

Designing for cognitive disabilities

Tolu Adegbite

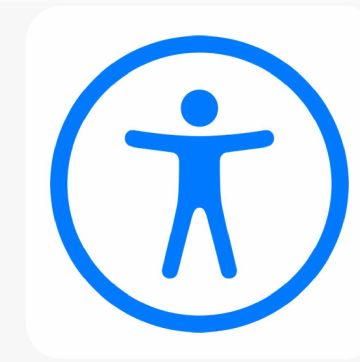
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Product designer

Shopify



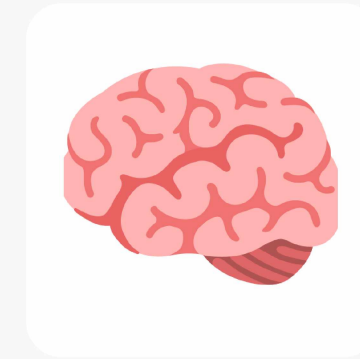
Accessibility consultant

Freelance



Conference speaker

Accessibility & design



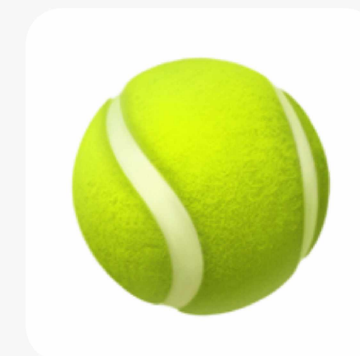
UX instructor

Brainstation



Plant lover

Low water



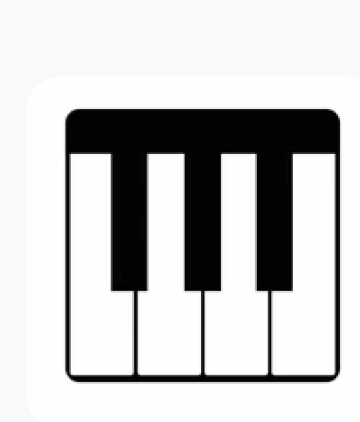
Tennis player

Working on it



Movie watcher

Horror



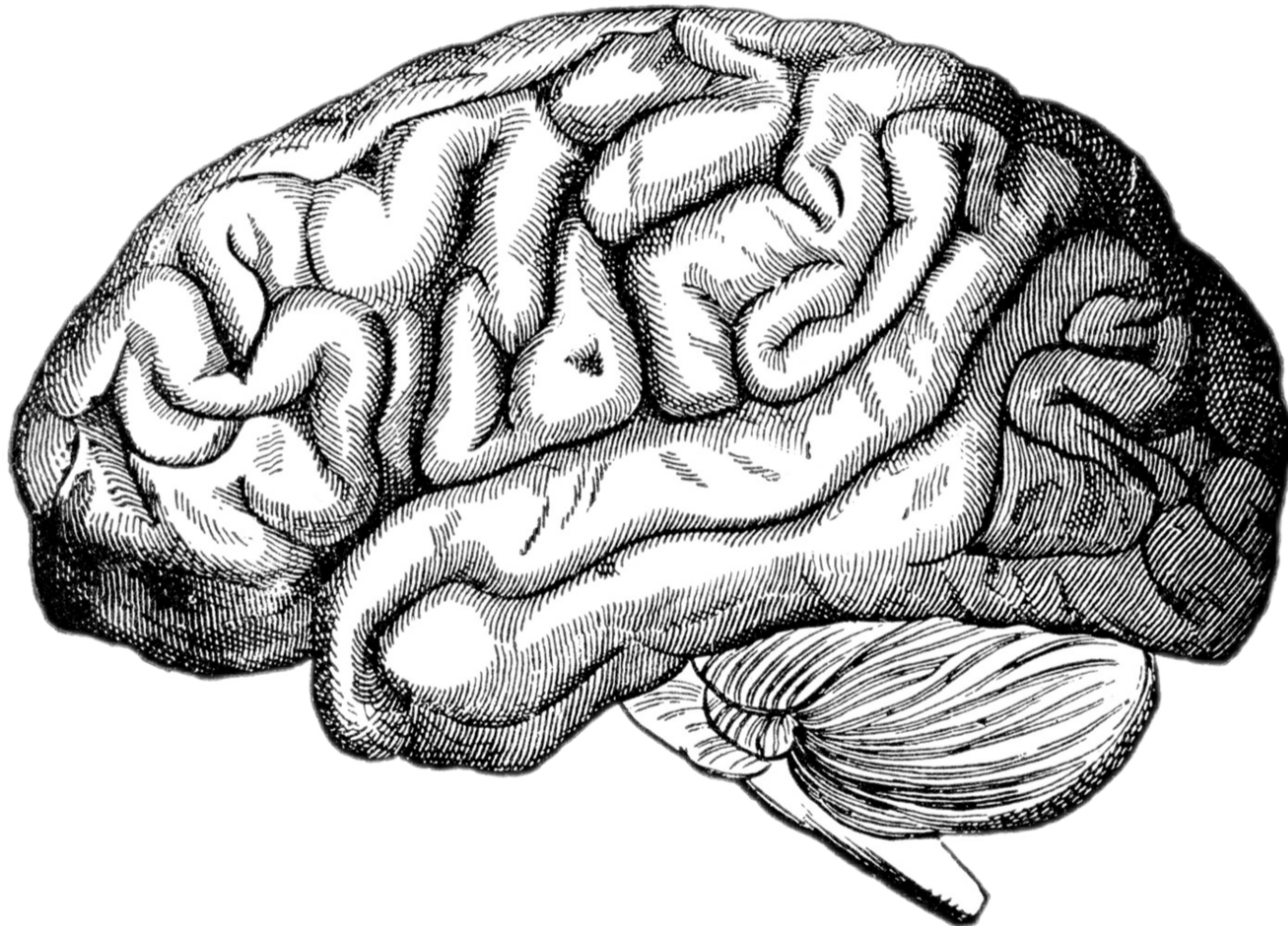
Piano player

Learning to love it (again)

Agenda

- What are cognitive disabilities?
- Using simple language
- Reducing cognitive load
- Using simple layouts
- Testing with a variety of users

What is a cognitive disability?



Neurotypical =

**People who do not have a
cognitive disability**

Neurodivergent =

**People whose brains function in
ways considered atypical by
society**

**Difficulties with mental tasks that
a neurotypical person might not
struggle with**

**WCAG = Web Content
Accessibility Guidelines**

defined by

**W3C = World Wide Web
Consortium, maintains web
standards**

**Cognitive disabilities are the most
common disabilities**



> 1 billion people

WCAG when it comes to cognitive disabilities:

- **Sometimes difficult quantify (eg. what is accessible language?)**
- **Generally AAA**

Language

Descriptive page titles



WIKIPEDIA
The Free Encyclopedia

- Main page
- Contents
- Current events
- Random article
- About Wikipedia
- Contact us
- Donate

- Contribute
- Help
- Learn to edit
- Community portal
- Recent changes
- Upload file

- Tools
- What links here
- Related changes
- Special pages
- Permanent link
- Page information
- Cite this page

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Positive psychology

From Wikipedia, the free encyclopedia

This article is about psychology. For the positive mental attitude, see [Optimism](#).

Positive psychology is the scientific study of what makes life most worth living, focusing on both individual and societal well-being.^[1] It studies "positive subjective experience, positive individual traits, and positive institutions...it aims to improve [quality of life](#)."^[2] It is a field of study that has been growing steadily throughout the years as individuals and researchers look for common ground on better well-being.^[3]

Positive psychology began as a new domain of [psychology](#) in 1998 when [Martin Seligman](#) chose it as the theme for his term as president of the [American Psychological Association](#).^[4]^[5]^[6] It is a reaction against past practices, which have tended to focus on mental illness and emphasized [maladaptive behavior](#) and negative thinking. It builds on the [humanistic](#) movement by [Abraham Maslow](#), [Rollo May](#), [James Bugental](#), and [Carl Rogers](#), which encourages an emphasis on [happiness](#), [well-being](#), and positivity, thus creating the foundation for what is now known as positive psychology.^[6]

Positive psychology focuses on [eudaimonia](#), an Ancient Greek term for "the good life" and the concept for reflection on the factors that contribute the most to a well-lived and fulfilling life. Positive psychologists often use the terms [subjective well-being](#) and happiness interchangeably.^[7]

Positive psychologists have suggested a number of factors may contribute to happiness and subjective well-being. For example, social ties with a spouse, family, friends, colleagues, and wider [networks](#); membership in clubs or social organizations; physical exercise, and the practice of [meditation](#). Spirituality can also be considered a factor that leads to increased individual happiness and well-being. Spiritual practice and religious commitment is a topic researchers have been studying as another possible source for increased well-being and an added part of positive psychology.^[8] Happiness may rise with increasing financial income, though it may plateau or even fall when no further gains are made or after a certain cut-off amount.^[9]

Part of a series on

Psychology

[Outline](#) · [History](#) · [Subfields](#)

Basic types [hide]

Abnormal · Behavioral · Behavioral genetics · Biological · Cognitive/Cognitivism · Comparative · Cross-cultural · Cultural · Differential · Developmental · Evolutionary · Experimental · Mathematical · Neuropsychology · Personality · **Positive** · Psychodynamic · Quantitative · Social

Applied psychology [show]

Lists [show]

LANGUAGE

Simple language

What's your gross household income before taxes?

Your total annual income can impact how much mortgage you can afford. If you're not sure, click the question mark for more information.

Gross household income is the total income, before deductions, for all people who live at the same address and are co-borrowers on a mortgage.

Gross household income

?

\$70,000

Back

Next

[Skip to calculator](#)

Cognitive load

Cognitive load =

**the amount of working memory/
short term memory someone is
using**

COGNITIVE LOAD

facebook

Connect with friends and the world
around you on Facebook.

Log In

[Forgot Password?](#)

Create New Account

Create a Page for a celebrity, band or business.

facebook

Connect with friends and the world around you on Facebook.

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[Forgot Password?](#)

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COGNITIVE LOAD

Give users feedback and cues

Inclusive disabled buttons · Demo 3/3

Disabled button using `aria-disabled` attribute and tooltip

Tickets

Add between 1 and 9 tickets

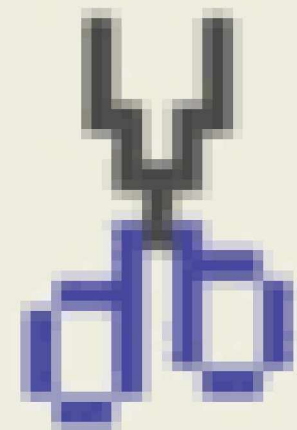
Add to cart

Some [dummy terms](#) after.

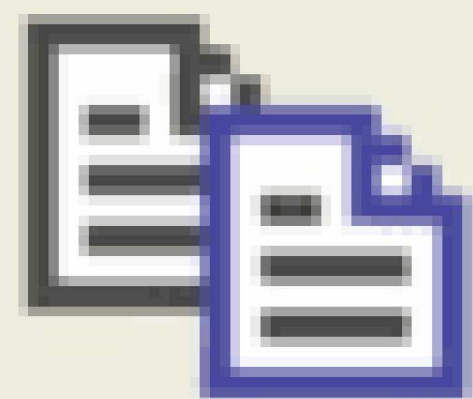
This is part of a [blog post](#) on CSS-Tricks.
Made without coffee by [Sandrina Pereira](#).

COGNITIVE LOAD

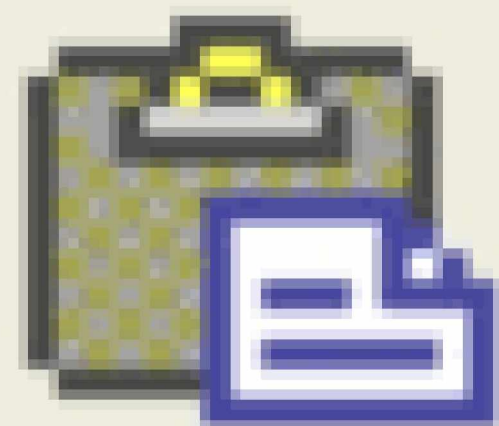
Allow users to cut copy and paste



Cut



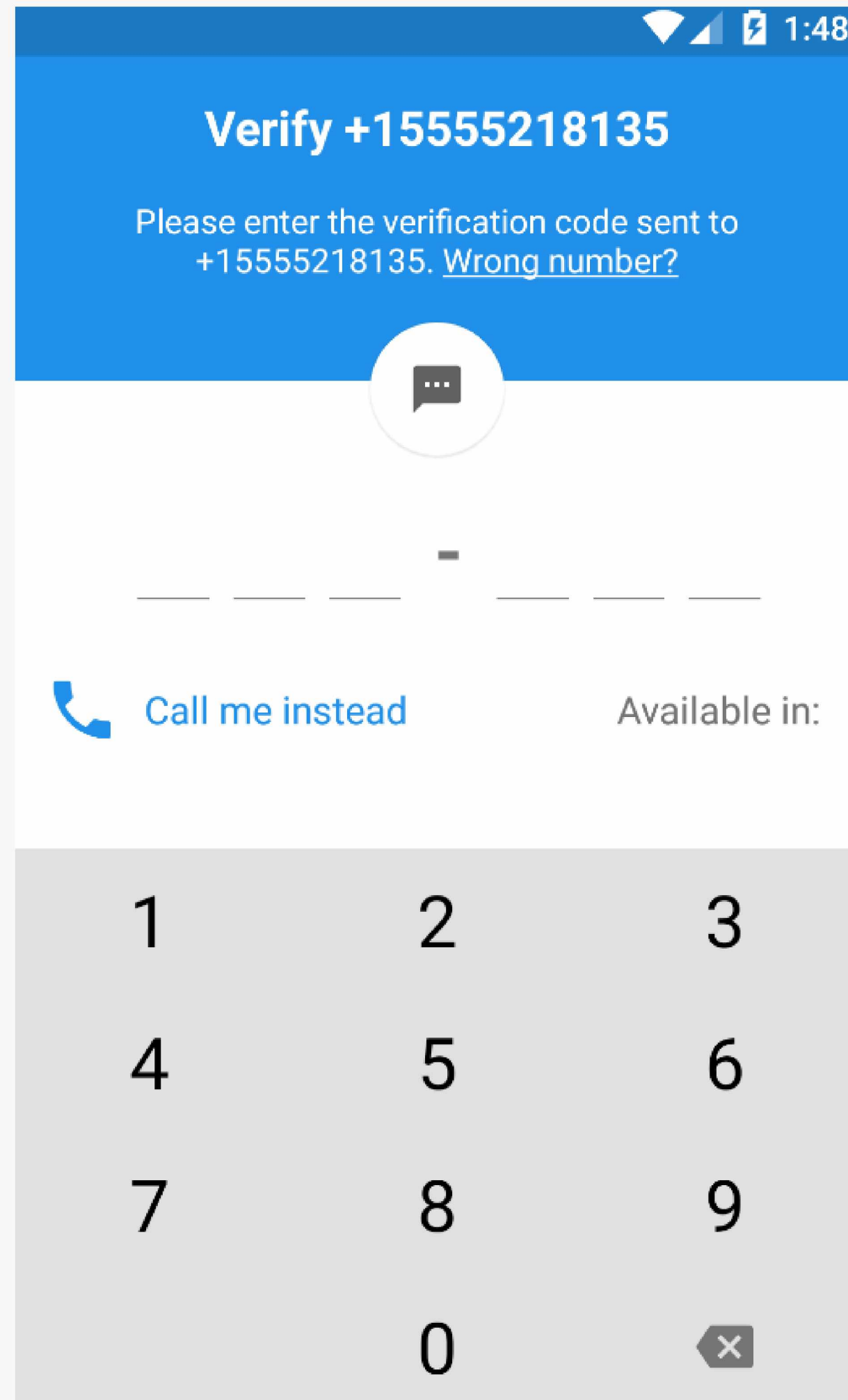
Copy



Paste

COGNITIVE LOAD

Don't force users to do unnecessary tasks, especially involving memorization



A mobile app interface for verifying a phone number. The screen has a blue header with the text "Verify +1555218135" and a subtext "Please enter the verification code sent to +1555218135. [Wrong number?](#)". Below the header is a white area with a circular help icon (three dots in a circle) and a dashed line for the verification code. At the bottom is a grey area with a numeric keypad (0-9) and a backspace icon (X in a circle). On the left side of the grey area, there is a blue phone icon and the text "Call me instead". On the right side, there is the text "Available in:".

Verify +1555218135

Please enter the verification code sent to +1555218135. [Wrong number?](#)

Call me instead

Available in:

1 2 3

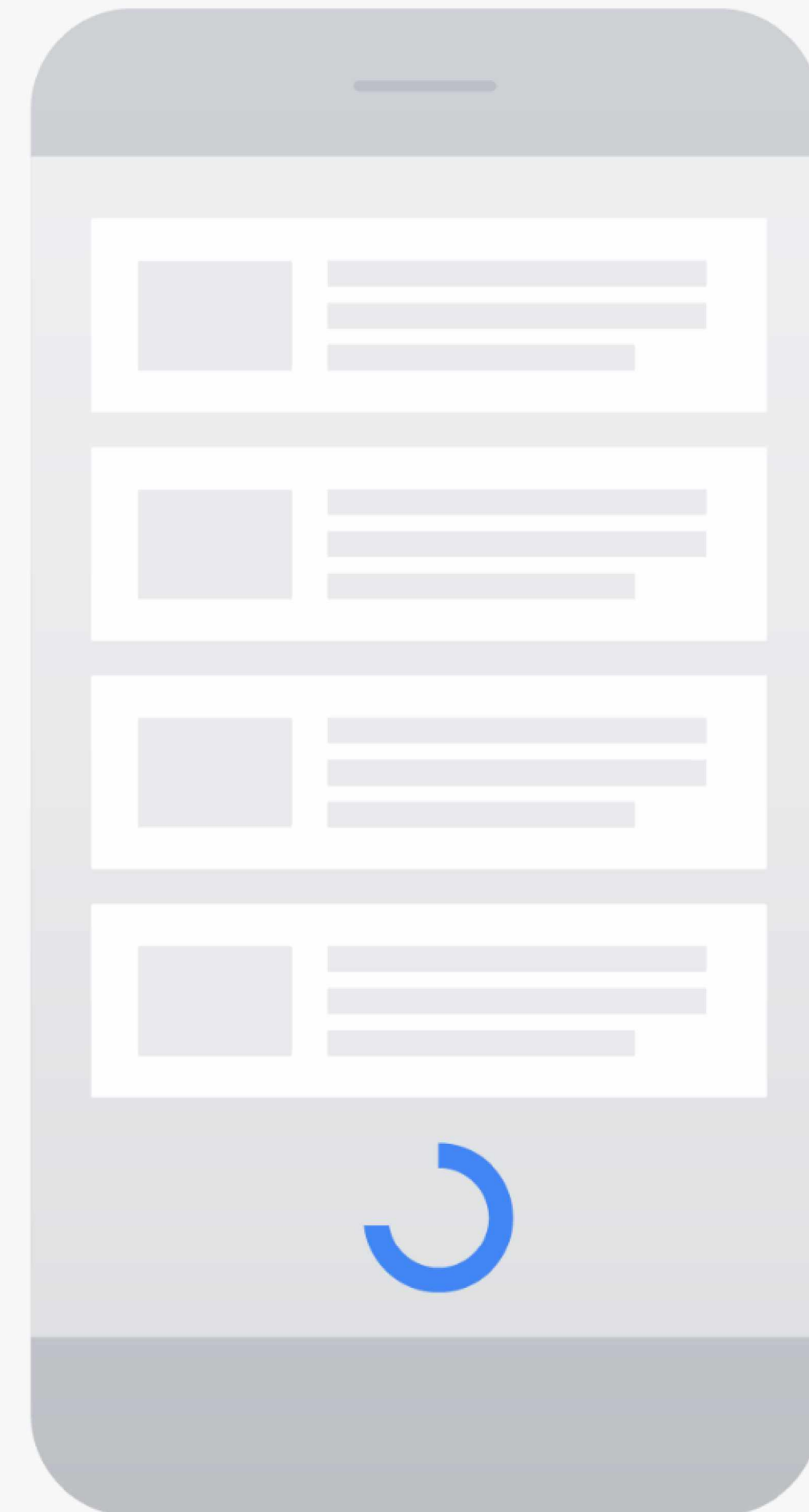
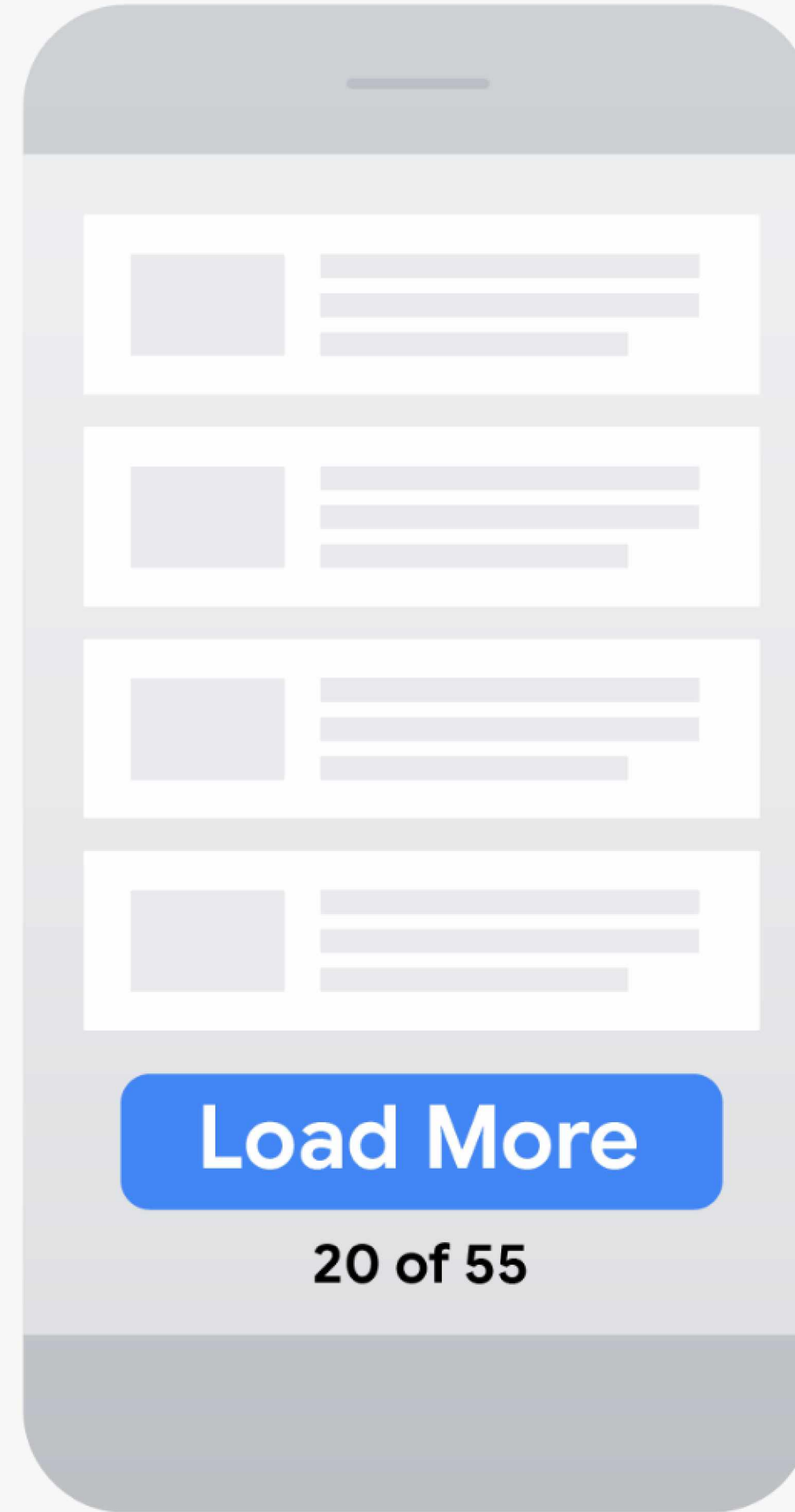
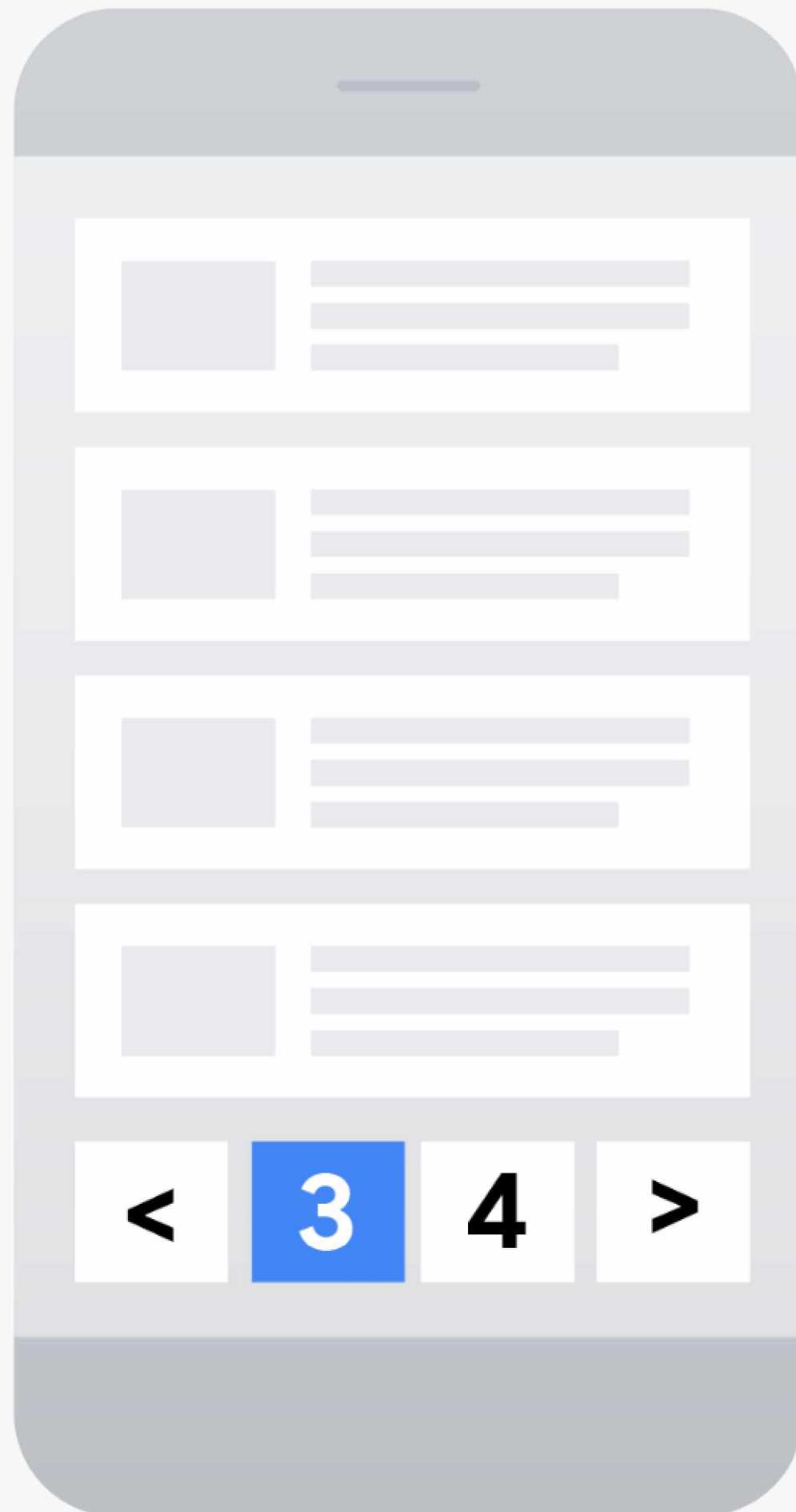
4 5 6

7 8 9

0 X

COGNITIVE LOAD

Avoid infinite scrolling and as automatic page refresh



COGNITIVE LOAD

**Use common patterns and existing
mental models**

COGNITIVE LOAD

**Use (accessible) visuals and video
to support content**


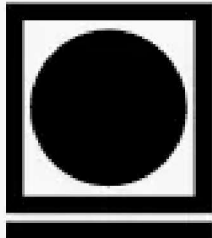

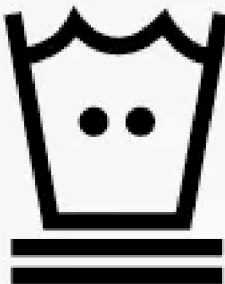





COGNITIVE LOAD

Label your icons



COGNITIVE LOAD

Label your icons

	Machine Wash, COLD Gentle Cycle		Tumble Dry, Permanent Press, NO HEAT		Iron, Steam, or Dry, with LOW HEAT
	Machine Wash, WARM Gentle Cycle		Tumble Dry, Permanent Press, LOW HEAT		Iron, Steam, or Dry, with MEDIUM HEAT
	Machine Wash, HOT Gentle Cycle		Tumble Dry, Permanent Press, MEDIUM		Iron, Steam, or Dry, with HIGH HEAT

COGNITIVE LOAD

Label your icons



COGNITIVE LOAD

Label your icons



Recents



Favorites



Nearby

Layouts

LAYOUTS

Use whitespace liberally

LAYOUTS

**Divide complex tasks into shorter,
easier steps**

LAYOUTS

Which product matches your financial goals best?

Choose one to start, you can always add others later.

Wealthsimple Invest

TFSA

Down payment 🏠

\$21,772

\$372

RRSP

Retirement 🌈

\$62,031

\$2,658

I want Wealthsimple to manage a portfolio for me

Good for automated investing, getting a low-fee diversified portfolio

Wealthsimple Cash

✈️

Trip to Greece

\$753.98

💰

Emergency fund


\$1,253.20

I want a savings account that earns interest

Good for vacation savings, building your emergency fund

Wealthsimple Trade


AAPL



\$293.16

+\$2.90 USD | 0.86%


TSLA



\$935.28

-\$37.56 USD | -3.86%

SHOP



\$1,009.23

+\$21.21 CAD | 2.15%

I want to buy and sell my own investments

Good for trading stocks, investing in a particular industry

I haven't decided yet

Let's get you set up!

- 1 Add your personal details**
Answer a few questions to help us confirm it's really you.
- 2 Create your personalized portfolio**
We'll build a plan to help you meet your goals.
- 3 Open your accounts**
Transfer an existing account to Wealthsimple or open a new account.
- 4 Fund your accounts**
Start growing your nest egg.



[Get started](#)

LAYOUTS

Step 1 of 4

Add your personal details.

We'll ask you for some details so we can verify your identity and ensure your account is secure. You'll only need to enter this information once — it'll be used for all your Wealthsimple products.

Continue



Testing

TESTING

**Test with a variety of users,
including those who are
neurodivergent**

Hire neurodivergent people

Create more inclusive designs

It's the right thing to do

Create more inclusive designs

Your work will reach more people

Create more inclusive designs

It's our job

Summary

- What are cognitive disabilities?
- Using simple language
- Reducing cognitive load
- Using simple layouts
- Testing with a variety of users

Thank you!

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