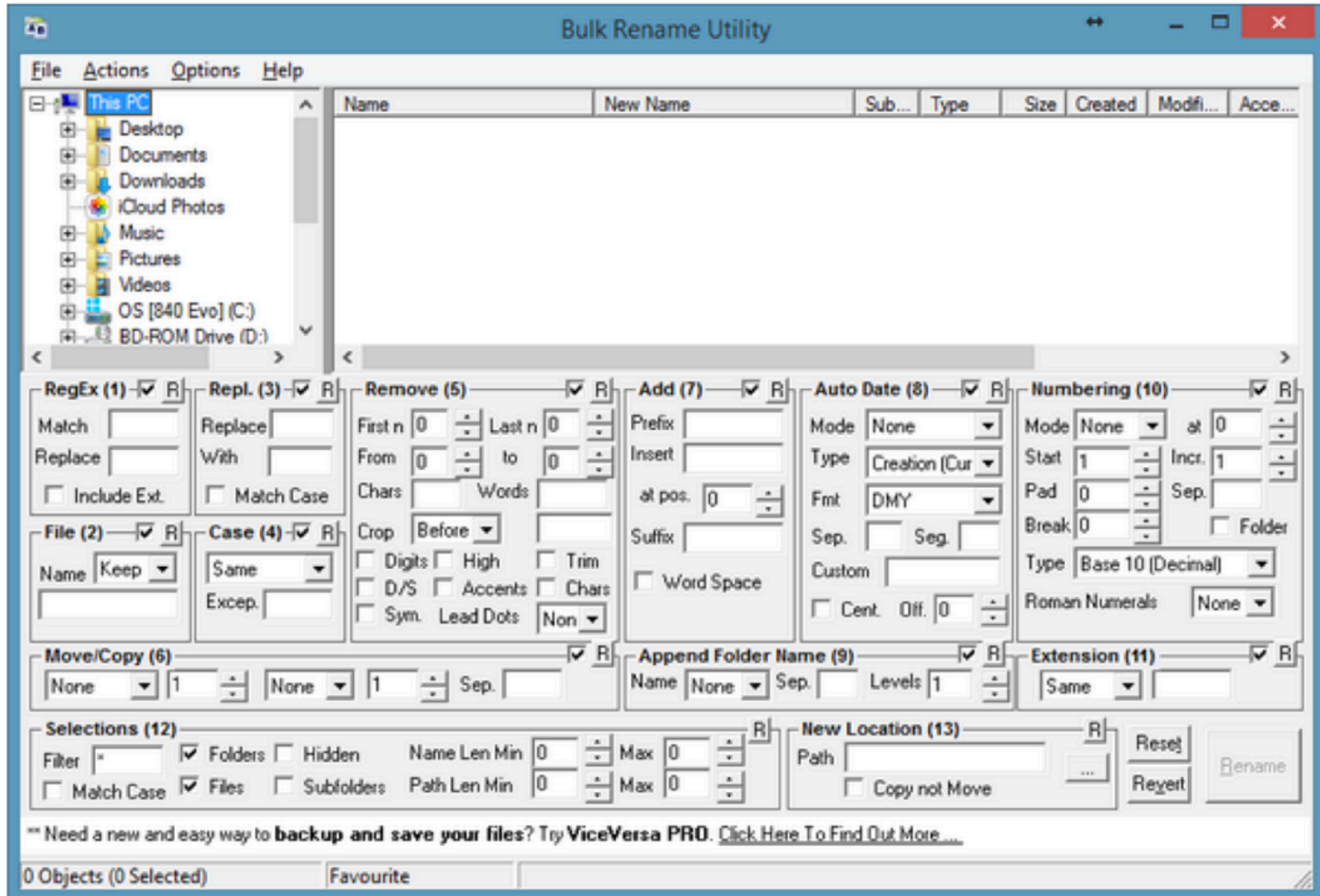
identity.dateOfIssue.label

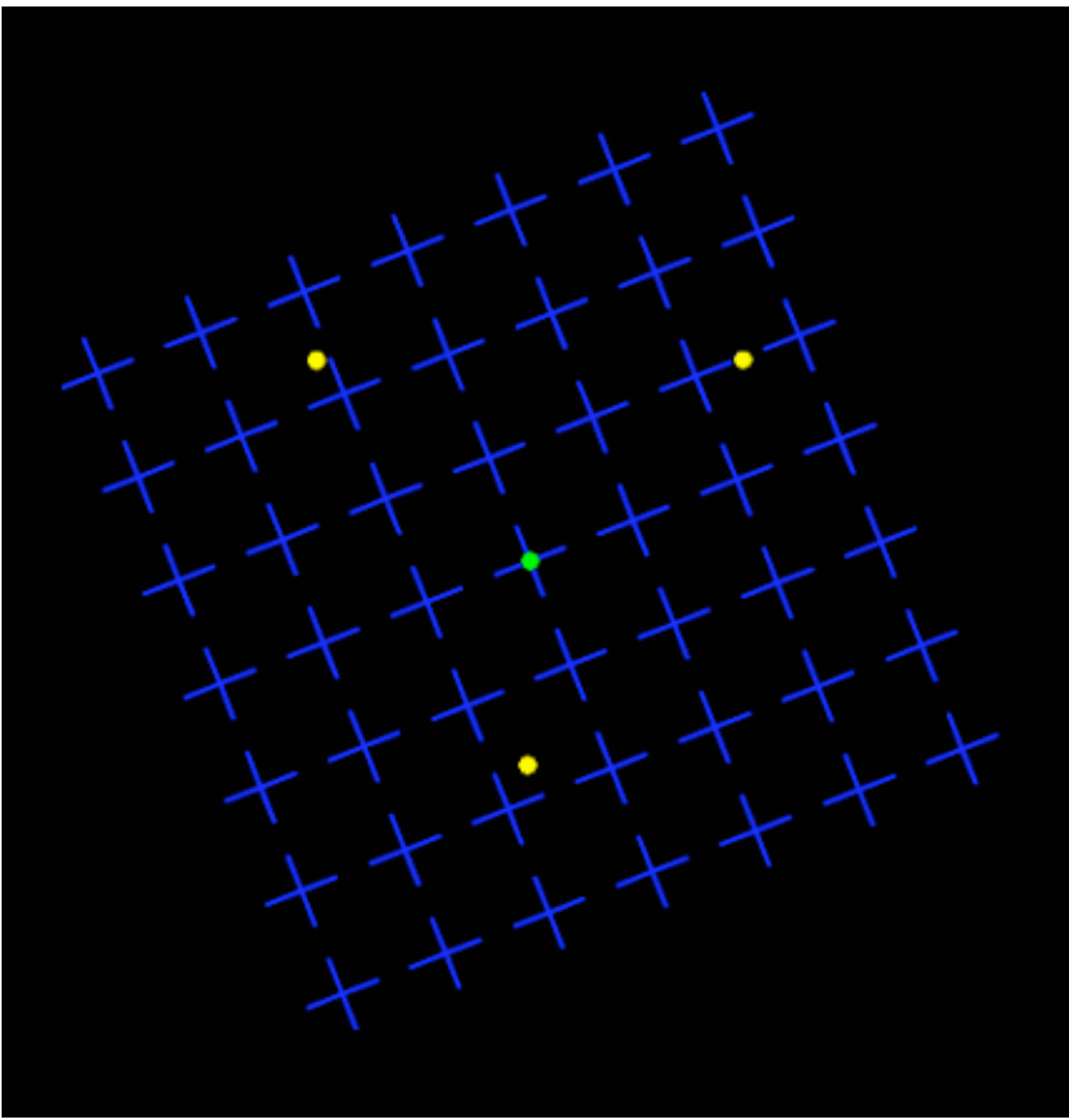
Day Month Year

identity.expiryDate.label

Day Month Year

Place of Birth





inattentional blindness

Your nationality and date of birth

Nationality

Angola

[+ Add another nationality?](#)

Date of birth

Day

Month

Year

3

March

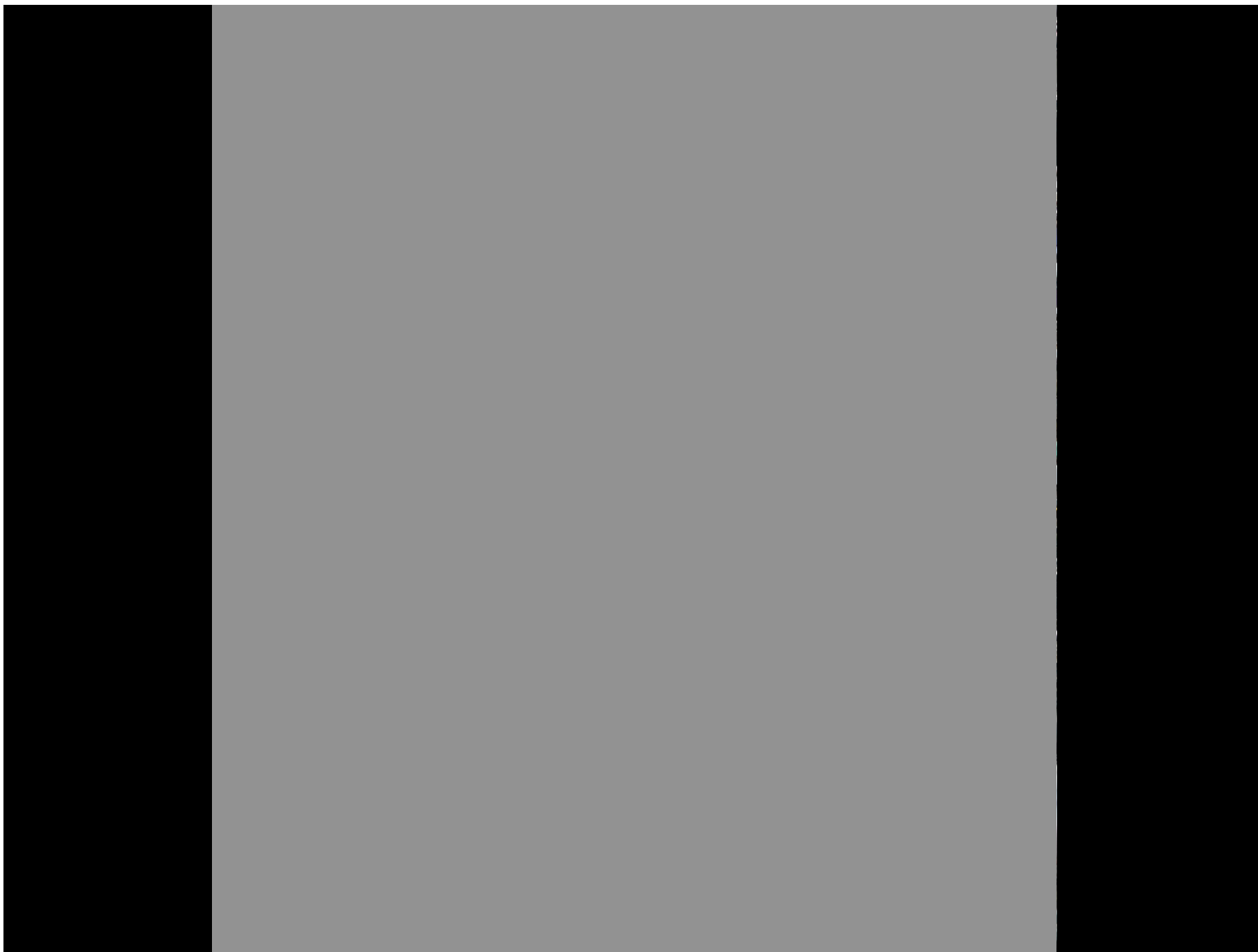
1960

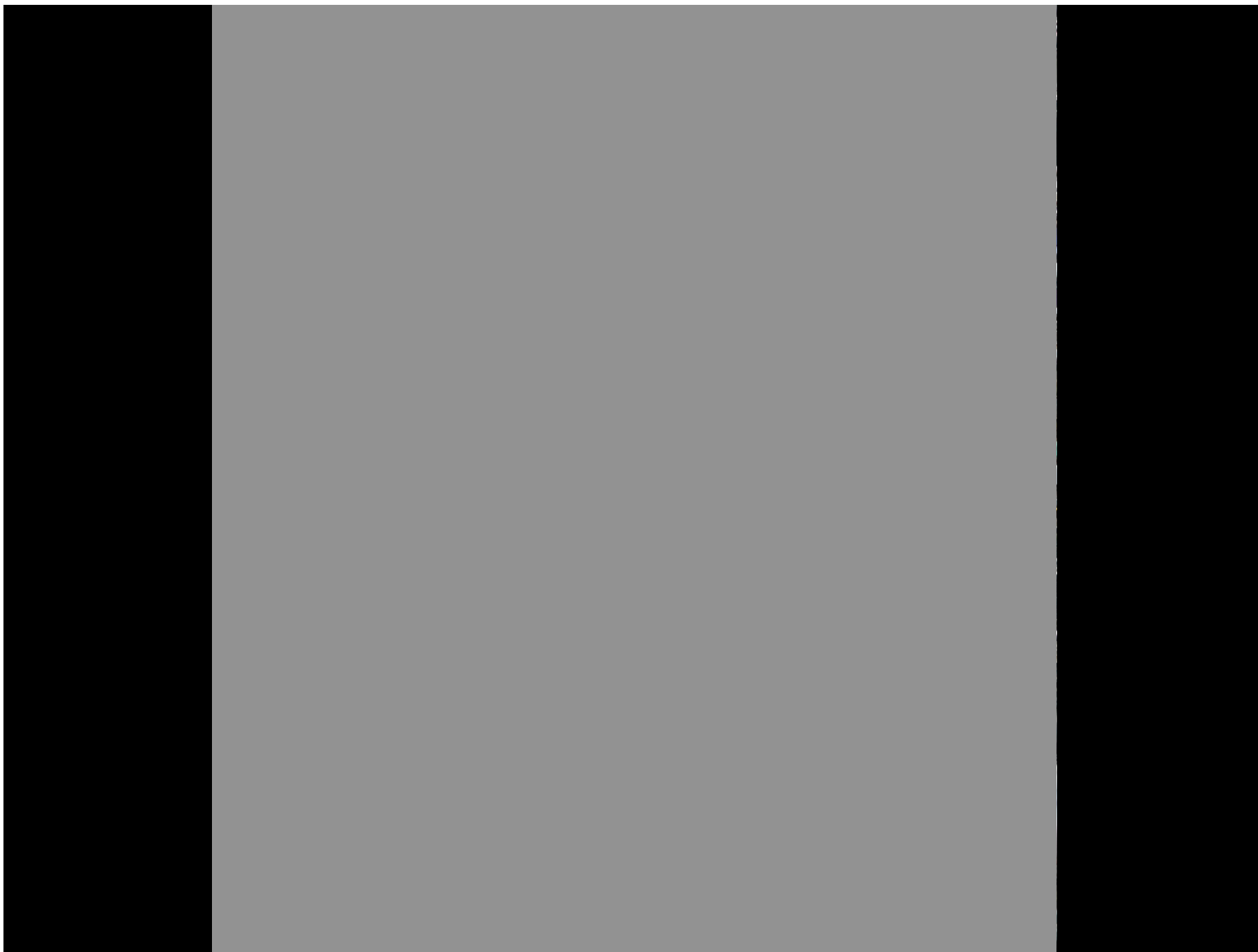
Save and continue

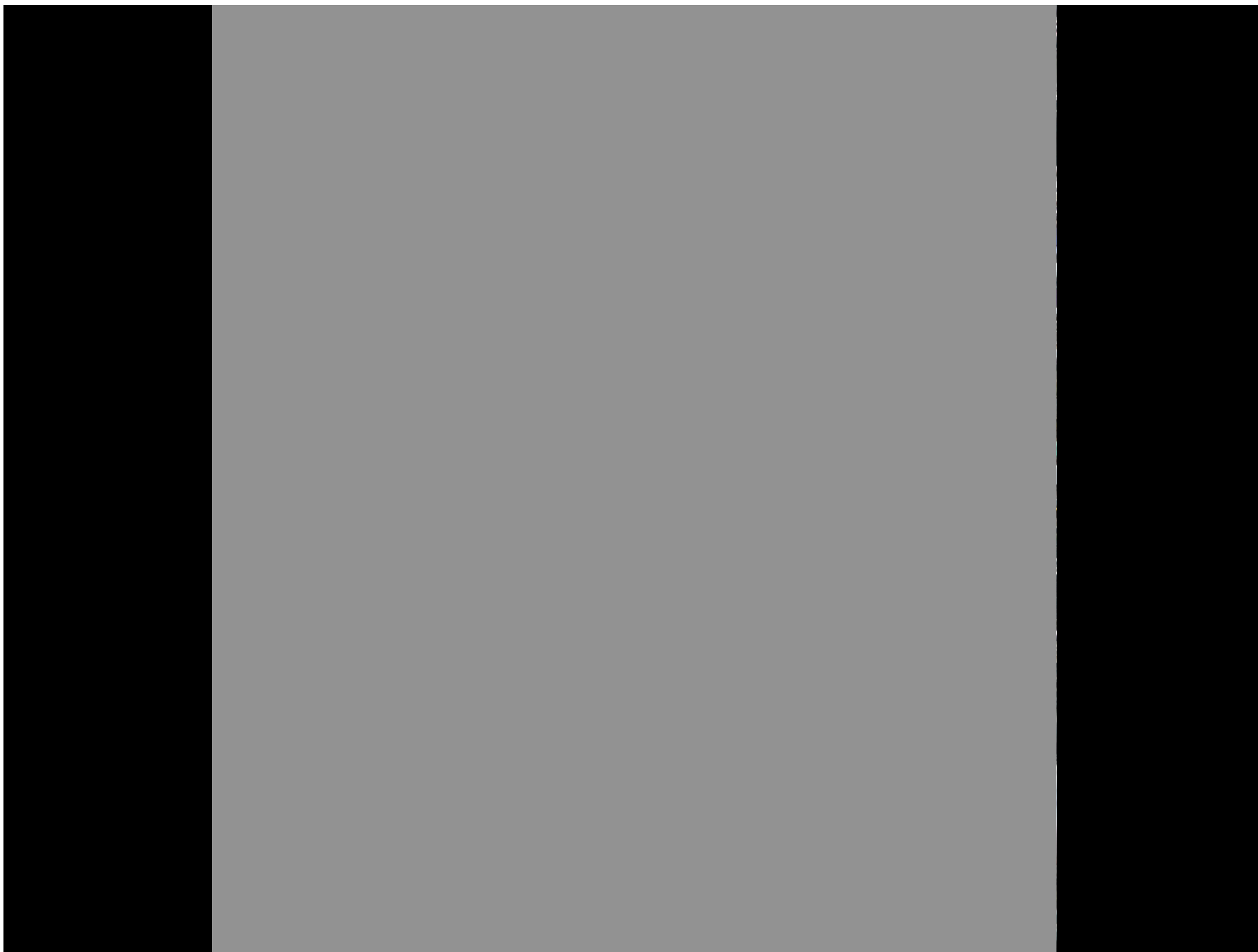
[Return to this application later](#)

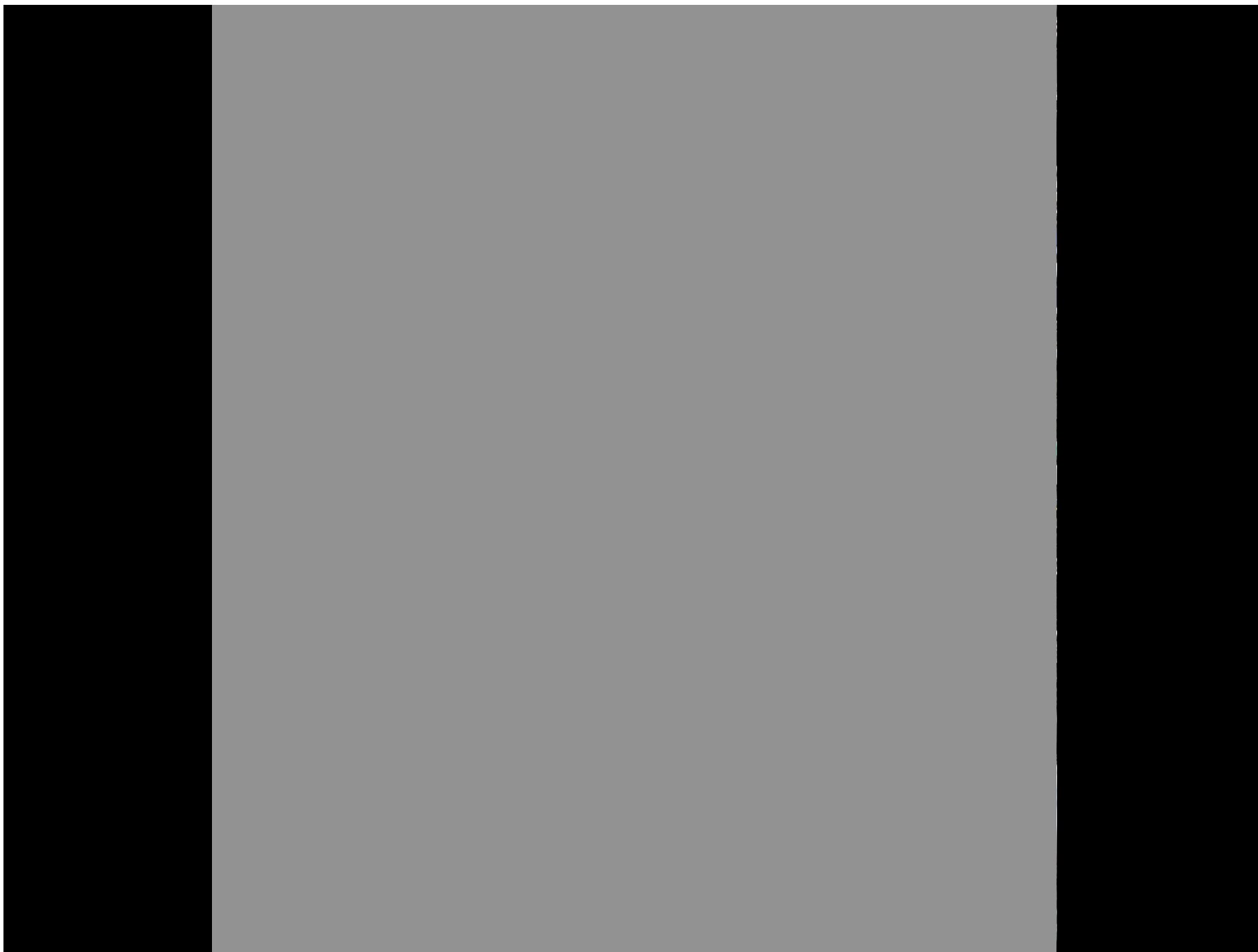


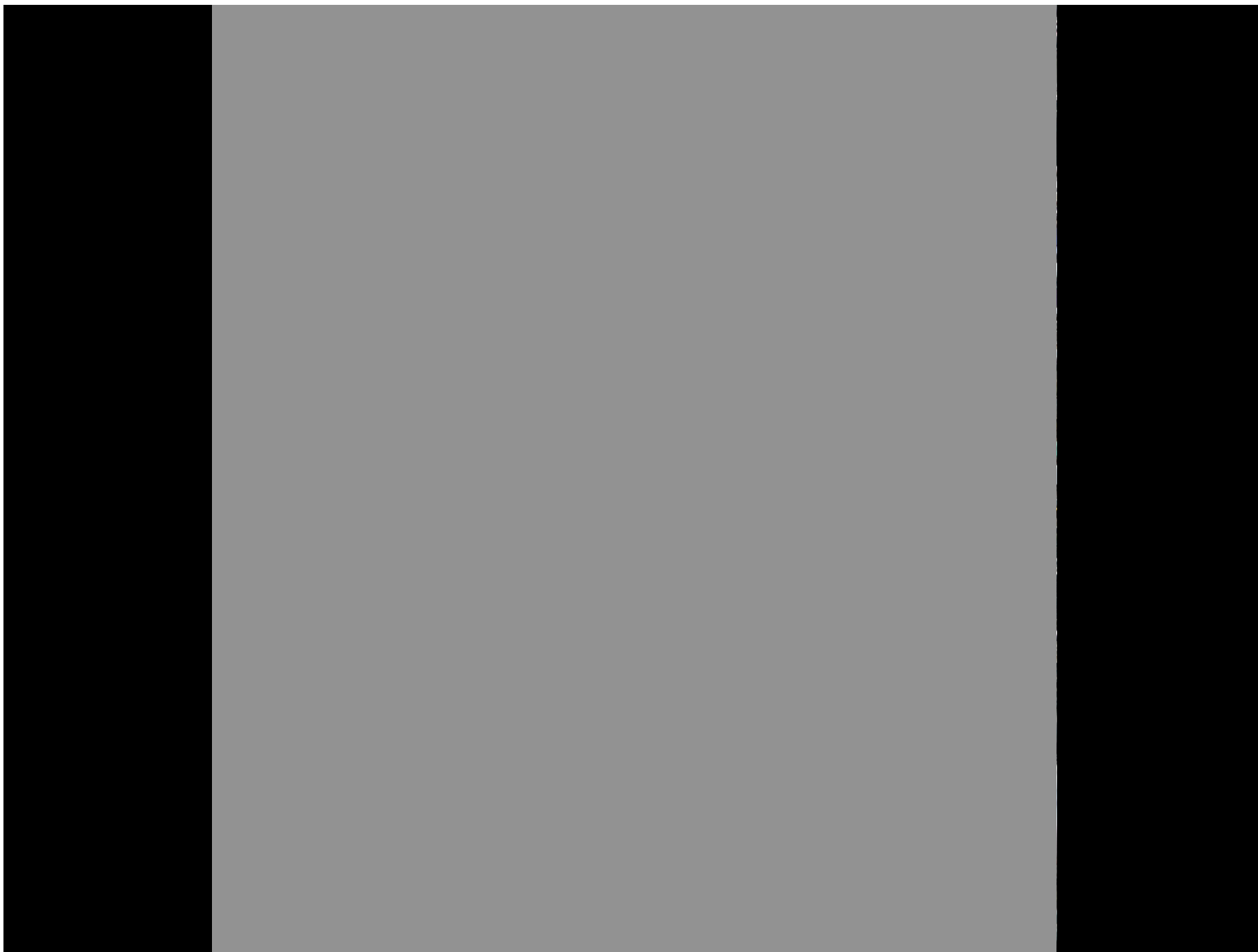
mobile attention
is often brief

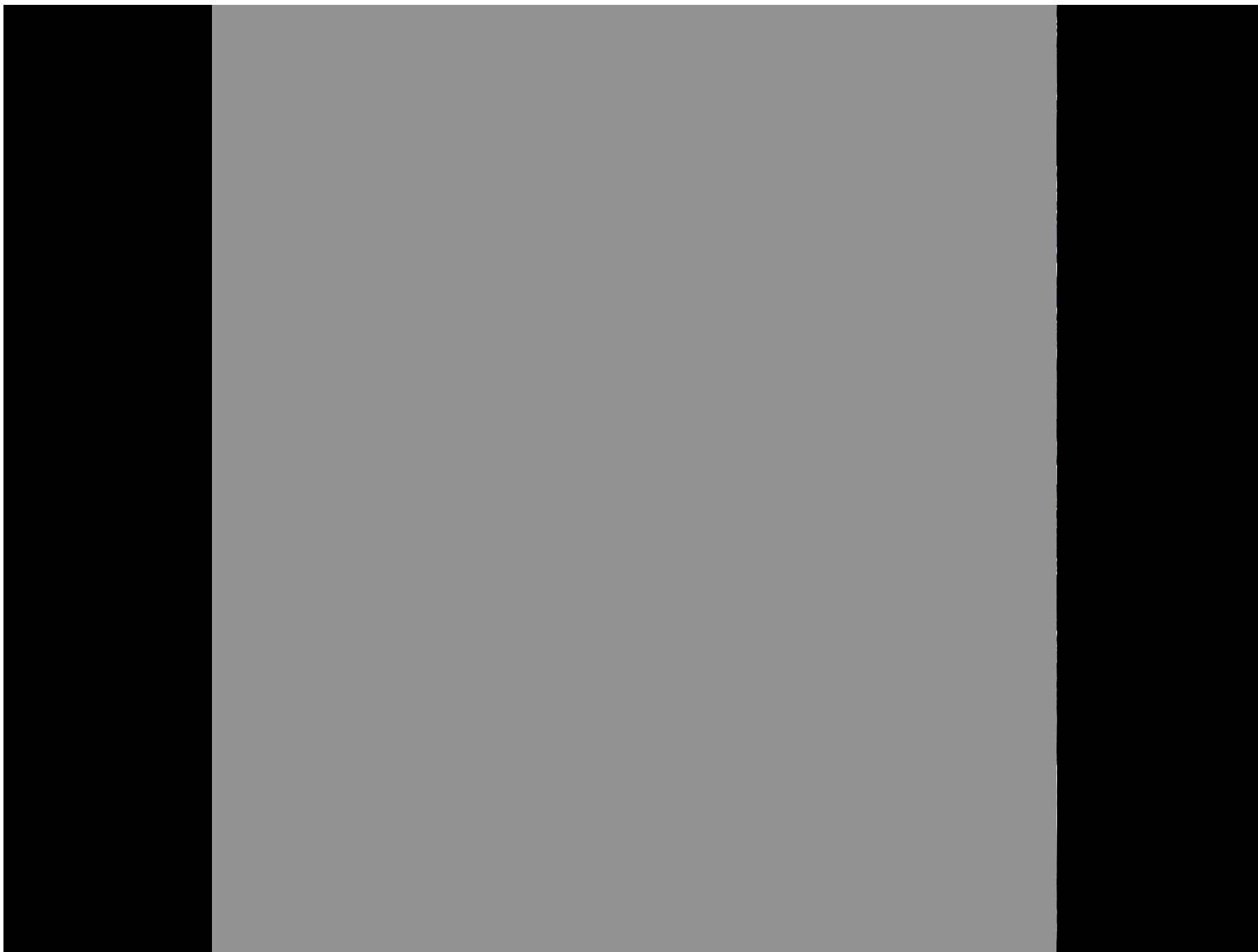


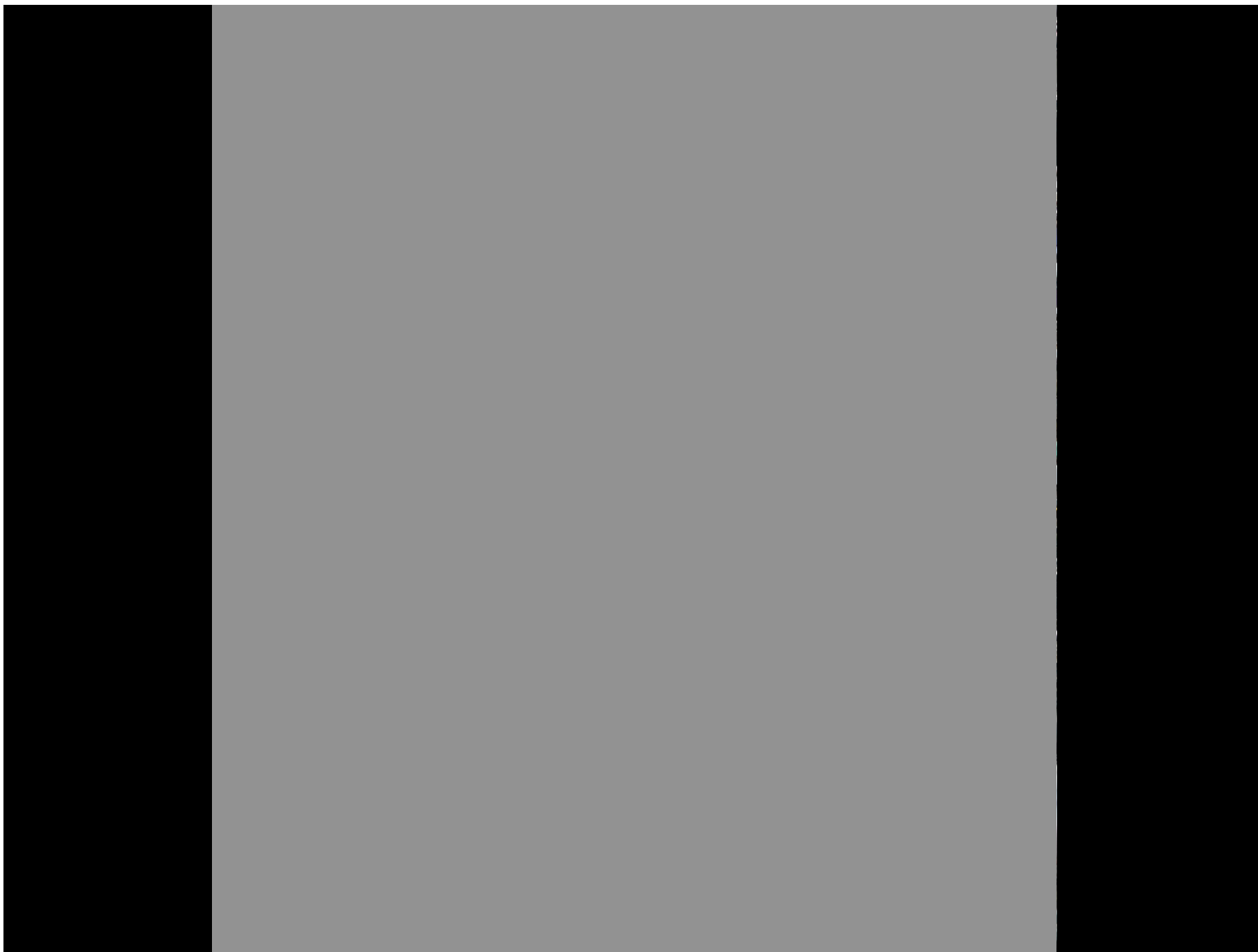


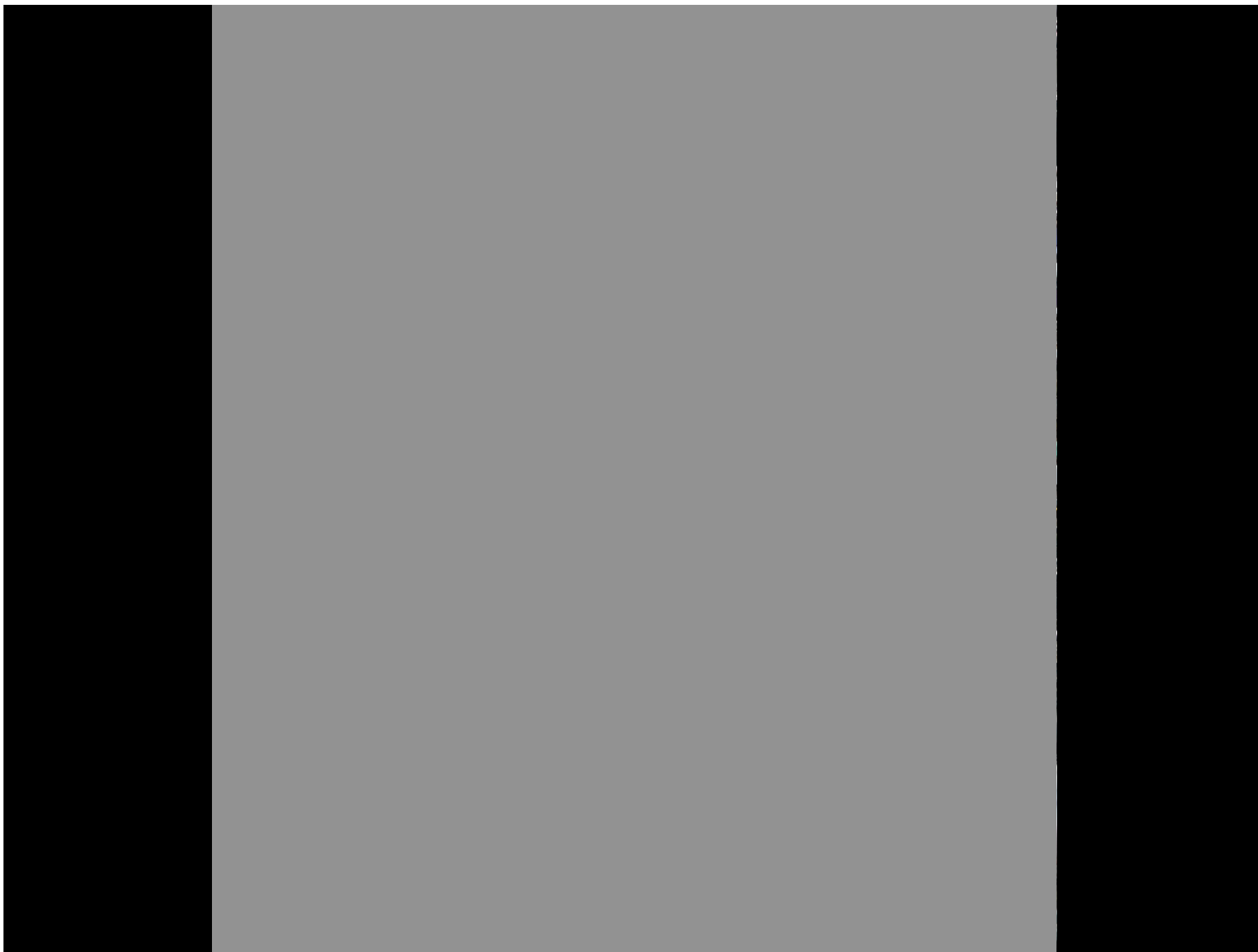


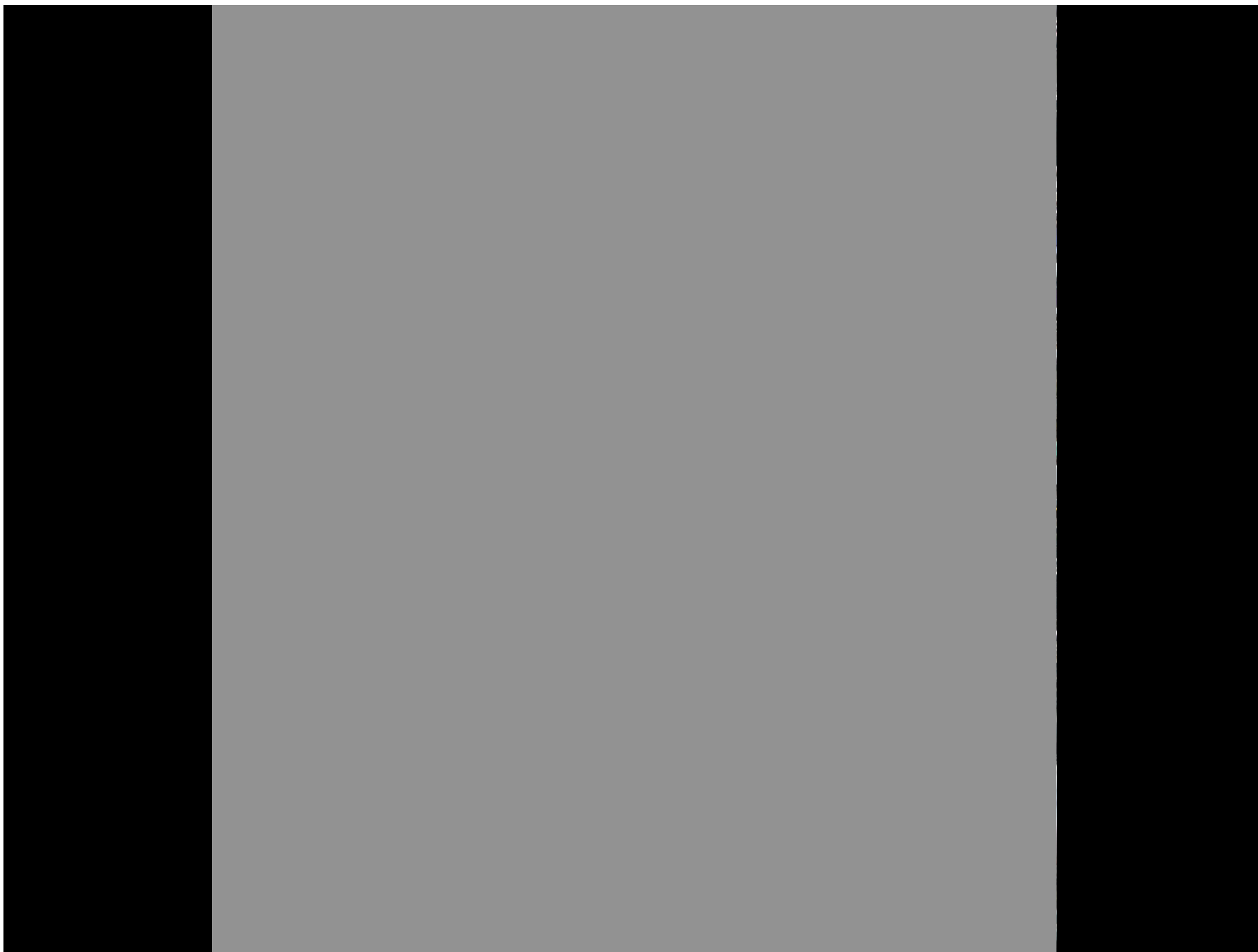


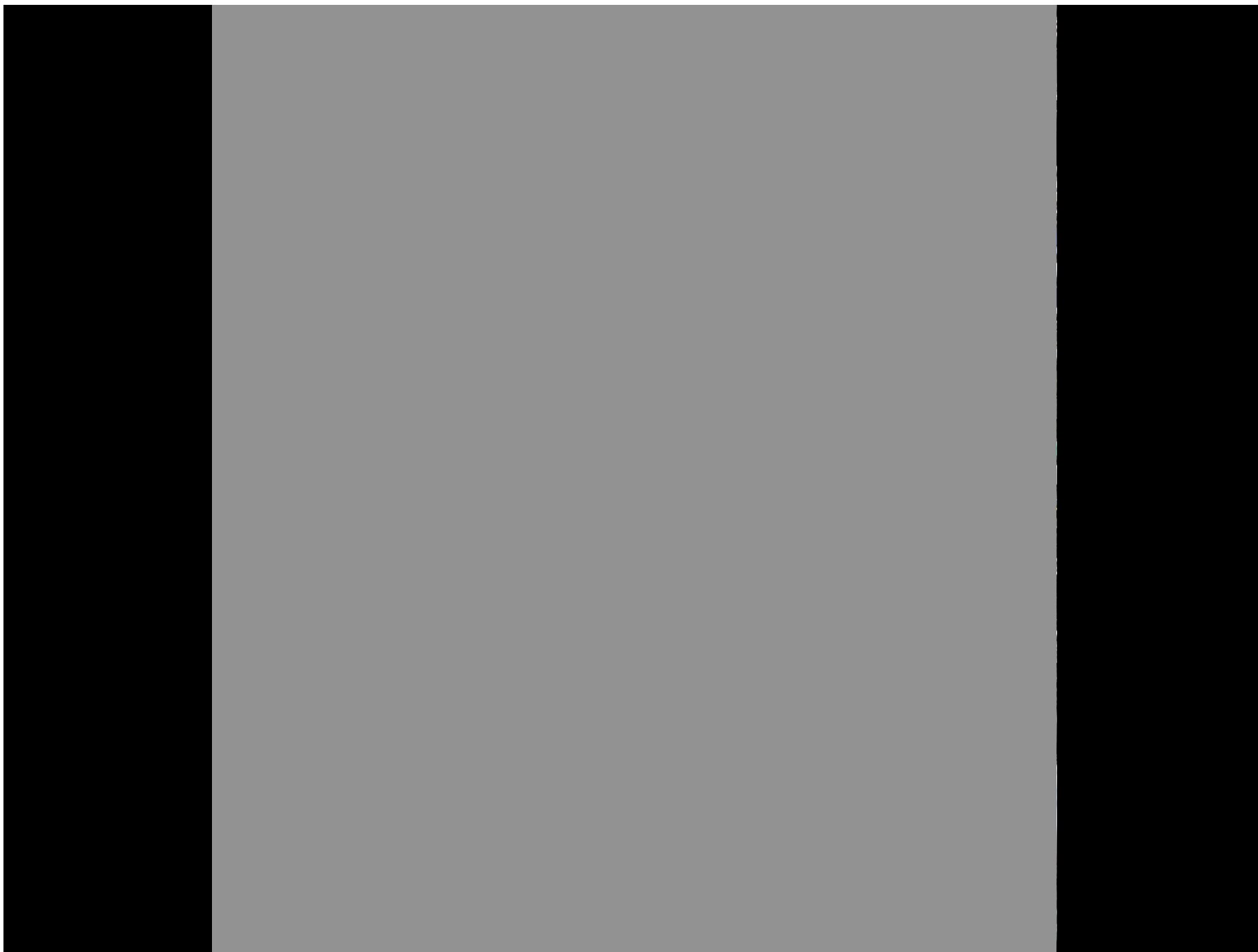




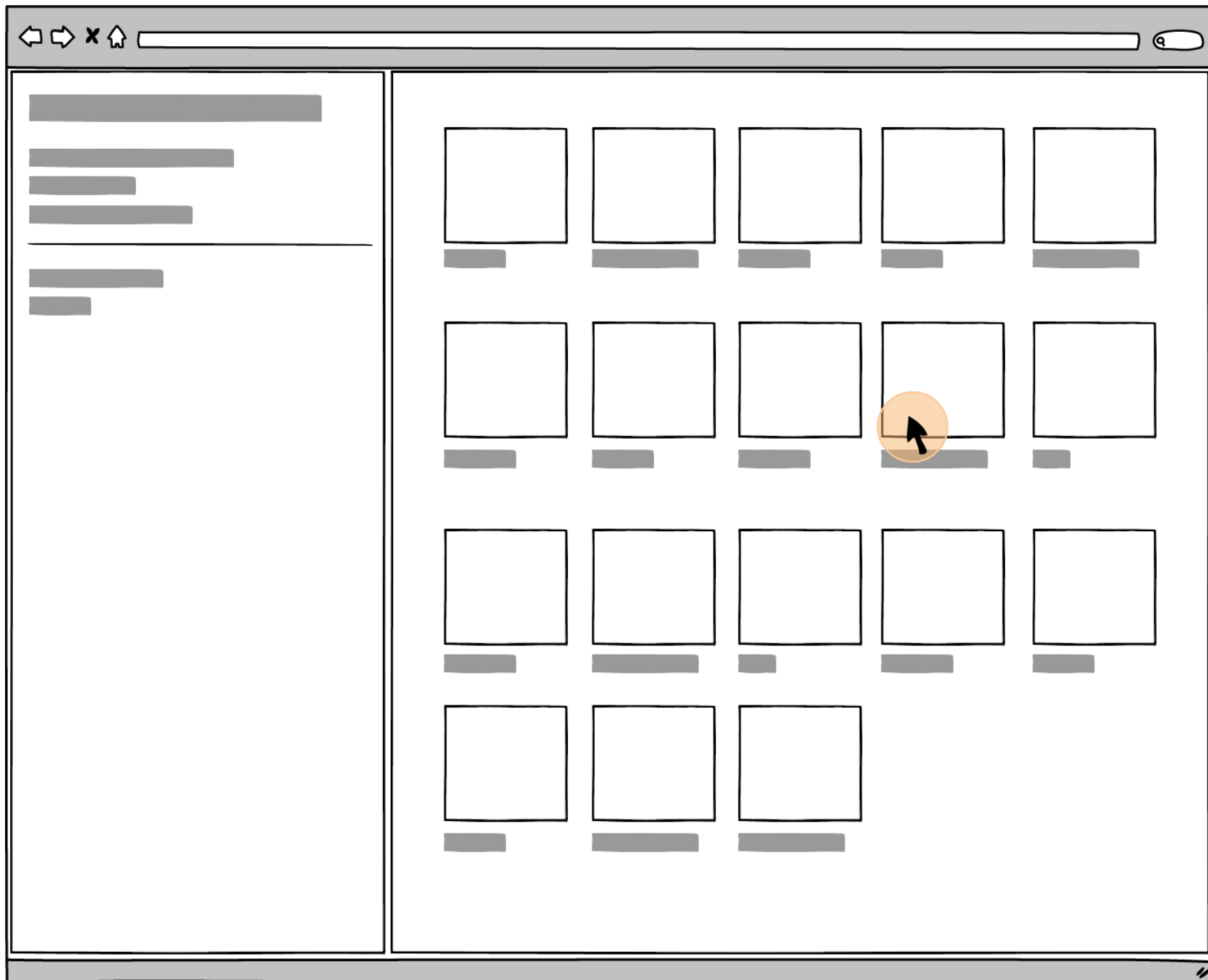


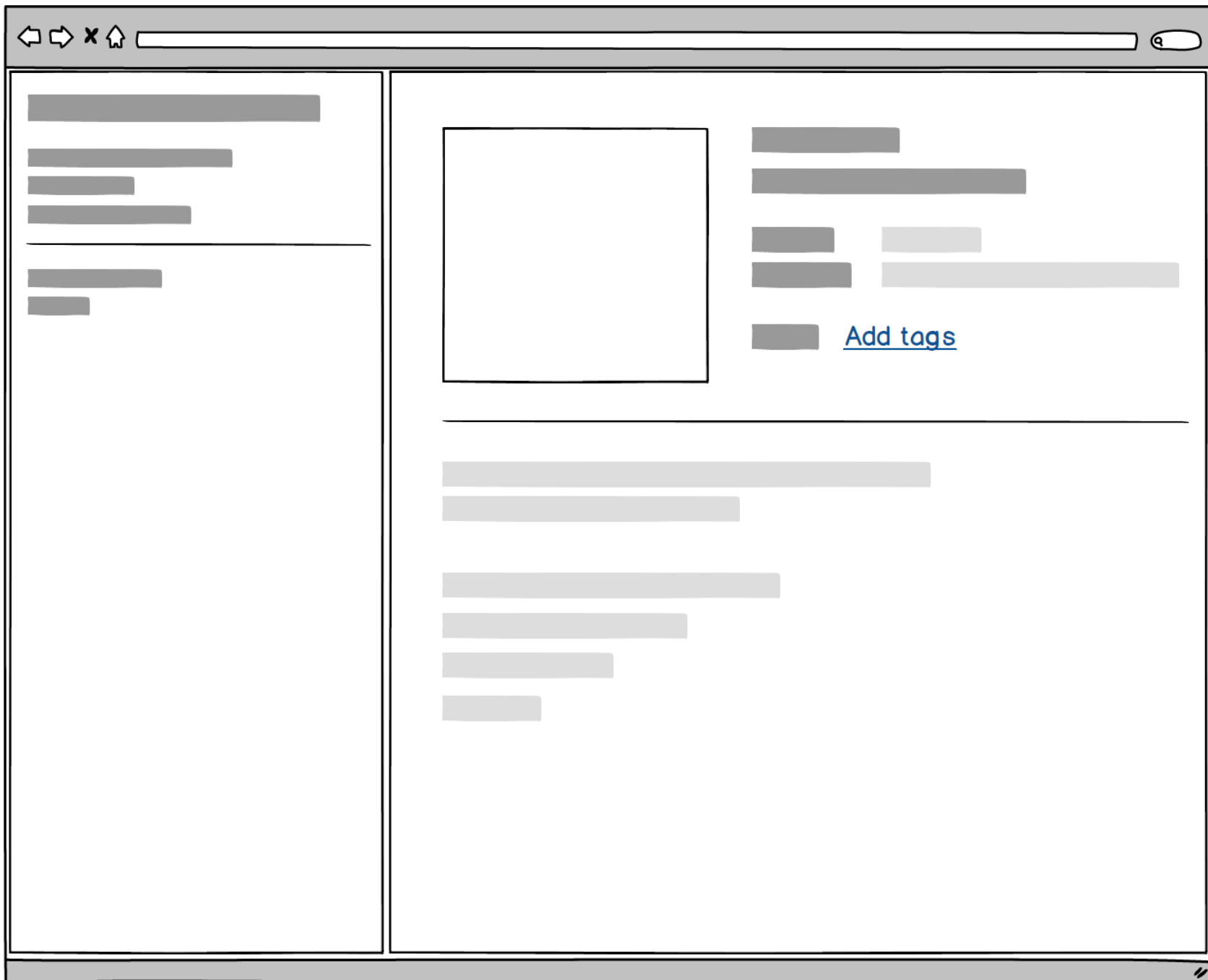


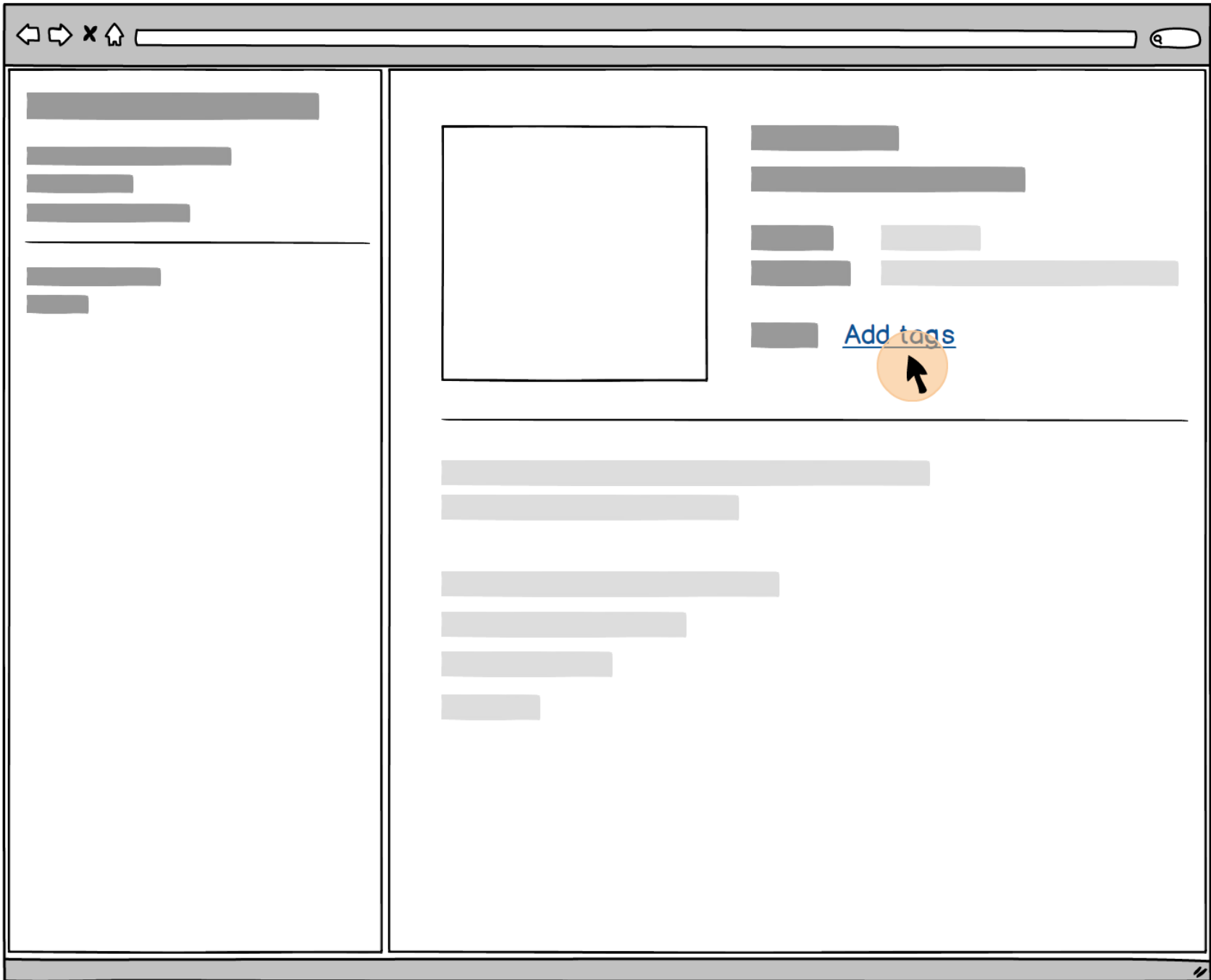


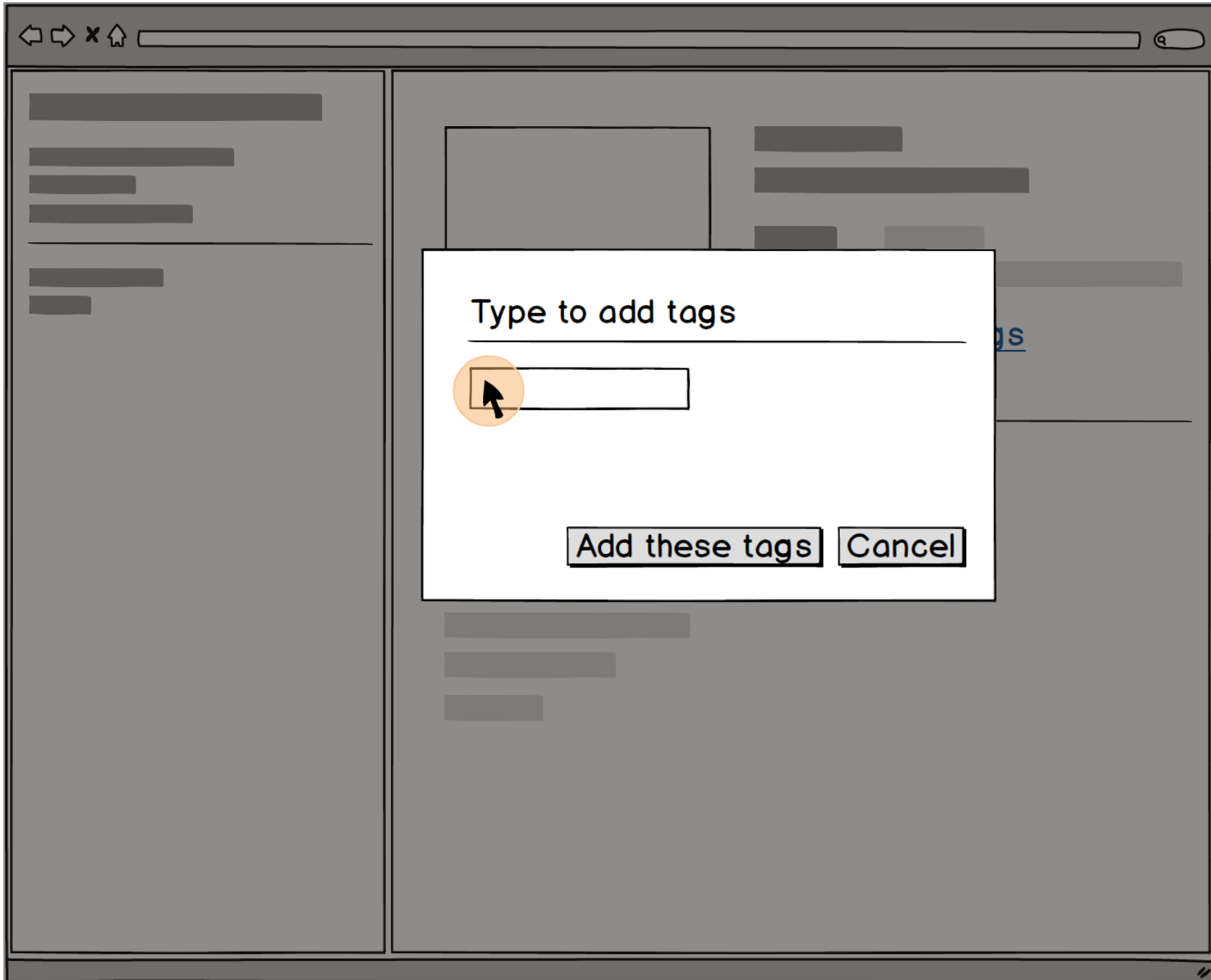


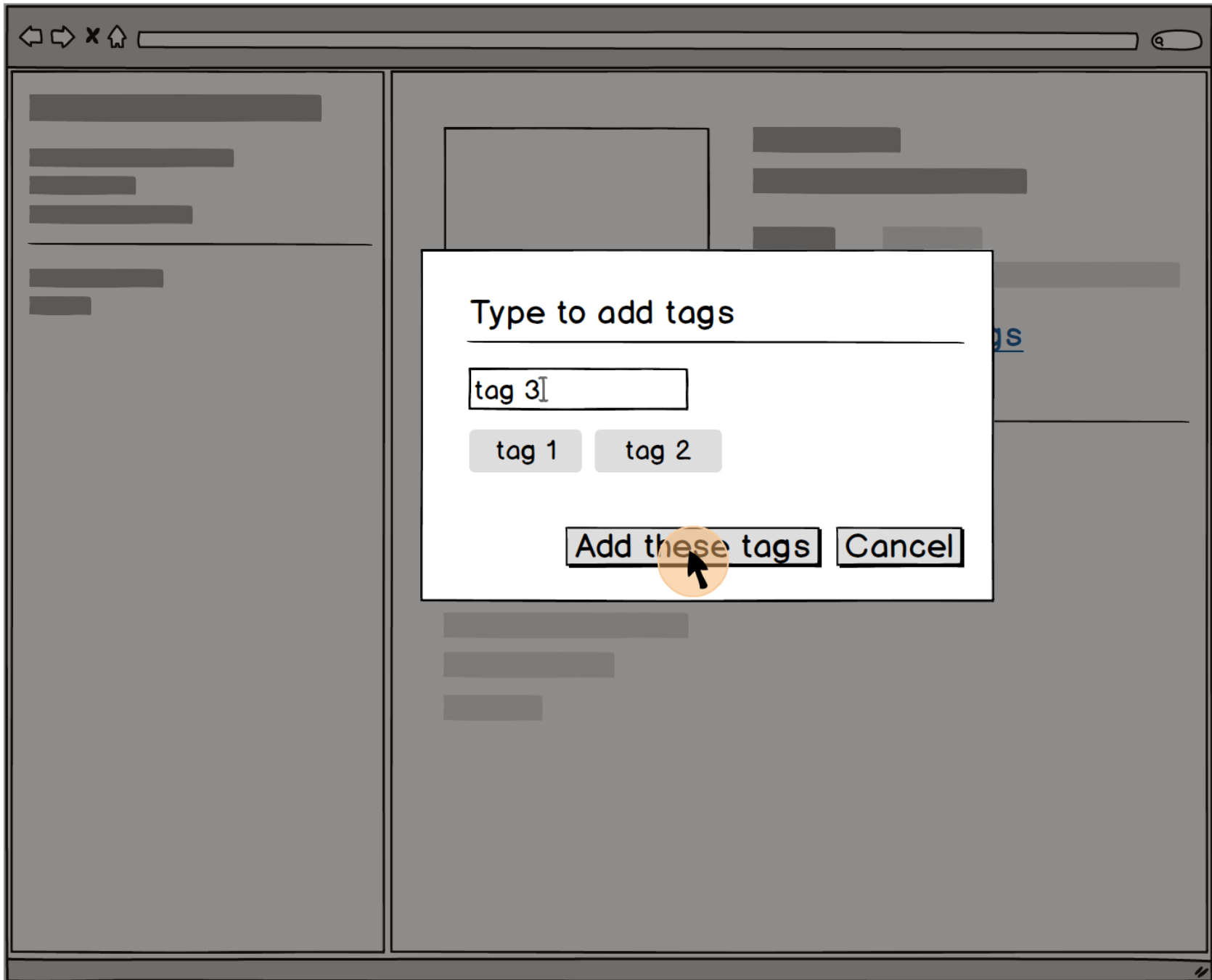
change blindness

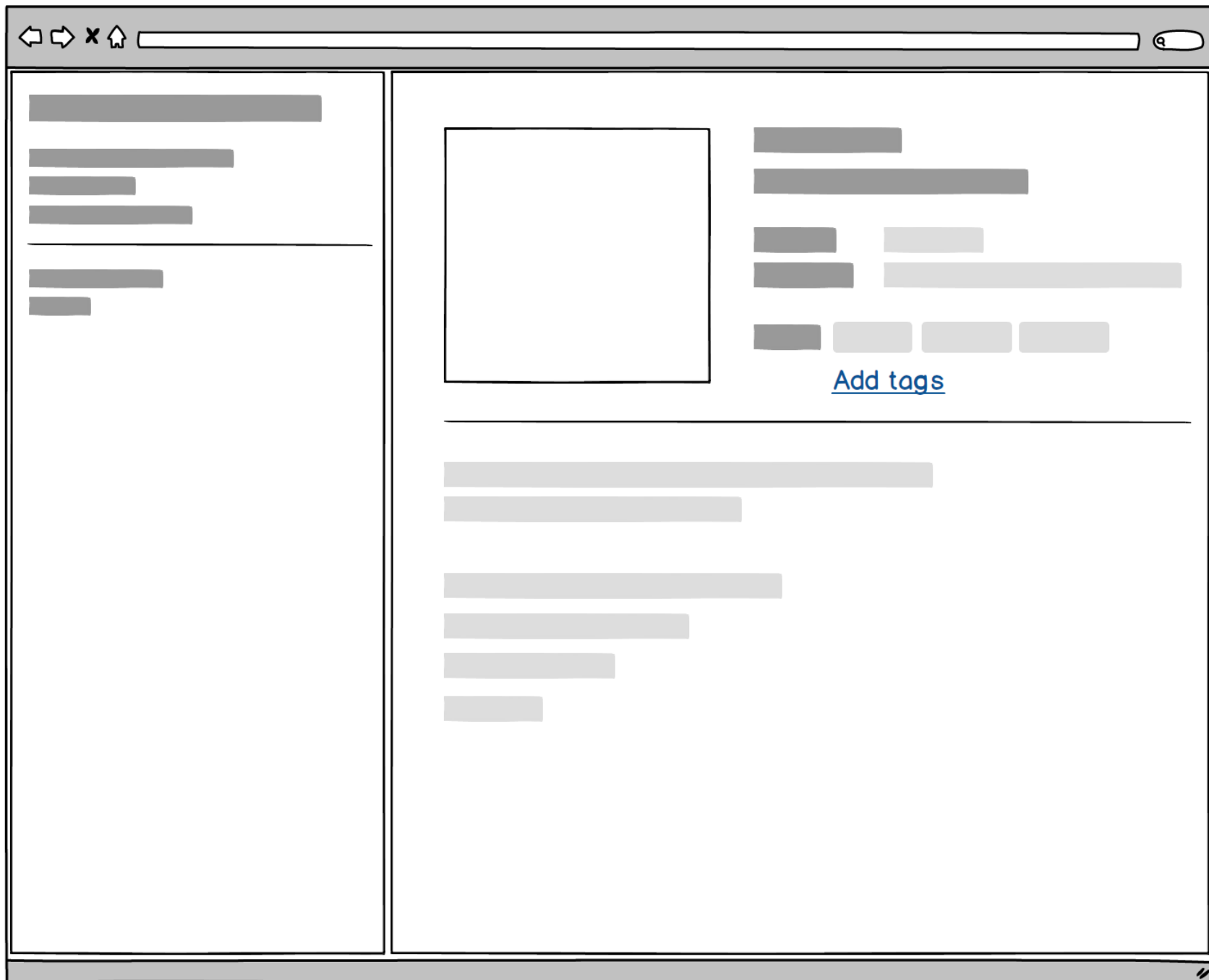














the good news:
mobile screen size limits
the amount of **stuff**

mobile-first:
“mobile forces you to focus”

– Luke Wroblewski

No

[Continue](#)

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Password [Edit](#)

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On a "Check your answers" page you have the option to download your answers as the regular PDF and also save for later.

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Given name
Bob

Family name
Harris

[I am not sure how to enter my name](#)

[Save and continue](#)

[Check my answers](#)

[Return to this application later](#)

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details

ails
ut dependants if
with you

it
is
ember 1955

[Check or edit answers](#)

[Add details about this person](#)

[Download this part-completed application as a PDF](#)

[Return to this application later](#)

Either continue to next section ... or add another dependant.

3 of 7: Application

[Answer questions about this person](#)

[Download this part-completed application as a PDF](#)

[Return to this application later](#)

Different section = different header. Partly to make sure people know where they are.

Add people's details

Here you can:

- enter your own details
- add information about dependants if they are applying with you

Lead applicant
Bob Harris
27th September 1955
Completed

[Check or edit answers](#)

Dependant 1
Not yet started

[Add details about this person](#)

[Download this part-completed application as a PDF](#)

[Return to this application later](#)

Note that having any incomplete person's details on this page means there is no way to advance to the next section.

Adding dependant's details

2 of 7: People

[Back to all applicants](#)

Dependant 1

Your name

Title
Mrs

Given name
Lydia

Family name
Harris

[I am not sure how to enter my name](#)

[Save and continue](#)

[Check my answers](#)

[Return to this application later](#)

and eventually ...

3 of 7: Application

Lead applicant
Bob Harris
27th September 1955
Completed

[Check or edit answers](#)

Dependant
Lydia Harris
14th January 1954
Completed

[Check or edit answers](#)

Now you can:

[Add a dependant](#)

or

[Continue to application](#)

[Download this part-completed application as a PDF](#)

[Return to this application later](#)

Should we consider having the "Check your answers" header (any section header) and everything above it (i.e. main nav) floating above content while you scroll, so it's always visible? Or does that suck too much screen for mobile?

3 of 7: Application

Answer questions about each person included in the application.

[Answer questions about this person](#)

[Download this part-completed application as a PDF](#)

[Return to this application later](#)

Answers

Page

[Continue](#)

Option 1: everything flows in one long page

A Web Page

[Continue](#)

Option 2: box everything up, show current person's info only

A Web Page

[Continue](#)

Your appointment

Where to go

You must go to your appointment to finish your visa application. Your appointment is at:

10:30 AM on 23 July, 2014

Room 1501-D, Deep-blue Plaza, 203#
Zhaohui Road, Xiacheng District
Zhejiang Province
Hangzhou
CHINA

(!) You must be at your appointment on time. If you cannot attend at the time you have booked, you should [rebook your appointment](#). If it is less than 24 hours until your appointment, you will not be able to rebook.

What to take to your appointment

- your passport (we need to keep this until we make a decision on your application)
- a passport-sized photograph
- any supporting documents
- your printed checklist
- your printed application form

At your appointment

Your appointment will last about \$DURATION.
Your photograph and fingerprints will be taken, unless you are less than 5 years old.

You can buy extra services for your appointment, such as translations, photocopying,

**I DON'T ALWAYS READ THE SMALL
PRINT**



**BUT WHEN I DO, I SCROLL THROUGH IT
SUPER-FAST**

memegenerator.net

My Basket

You have 1 item in your basket

Continue Shopping

Go to checkout



Home delivery items

(1)



1

£8.00

Update

Download your documents

Documents for your application

You must print these and take them to your appointment.

↓ Download checklist

↓ Download completed application form

Schengen visa

If you would like to visit other countries in Europe, you can download a part-completed Schengen form. You can use this to apply for a Schengen visa.

↓ Download part- completed Schengen form

(!) Do not bring the Schengen form to your appointment. The form explains how to apply.

Continue to next section

is people's attention
really getting shorter?

HOME » TECHNOLOGY » TWITTER

Facebook 'enhances intelligence' but Twitter 'diminishes it', claims psychologist

Spending time on the Facebook networking site could enhance a key element of intelligence that is vital to success in life, a psychologist has claimed, but using Twitter may have the opposite effect.



By **Lucy Cockcroft**

7:00AM BST 07 Sep 2009

Playing video war games and solving Sudoku may have the same effect as keeping up to date with Facebook, according to Dr Tracy Alloway.



But text messaging, micro-blogging on "Twitter" and watching YouTube were all likely to weaken "working memory".

Working memory involves the ability both to remember information and to

Print this article

Share 2K

Facebook 2K

Twitter 99

Email

LinkedIn 1

g+1 0

Twitter



Facebook and internet 'can re-wire your brain and shorten attention span'

By [FIONA MACRAE](#)

UPDATED: 08:33, 15 September 2010

 [Comments \(12\)](#) |  [Share](#)  [+1](#)   [Tweet](#)   [Like](#) 

An obsession with computer games and social networking sites may be changing the way people's minds work, one of the country's most eminent brain scientists has warned.

The Oxford University expert believes constant computer and internet use may be 'rewiring the brain', shortening attention spans, encouraging instant gratification and causing a loss of empathy.

Susan Greenfield said: 'For me, this is almost as important as climate change.'

Facebook and internet 'can re-wire your brain and shorten attention span'

By FIONA MACRAE

UPDATED: 08:33, 15 September 2010

 [Comments \(12\)](#) |  [Share](#)  [+1](#) [5](#)  [Tweet](#) [18](#)  [Like](#) [411](#)

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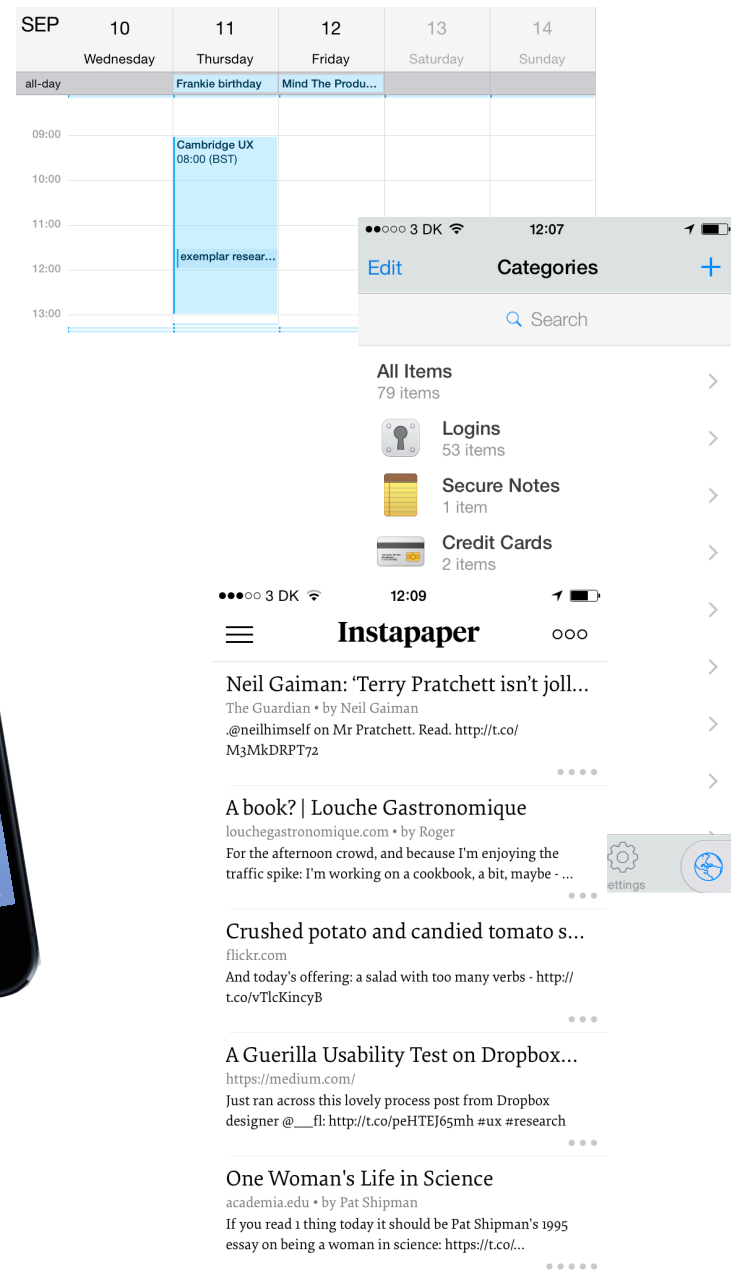
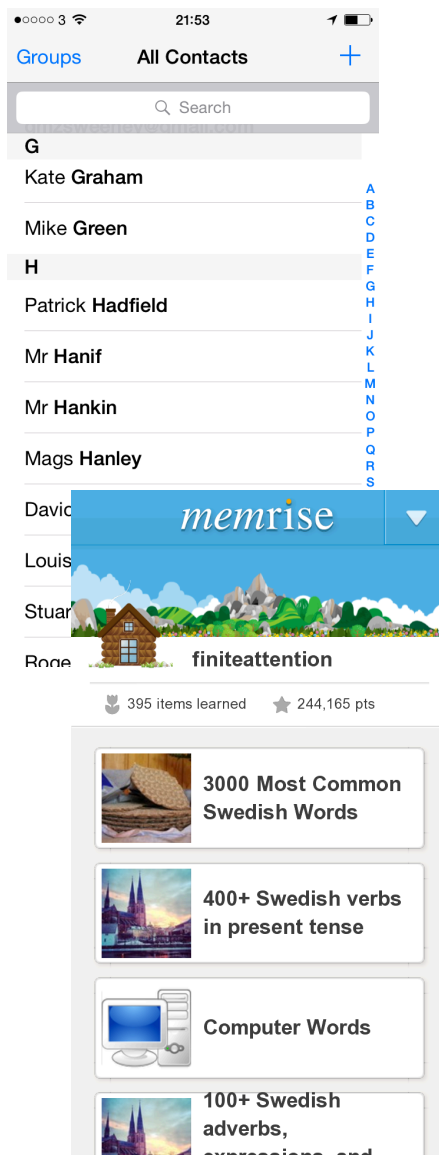
Susan Greenfield said: 'For me, this is almost as important as climate change.'

Nicholas Carr:

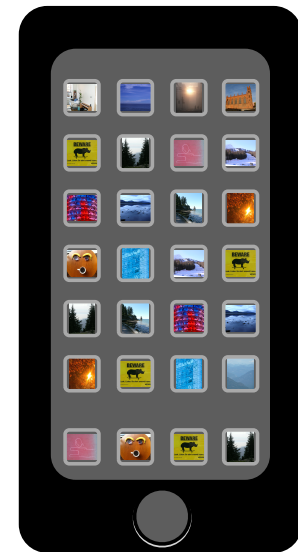
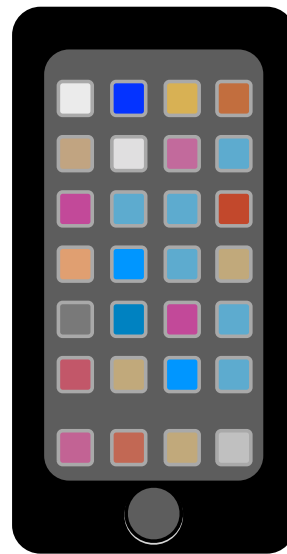
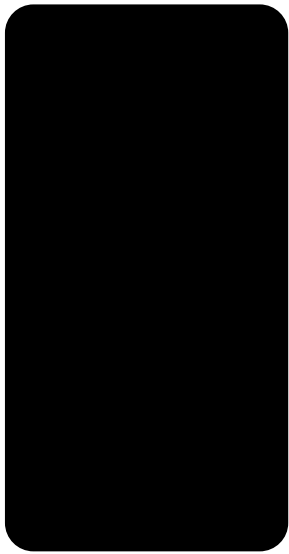
My next book, [The Shallows: What the Internet Is Doing to Our Brains](#), argues that the tools we use to think with – our “intellectual technologies” – not only shape our habits of thought but exert an actual physical influence on the neurons and synapses in our brains.

Nicholas Carr:

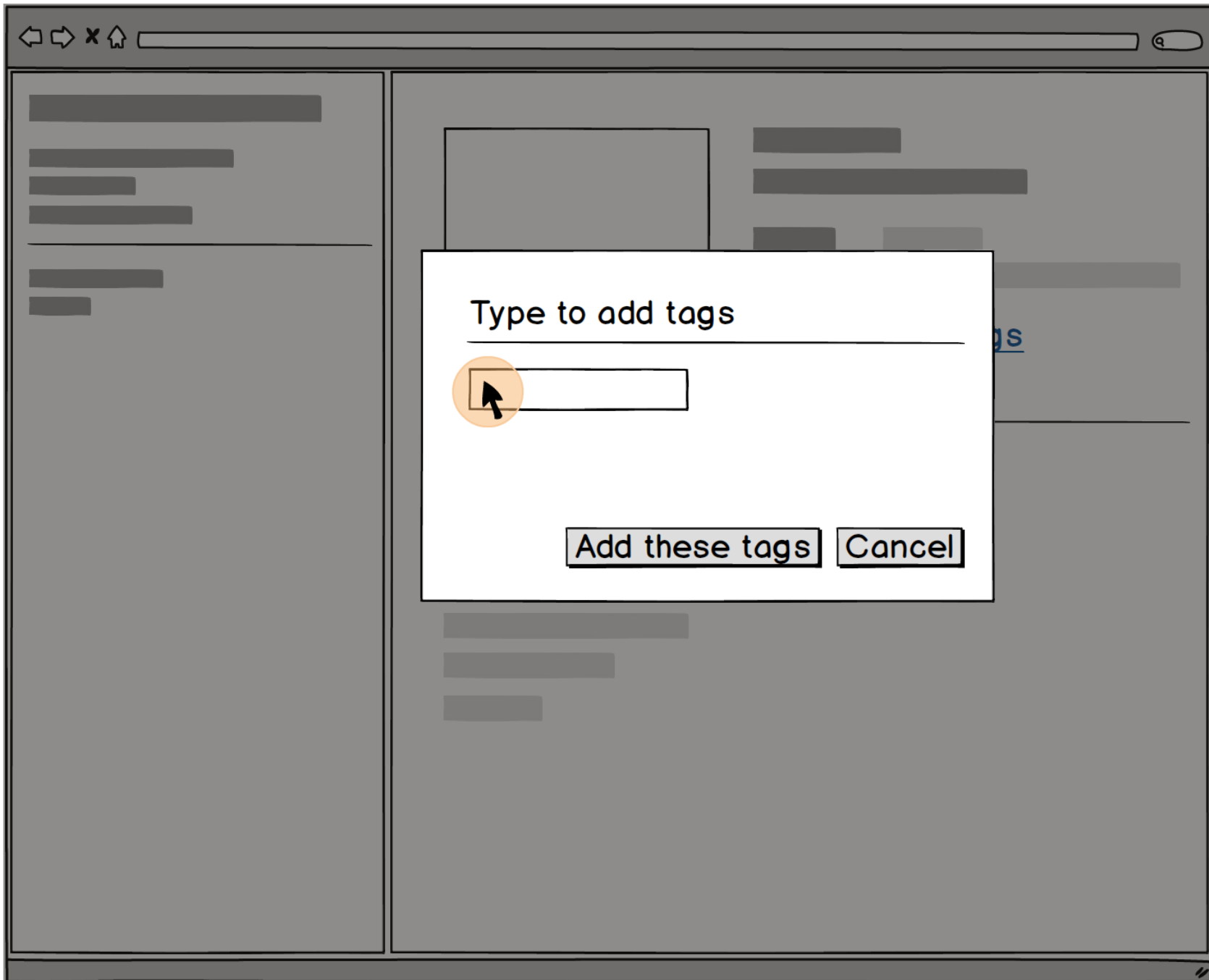
My next book, [The Shallows: What the Internet Is Doing to Our Brains](#), argues that the tools we use to think with – our “intellectual technologies” – not only shape our habits of thought but exert an actual physical influence on the neurons and synapses in our brains. !



so in summary:







use mobile-first;
be ruthless



EUROPE

ScreenLink Calculator

ETIOLOGY OF
CARDIOMYOPATHY

Not selected

SELECT

NYHA CLASS

Not selected



SELECT

ECHO AVAILABLE

YES

LVEF % LAST ECHO

%

PRIOR MYOCARDIAL
INFARCTION

NO

> 40 DAYS AGO

NO

ARRHYTHMIAS HISTORY

Not selected

SELECT

PRIOR SUDDEN
CARDIAC ARREST OR VF

NO

SYNCOPE

Not selected

SELECT

CALCULATOR

MENU



Thank you :)

finiteattention@gmail.com

@finiteattention