

The Journey of a Byline

Alice Bartlett - Staff Plus, London, June 2023

I'm Alice Bartlett

I've worked at the Financial Times for
20% of my life

I'm a Principal Engineer in the team that
looks after FT.com and our Apps



The Financial Times is the world's leading paper on business and economic news



Disclaimer about how much I love my colleagues

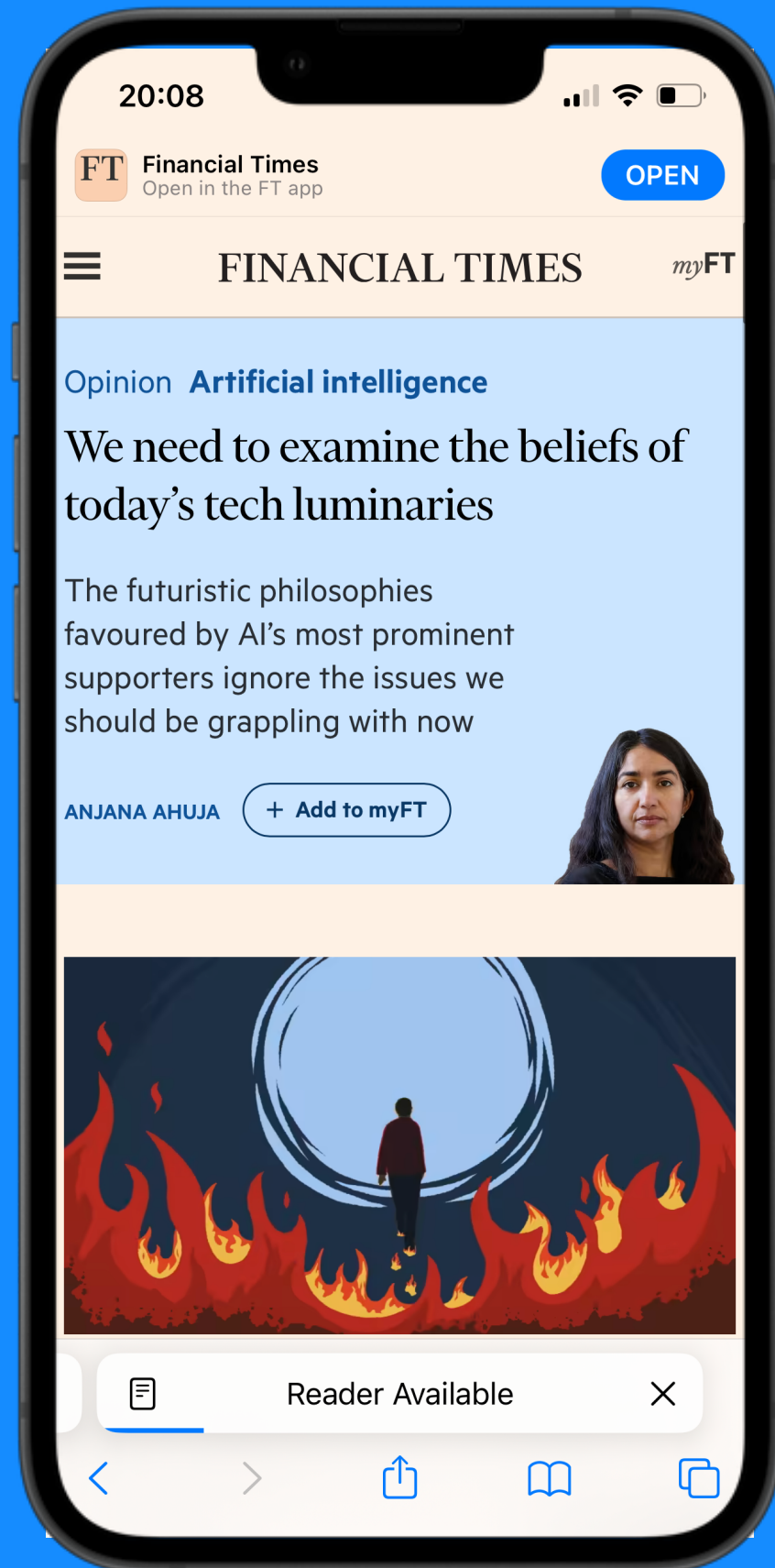
In this talk we're going to look at a system, and that system was written by people. This talk is not a criticism of the decisions made by those people. They all made sensible decisions based on the information available at the time. However all systems tend towards entropy so this talk is about how we tidy up that system.

In this talk we will cover

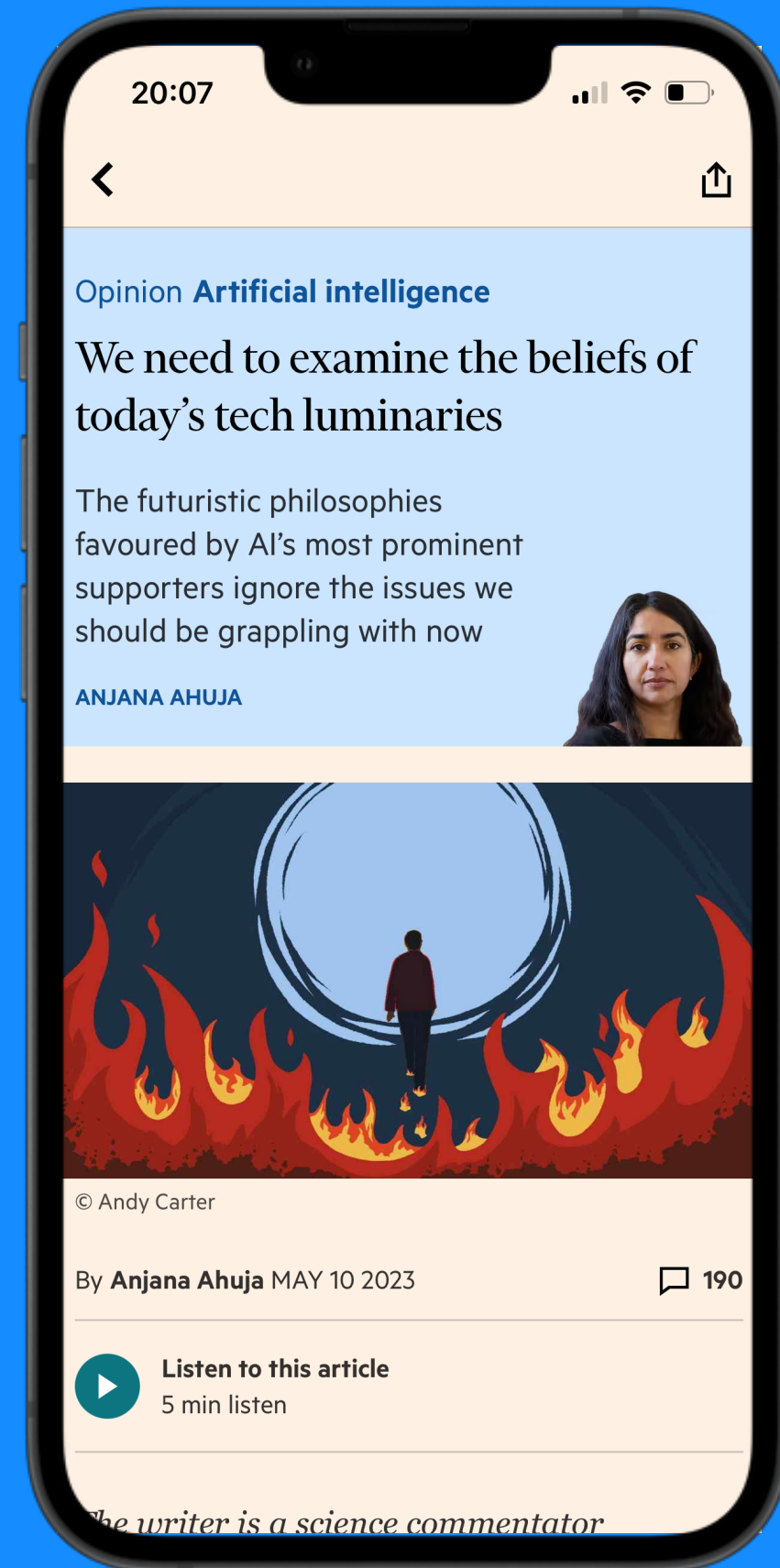
1. The journey of a byline, including a tiny bug
2. What we did to make that journey smoother
3. Some practical tips to help you with your own architectural challenges

**PART 1: THE
JOURNEY OF A
BYLINE**

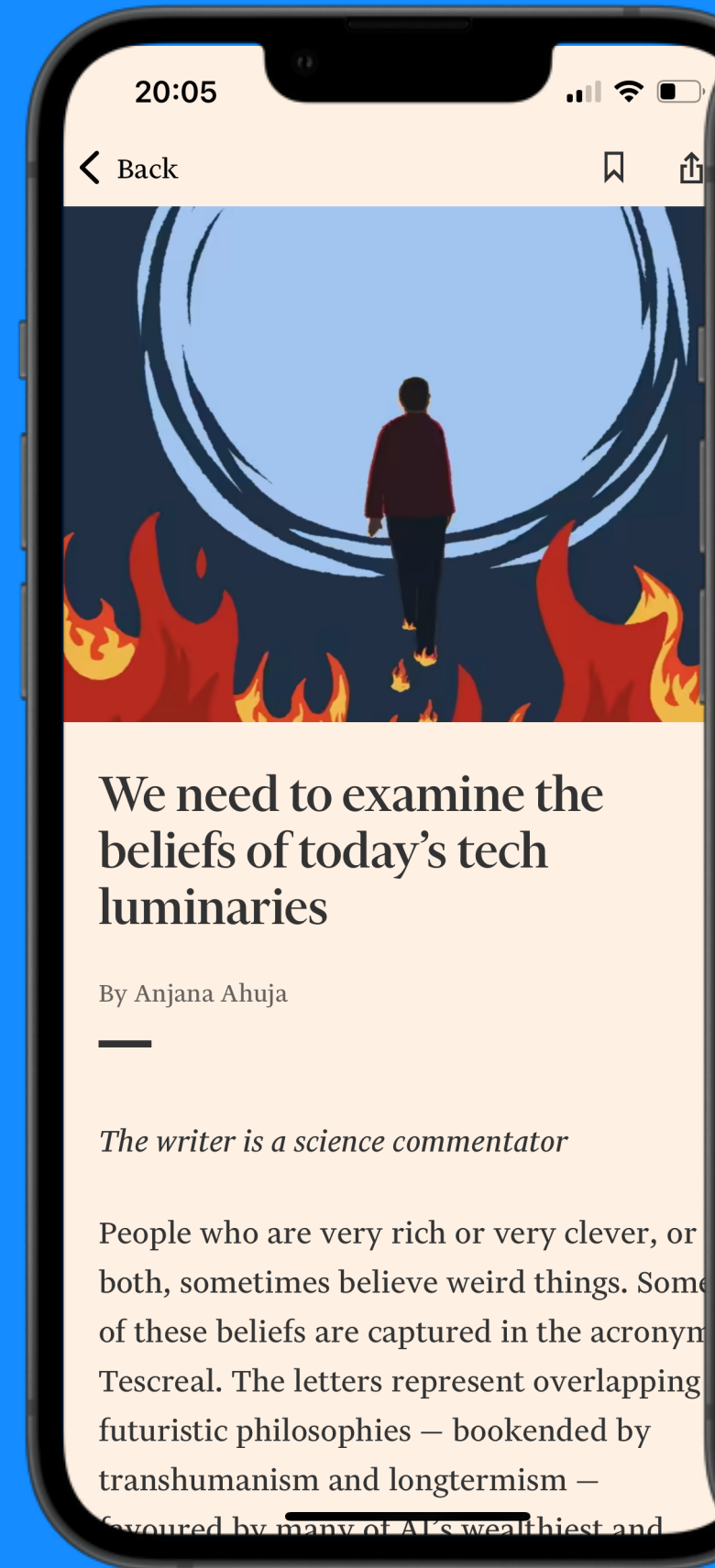
You can read an FT article in many places...



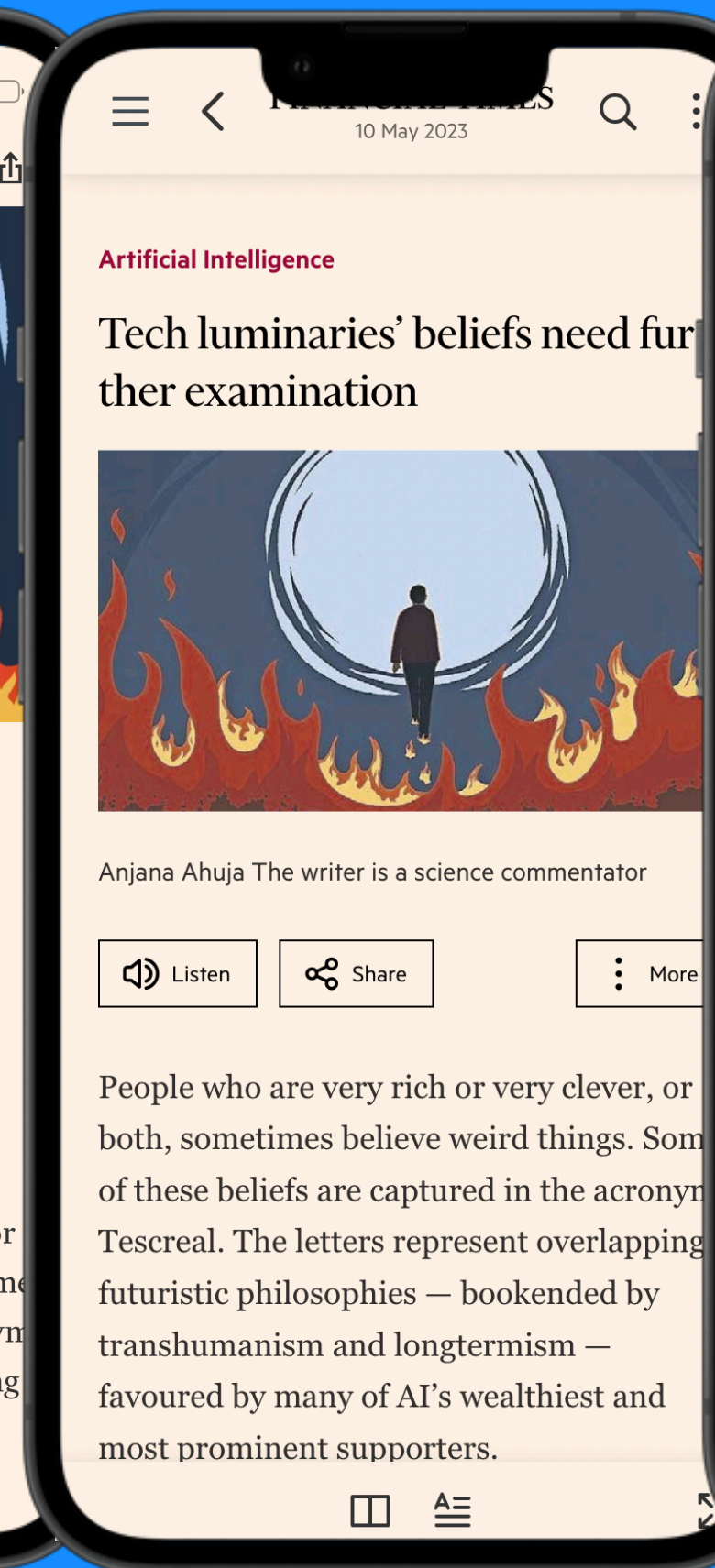
FT.com



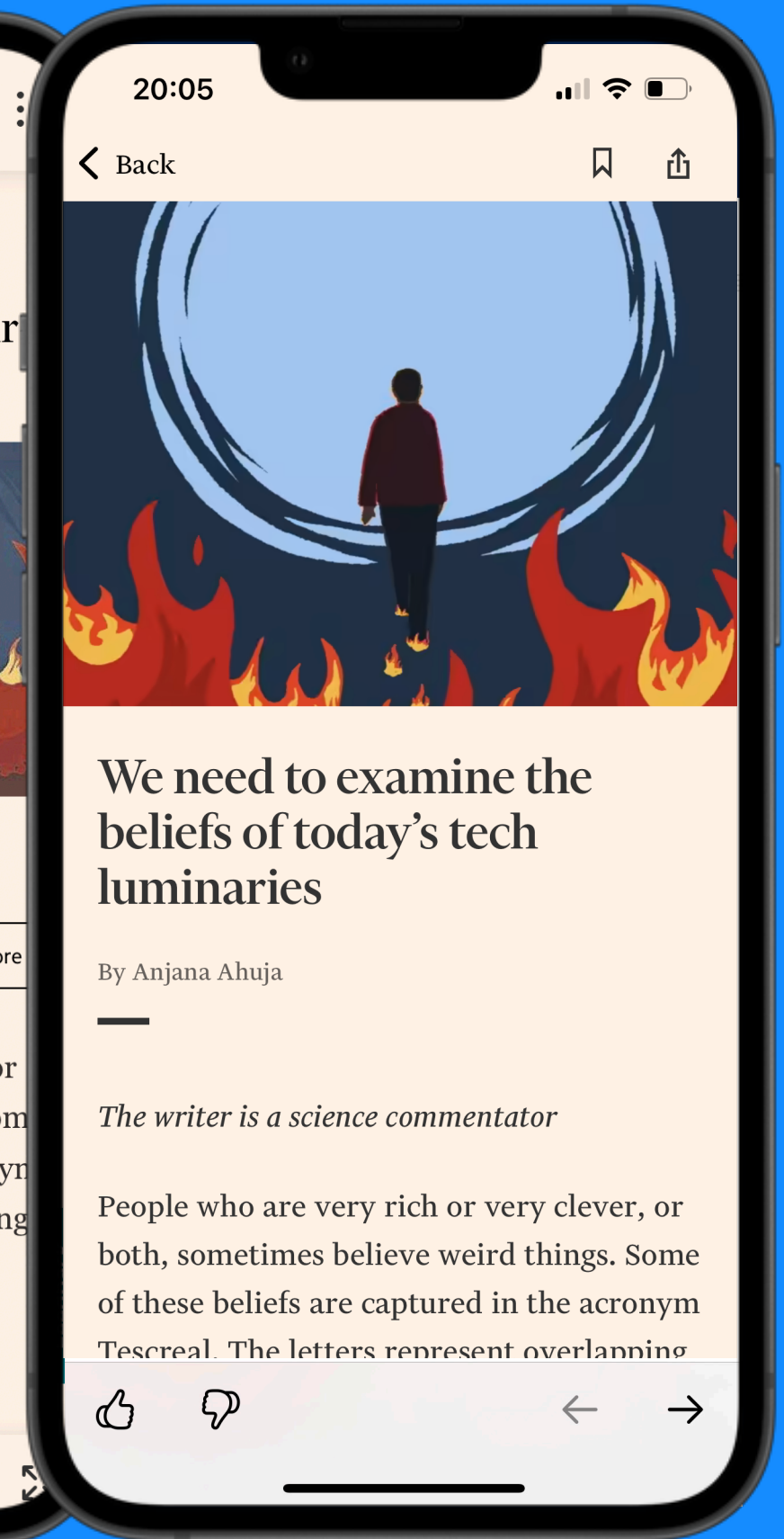
FT App



FT Edit



E-paper



Apple news*

Our main character



Oscar O'Reilly
*Fictional Financial
Times Journalist*

What is a byline?

A line of text that tells you who had a significant role in creating the article.



The screenshot shows the top of a Financial Times article page. At the top, there is a navigation bar with a hamburger menu icon, the text "FINANCIAL TIMES", and the "myFT" logo. Below this is a large yellow banner with the text "You re a" in a large, bold, black font. An illustration of a cleaner in a blue uniform and cap is sweeping a large black quote mark with a broom. Below the banner, the text "© Lucas Varela" is visible. A row of social sharing icons includes Twitter, Facebook, LinkedIn, WhatsApp, a share icon, and a save icon. Below the sharing icons, the byline "Oscar O'Reilly" and the date "DECEMBER 6 2019" are displayed. To the right of the byline, there is a comment icon, the number "147", and a print icon.

© Lucas Varela

Twitter Facebook LinkedIn WhatsApp Share Save

Oscar O'Reilly DECEMBER 6 2019 147 Print

What is a byline?



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Twitter icon | Facebook icon | LinkedIn icon | WhatsApp icon | Share icon | Save icon

Oscar O'Reilly DECEMBER 6 2019

Comment icon | 147 | Print icon

Link to author page

Navigation: HOME WORLD UK COMPANIES TECH MARKETS CLIMATE OPINION WORK & CAREERS LIFE & ARTS HTSI | ePaper Portfolio Settings

Oscar O'Reilly [+ Add to myFT](#)

JUST SOME GUY I MADE UP

Oscar O'Reilly is not a real correspondent at the Financial Times. He has been the paper's fictional correspondent since 2023 when I realised it was weird to use a real person in this talk.

Oscar was shortlisted for the award of Best Made Up Journalist in the 2023 Magical Thinking Awards.

[Email Oscar O'Reilly'](#) | [@oreillyoscar](#)

A simple line drawing of a man with a mustache, wearing a collared shirt and tie, holding a notepad and a pen.

Examples of bylines

Martin Wolf

Lionel Barber and **Guy Chazan** in Berlin

George Parker, Chris Giles and **Ian Smith** in London and
Sebastian Payne in Bali

Cornelia Lauf. Photography by Marina Denisova

Miranda Green is the FT's deputy opinion editor. Robert
Shrimpsley is away



STORIES

WIRES

PLANS

NEWSLETTERS

Draft Edit Revise Complete

✓ All changes saved

! [Public interest check](#)

🕒 Schedule

📄 Publish

Article Edit Metadata (0) Properties Format Insert View Spellcheck

AB

✎ Editing

Headline - 36 characters

✔ Fact-checking

Why I'm possessive about apostrophes

Standfirst - 124 characters

An endangered extinction by the tense?

THIS IS SPARK, OUR CMS

Byline

Byline



^ Main image

Caption: Add caption text

Alt: Describe this image (for those who cannot see it)

Credit: Add credit text

Show on article page

Desktop inline/tablet

Change image



STORIES

WIRES

PLANS

NEWSLETTERS

Draft

Edit

Revise

Complete

✓ All changes saved

! [Public interest check](#)

Schedule

Publish

Article Edit Metadata (0) Properties Format Insert View Spellcheck

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Editing

Headline - 36 characters

Why I'm possessive about apostrophes

Standfirst - 124 characters

An endangered punctuation mark is being forced into extinction by the internet. Will it soon only exist in the pedant tense?

Byline

Byline



**THIS IS WHERE WE
TYPE THE BYLINE**

^ Main image

Caption: Add caption text

Alt: Describe this image (for those who cannot see it)

Credit: Add credit text

Show on article page

Desktop inline/tablet



Change image

What is a byline?



© Lucas Varela

Twitter icon | Facebook icon | LinkedIn icon | WhatsApp icon | Share icon | Save icon

Oscar O'Reilly DECEMBER 6 2019

Comment icon | 147 | Print icon

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Draft Edit Revise Complete

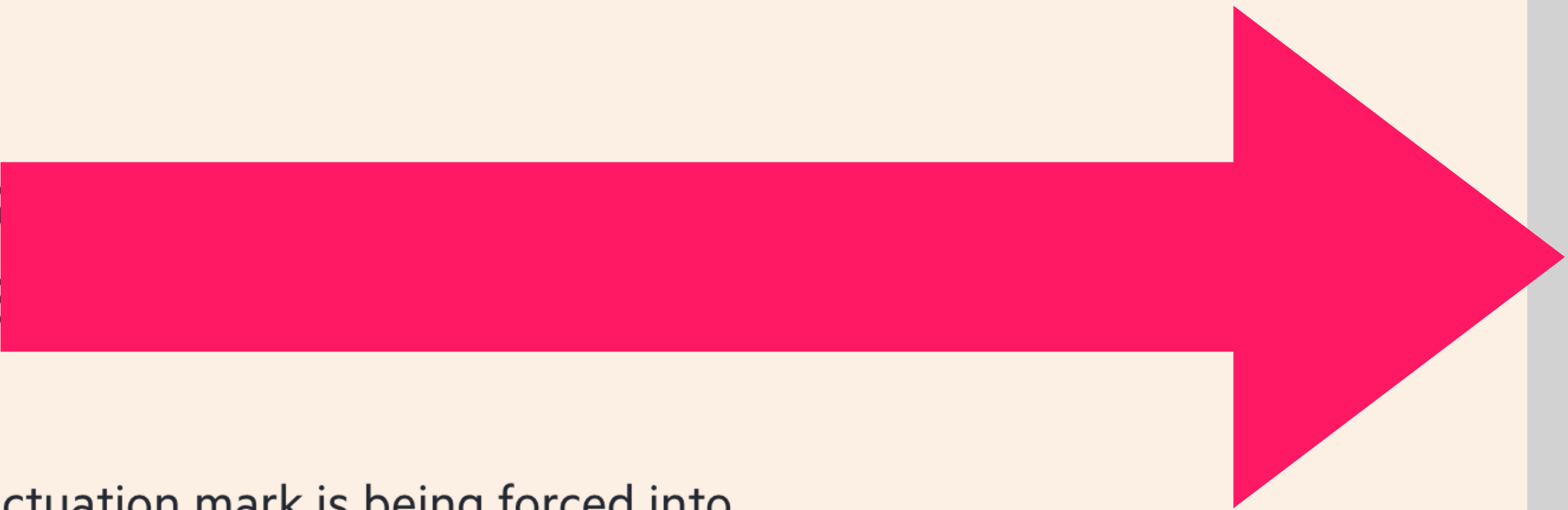
✓ Saved 12 minutes ago
! [Public interest check](#)

Article Edit Metadata (1) Properties Format Insert View Spellcheck

News

Headline - 36 characters

Why I'm pos apostrophes



Standfirst - 124 characters

An endangered punctuation mark is being forced into extinction by the internet. Will it soon only exist in the pedant tense?

Byline

Oscar O'Reilly in a fictional place

Main image

Caption: Add caption text

Alt: Describe this image (for those who cannot see it)

Credit: Add credit text

✓ Show on article page

Desktop inline/tablet



Metadata

tagme

Genre

News

Brand

Add Brand

Author(s)

O

Oscar O'Reilly / Person **FT**

Jane Owen / Person **FT**

Henry VIII / Person

Princess Diana / Person

James Brown / Person

Oprah Winfrey / Person

Elizabeth I of England / Person

Queen Victoria / Person

King Juan Carlos of Spain / Person

Karl Lagerfeld / Person

Prayuth Chan-ocha / Person

Osama bin Laden / Person

Viktor Orbán / Person

Oliver Stone / Person

Benjamin Britten / Person

Roman Olearchyk / Person

Oliver Cromwell / Person

Piers Morgan / Person

The Destination



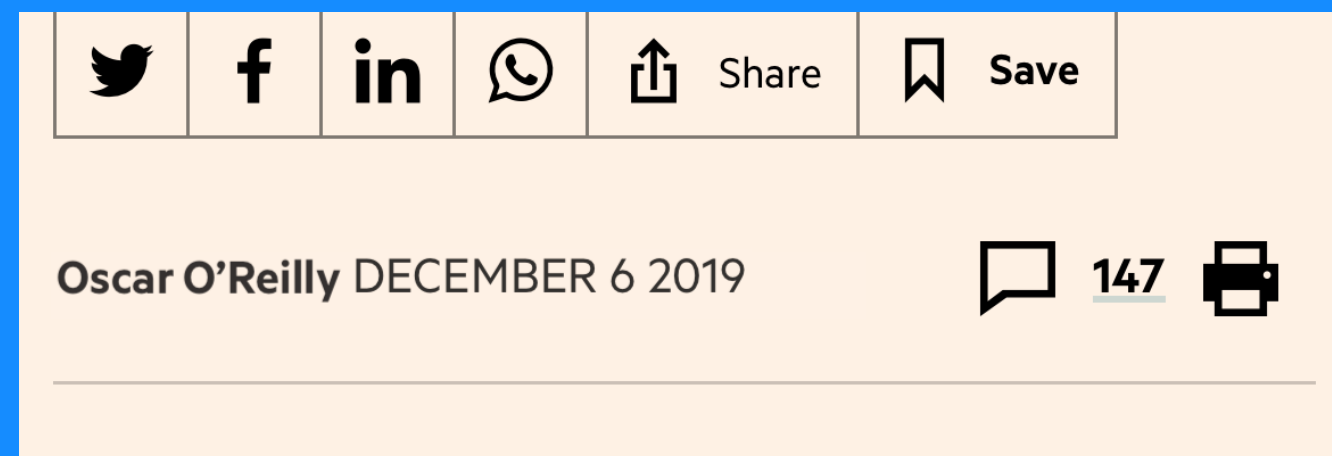
FT.com

FT App

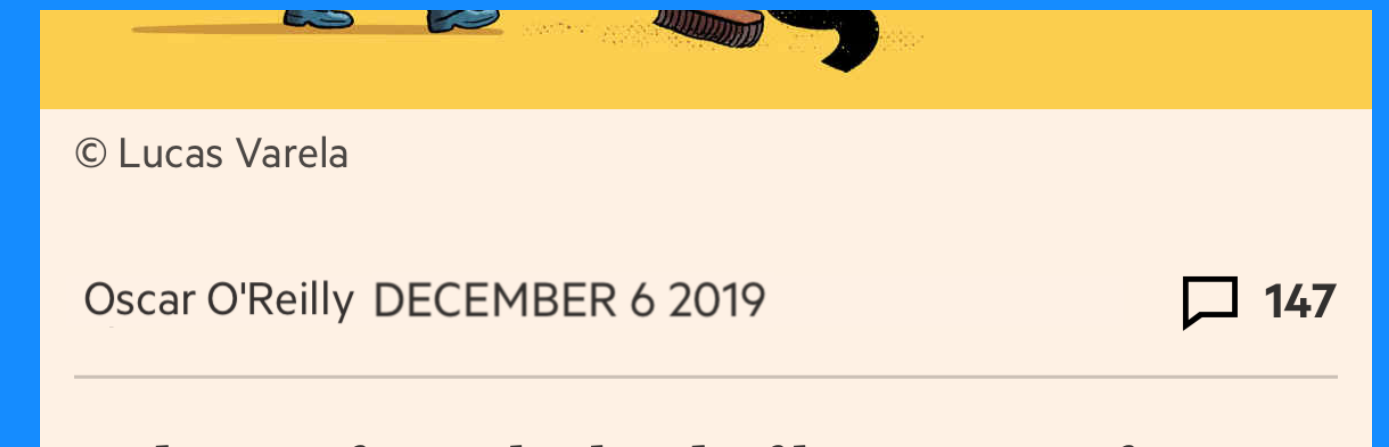


Lets take a closer look at these two...

FT.com

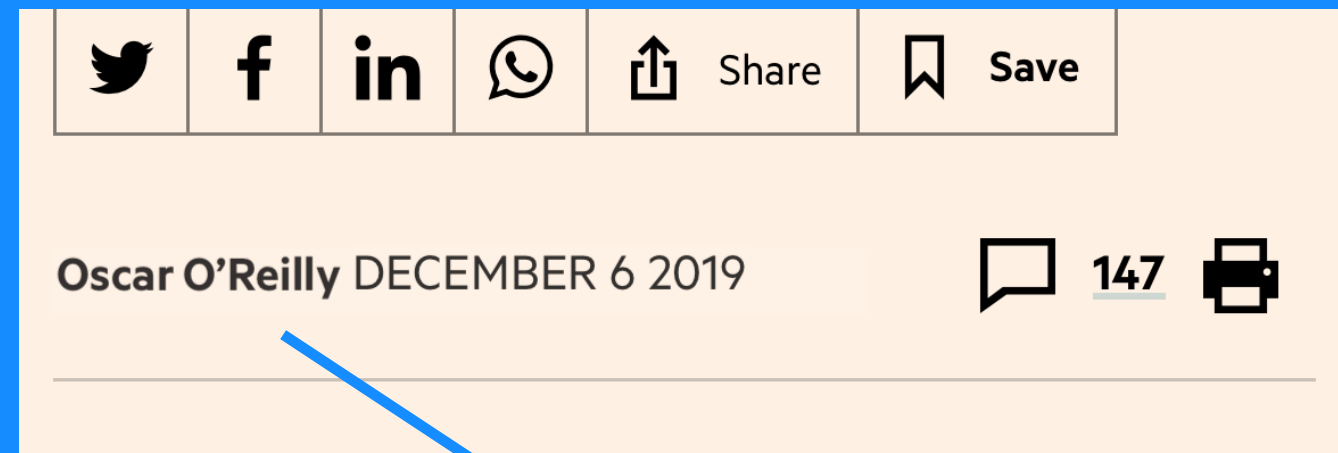


FT App

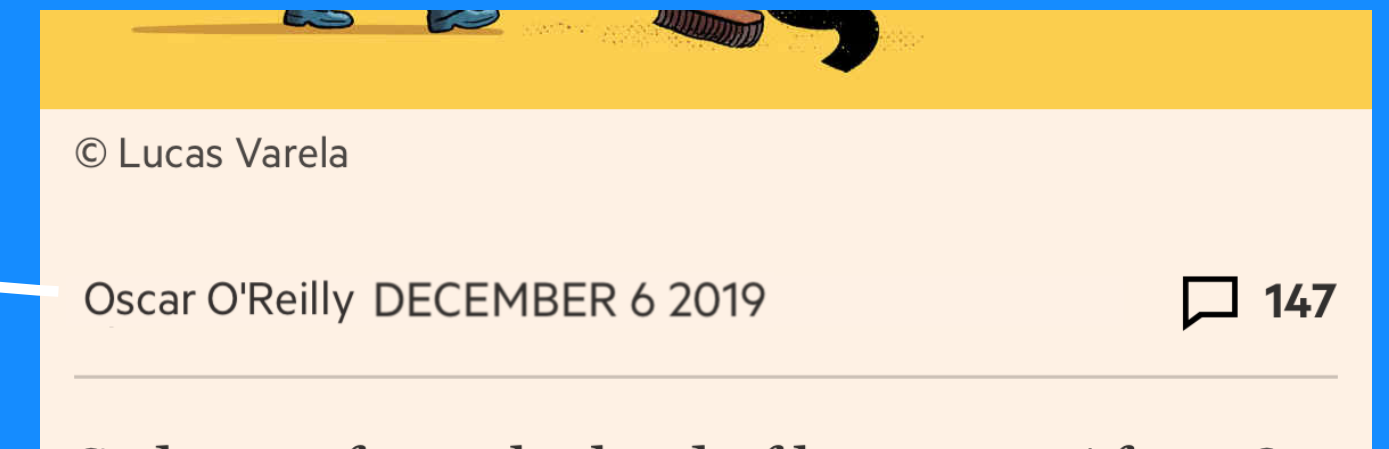


Lets take a closer look at these two...

FT App
This one isn't

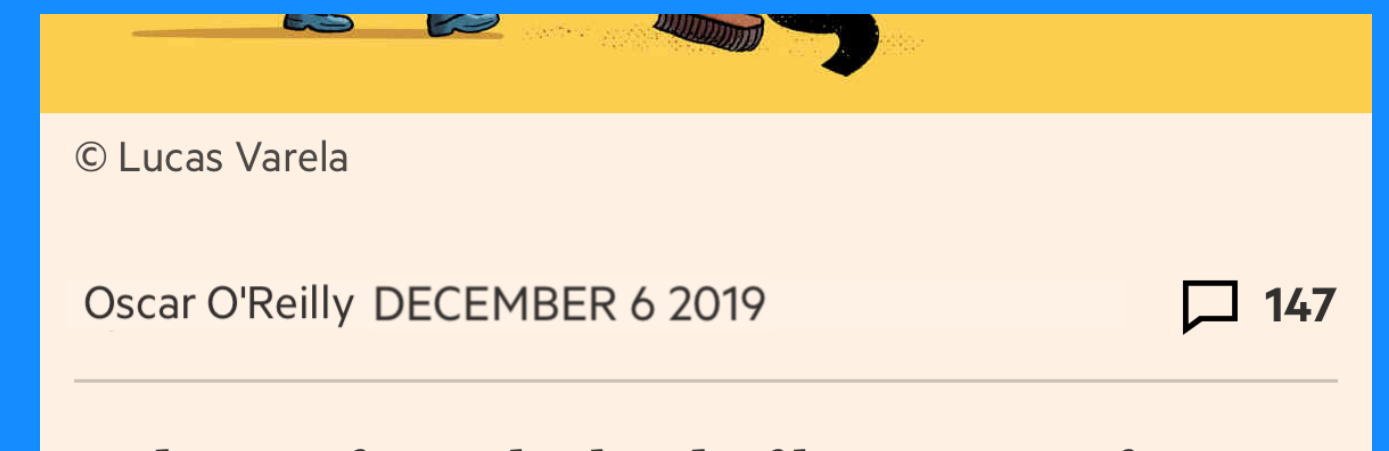
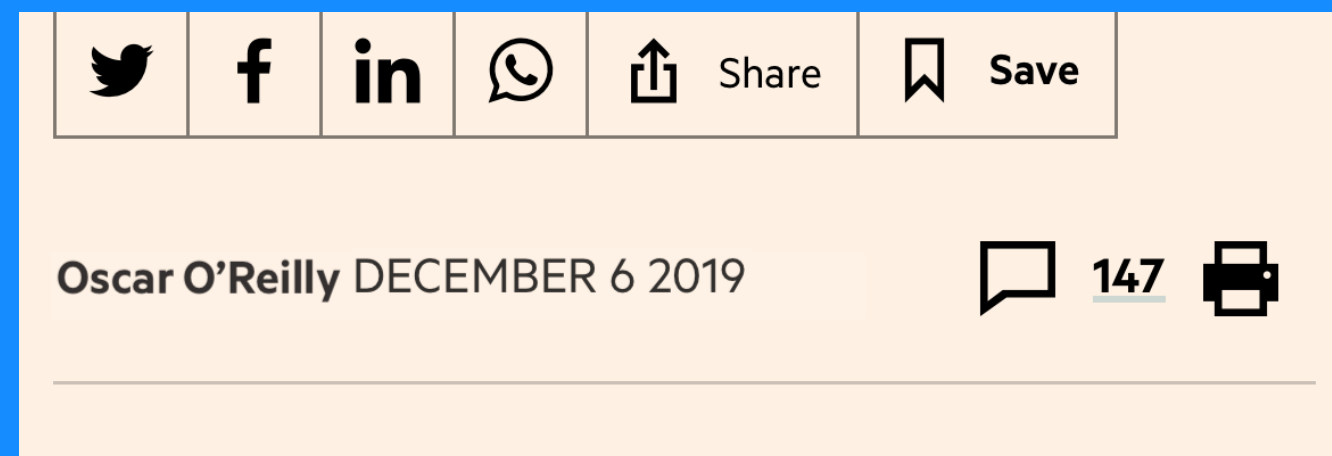


FT.com
This is hyperlinked



Lets take a closer look at these two...

This is a bug!



There is something else
though, can you spot it?

Oscar O'Reilly

Oscar O'Reilly

There is something else
though, can you spot it?

Oscar O'Reilly

Oscar O'Reilly

Sometimes we render this as a curly glyph...



But sometimes... it's this guy

Greetings.



Let's talk about curly quotes

“Hello”

‘Oh yay’

“Hell no”

‘No way’

Deep dive: curly quotes

Straight quotes come from typewriters.

In printing however you have more quotes to mess about with, and straight quotes are only used rarely.

Most OS's will replace a straight quote with a curly one.



Is one of
these
technically
correct?



A full-body photograph of Beyoncé. She is wearing a bright yellow cropped hoodie with a large, colorful, sequined 'BEYONCÉ' logo on the chest. She is also wearing light blue, distressed denim shorts. Her long, wavy hair is blowing in the wind. The background is a dark blue gradient with various yellow and purple geometric shapes and lines, resembling a stylized or abstract pattern. The name 'BEYONCÉ' is written in large, bold, white capital letters across the center of the image, partially overlapping her hoodie.

BEYONCÉ

O'RIELLY

VS

O'RIELLY

The [Unicode](#) and ISO 10646 standards define the following characters:

U+0022	QUOTATION MARK	”	neutral (vertical), used as opening or closing quotation mark; preferred characters in English for paired quotation marks are U+201C and U+201D
U+0027	APOSTROPHE	’	neutral (vertical) glyph having mixed usage; preferred character for apostrophe is U+2019; preferred characters in English for paired quotation marks are U+2018 and U+2019
U+0060	GRAVE ACCENT	`	
U+00B4	ACUTE ACCENT	´	
U+2018	LEFT SINGLE QUOTATION MARK	‘	
U+2019	RIGHT SINGLE QUOTATION MARK	’	this is the preferred character to use for apostrophe
U+201C	LEFT DOUBLE QUOTATION MARK	“	
U+201D	RIGHT DOUBLE QUOTATION MARK	”	

**WHY IS THIS
HAPPENING?**

What is happening

Although these are both HTML and CSS the code to render them is different



What is happening

And there is a bug in one version, and not in the other

13:56

FINANCIAL TIMES myFT



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Oscar O'Reilly DECEMBER 6 2019 147

Sad news from the land of language. After 18 years of campaigning for proper punctuation, the fabulously named [Apostrophe Protection Society](#) is shutting down.

“The ignorance and laziness present in modern times have won!” declared John Richards, its founder and chairman, in an

13:55

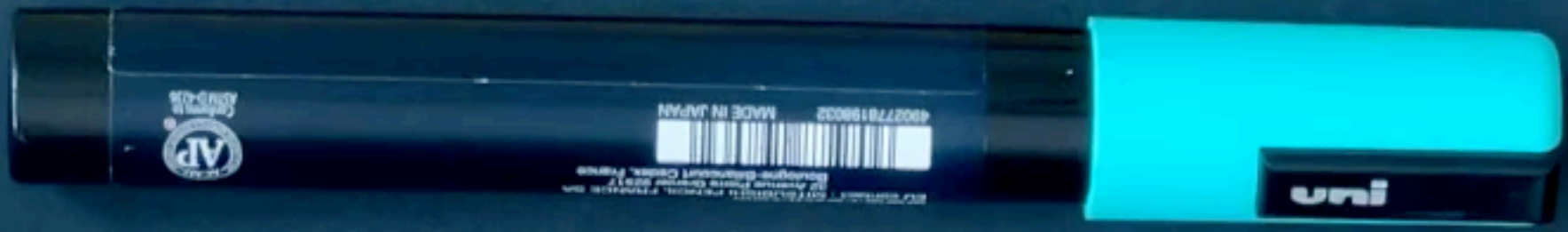


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Oscar O'Reilly DECEMBER 6 2019 147

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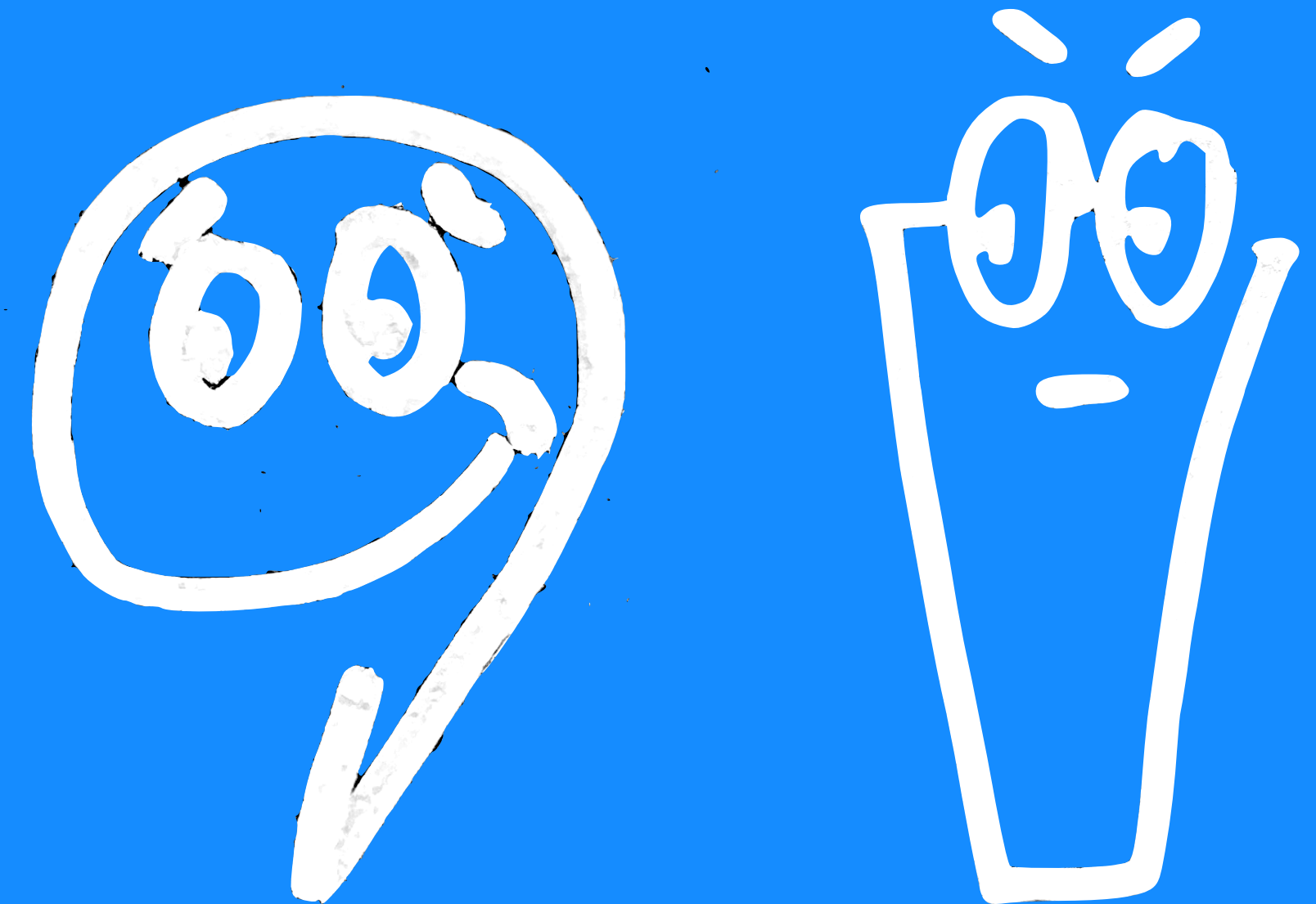
“The ignorance and laziness present in modern times have won!” declared John Richards, its founder and chairman, in an online statement with a, frankly, debatable



So we are repeating work

The Article page normalises all of the apostrophes to be curly

The App API incorrectly assumes the byline will always have curly quotes and only normalises the meta data quote



The destination



FT.com

FT App



**Isn't this all a
bit... minor?**

The main problem isn't the bug

The main problem is that we are repeating work that we don't need to.

The bug illustrates this because if we weren't repeating the work, then we would see the bug on FT.com and the App.

We have six content types



Articles



Audio



Video



Packages



Live Blog



 Live Blog Packages

... and they all have content features within them



Articles



Scrolly-telling



Links



Audio



Tags (eg ``, `` etc)



Video



Images



Tables



Packages



Video



Live Blog



Pull quote



Live Blog Packages



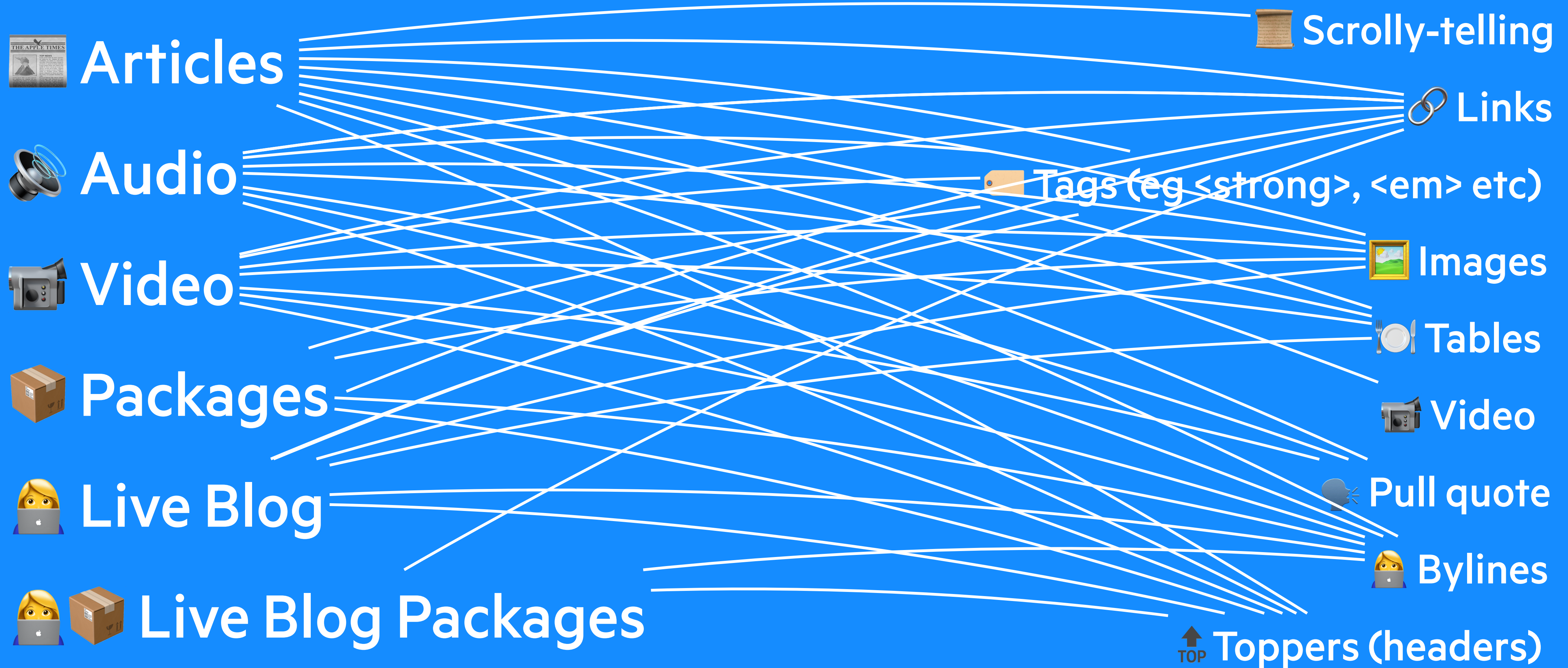
Bylines



↑ TOP Toppers (headers)

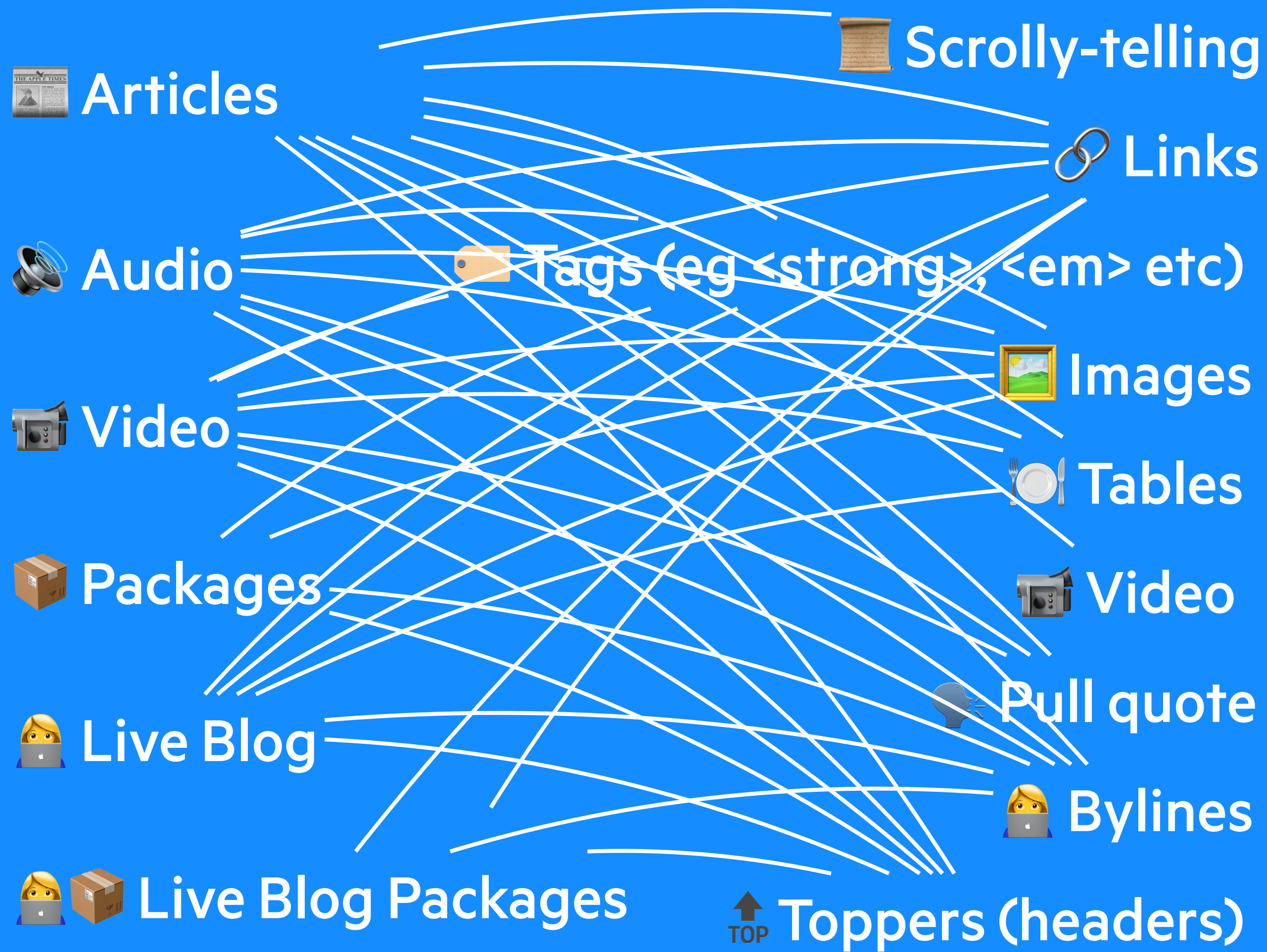
...etc...

... and they all have content features within them



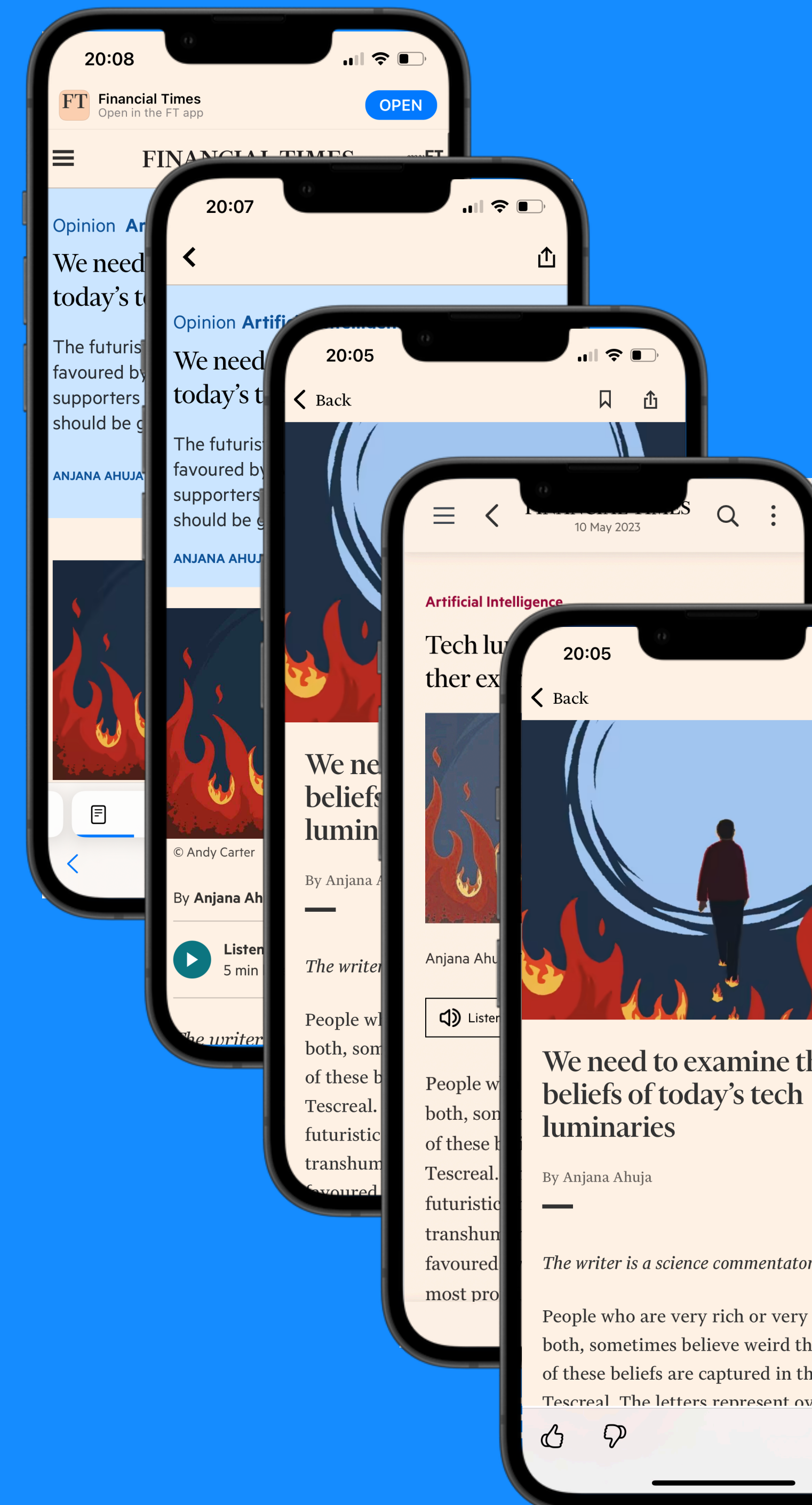
...etc...

And they all have to be rendered in different places



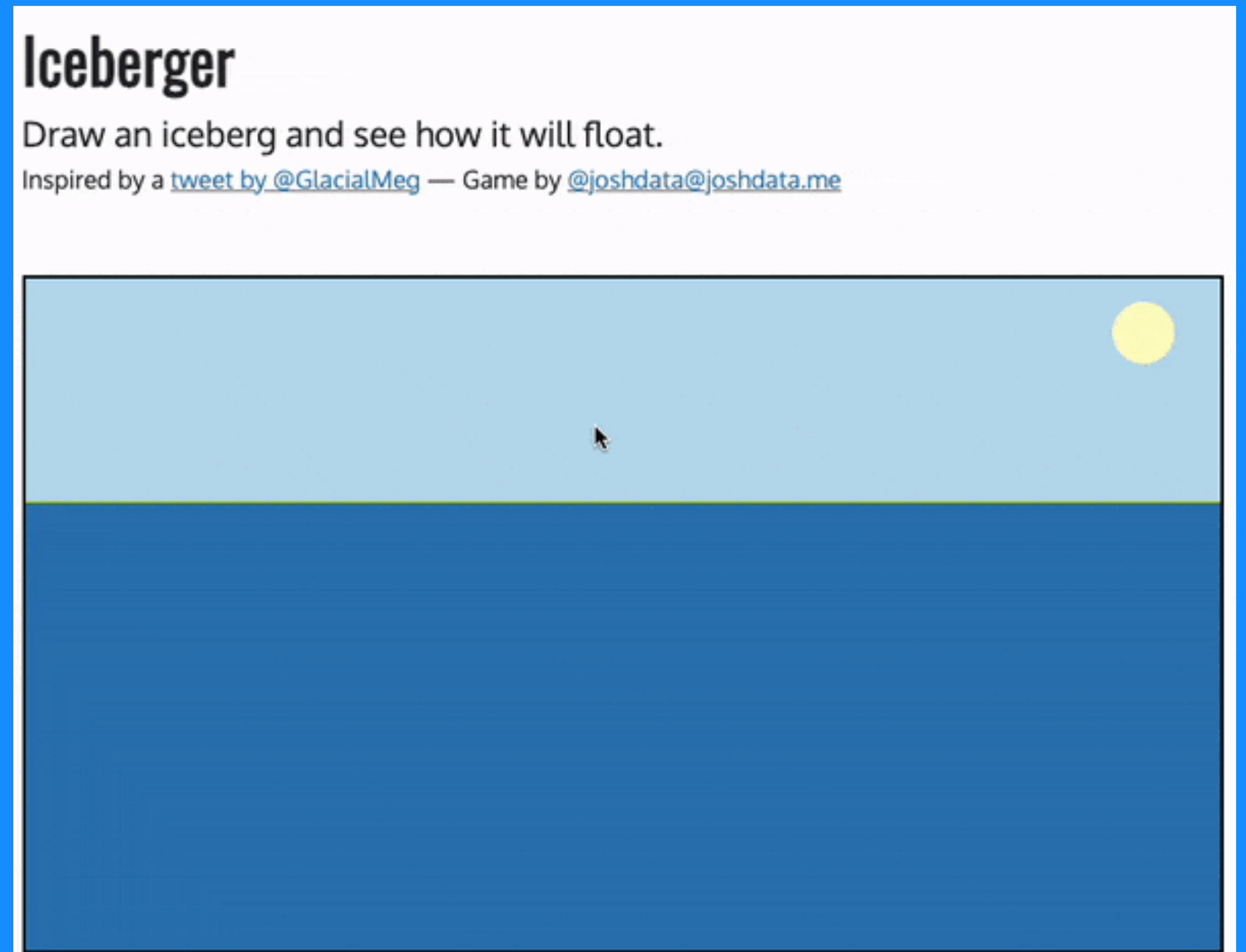
↑ **Toppers (headers)**

...etc...



MVP (Minimum Viable Problem) Demo

Curly quotes are the tip of the iceberg. We have these kinds of violations all over the place in our article rendering pipeline



MVP (Minimum Viable Problem) Demo

And it's because this system has grown over time, people have jammed new bits in where they thought they should go and it's all gotten a bit... messy.

So, we have a system that has grown over time and gotten a bit unwieldy. What did we do about it?

**PART 2: WHAT
WE DID TO
IMPROVE THIS**

We formed a temporary team

Formed a small team of people with deep knowledge of our existing rendering code and a desire to improve it!

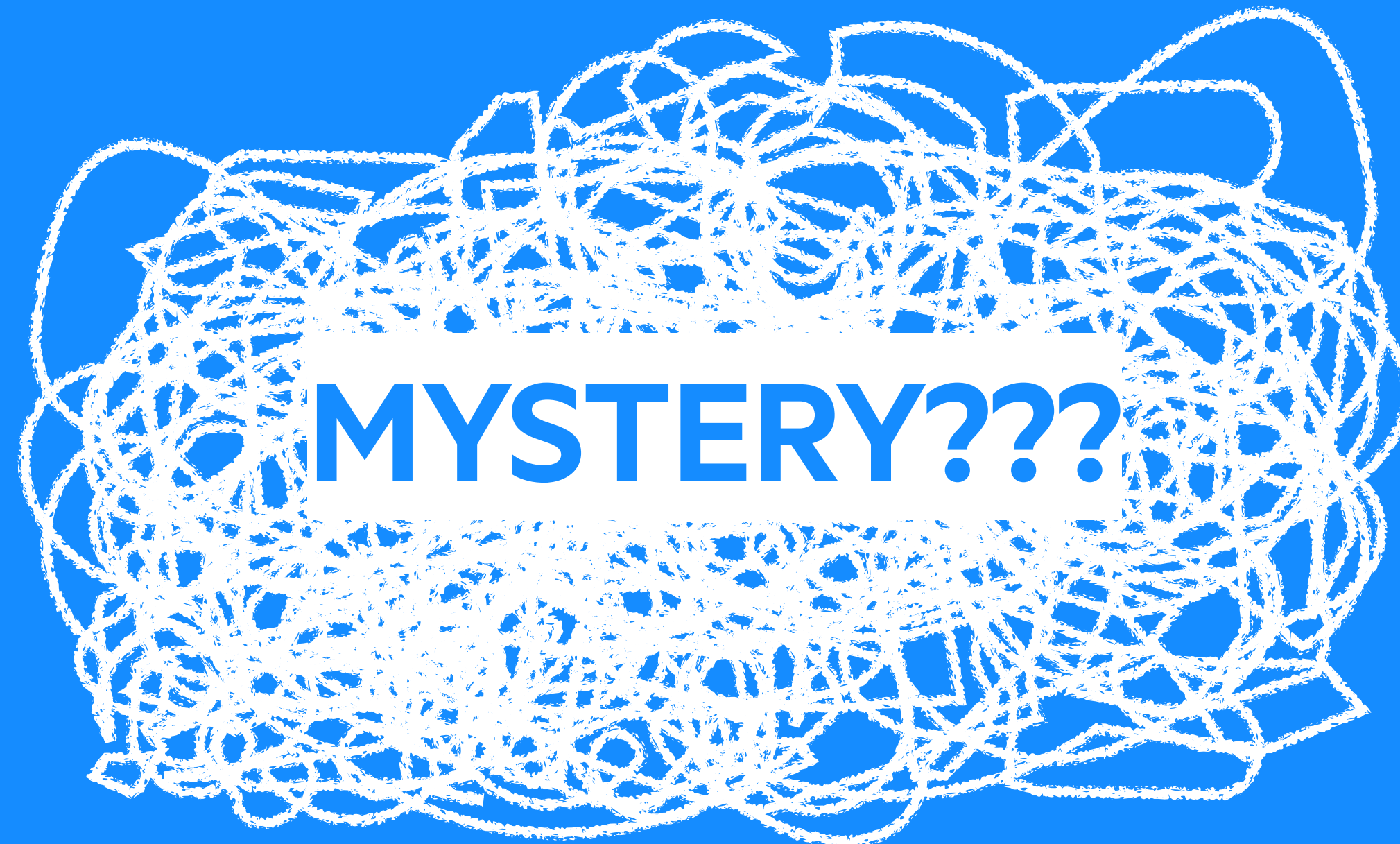
Gave them six months and a fairly open brief:

Simplify the way we render our content, make it easier to add new products to and maintain.

We started by trying to understand the system



tippy-tappy



consuming award winning journalism

And all of it has stuff within it

 Articles

 Audio

 Video

 Packages

 Live Blog

  Live Blog Packages

 Bylines

 Tags (eg ``, `` etc)

 Links

 Images

 Toppers (headers)

 Tables

 Scrolly-telling

 Video

 Pull quote

 Headshots

...etc...

We started by trying to understand the system



THIS IS A LOT OF WORK

We started by trying to understand the system

**Eventually a pattern
emerged**

We arrived at some principles

1. Transforming
2. Augmenting
3. Rendering

We arrived at some principles

1. Transformations in one place
2. Augmentations in one place
3. Rendering in one place

We arrived at some principles

Instead of normalising (or not!) Oscar O'Reilly's apostrophe in every front-end that renders the byline, we're going to fix that in a single place upstream.



**“Here comes
the science”**

- Jennifer Aniston

We built four things

1. A schema for describing content types

We built four things

1. A schema for describing content types

2. A new API for content

We built four things

1. A schema for describing content types
2. A new API for content
3. A helper library for querying the API

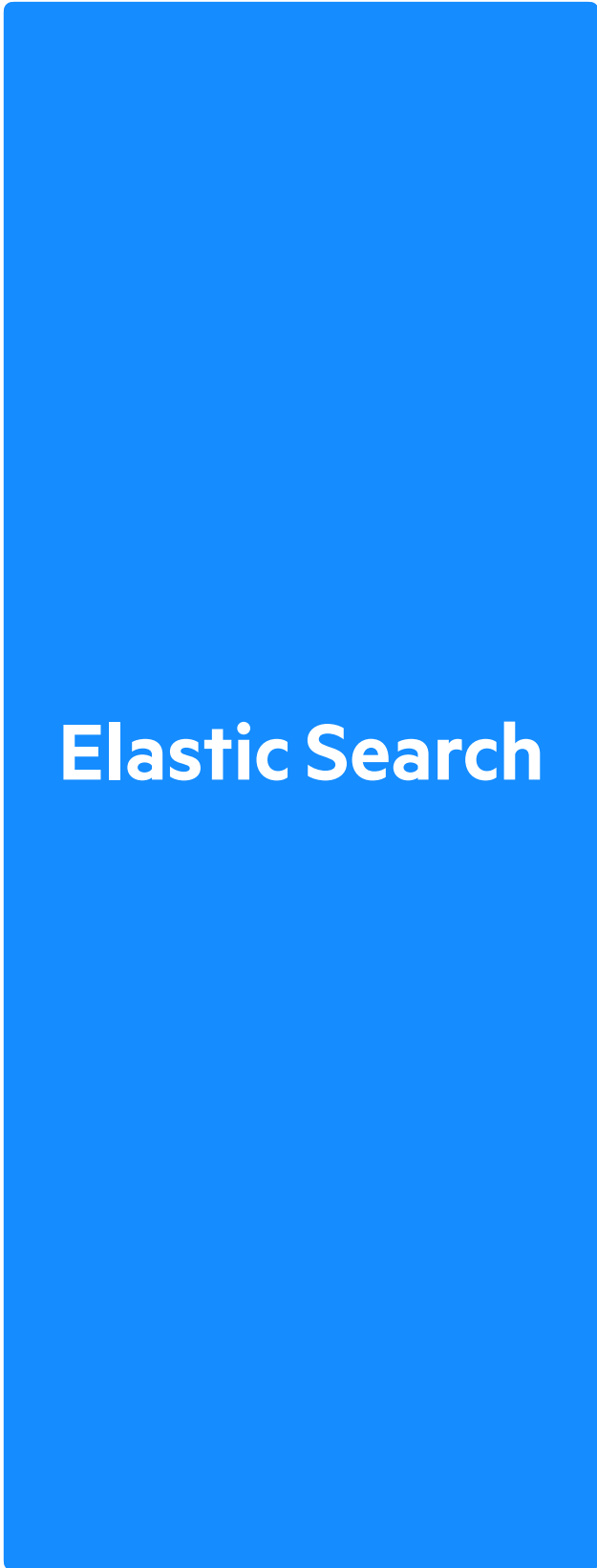
We built four things

1. A schema for describing content types
2. A new API for content
3. A helper library for querying the API
4. A new library for rendering content

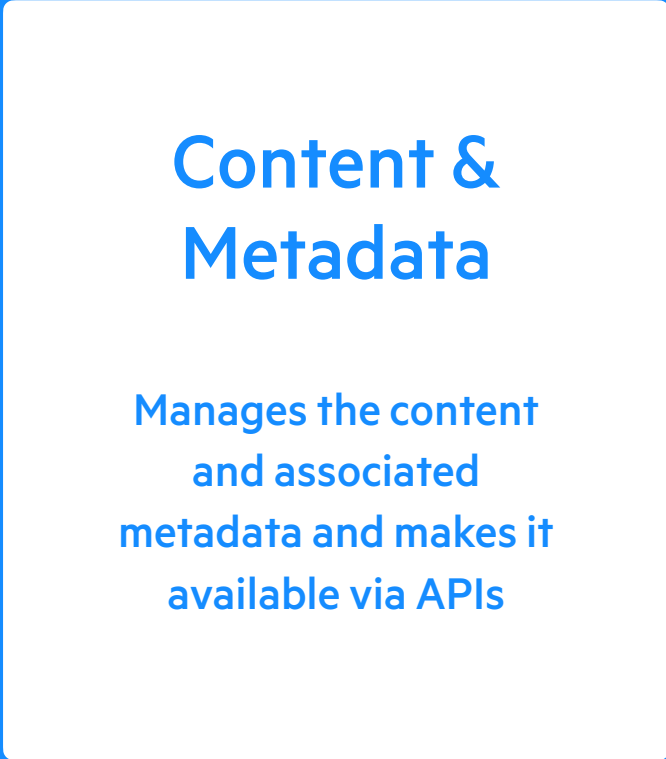
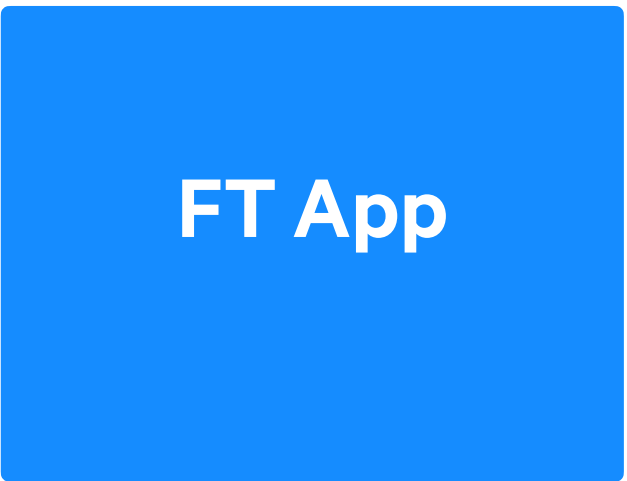
Our three layers

1. Transforming
2. Augmenting
3. Rendering

FT.com and apps



- [Other front ends not shown]
- Apple news
 - AMP
 - FT Edit



Reads an article via the website or one of our apps

Requests content by UUID

Requests content by UUID

Requests content by UUID

Requests content by UUID

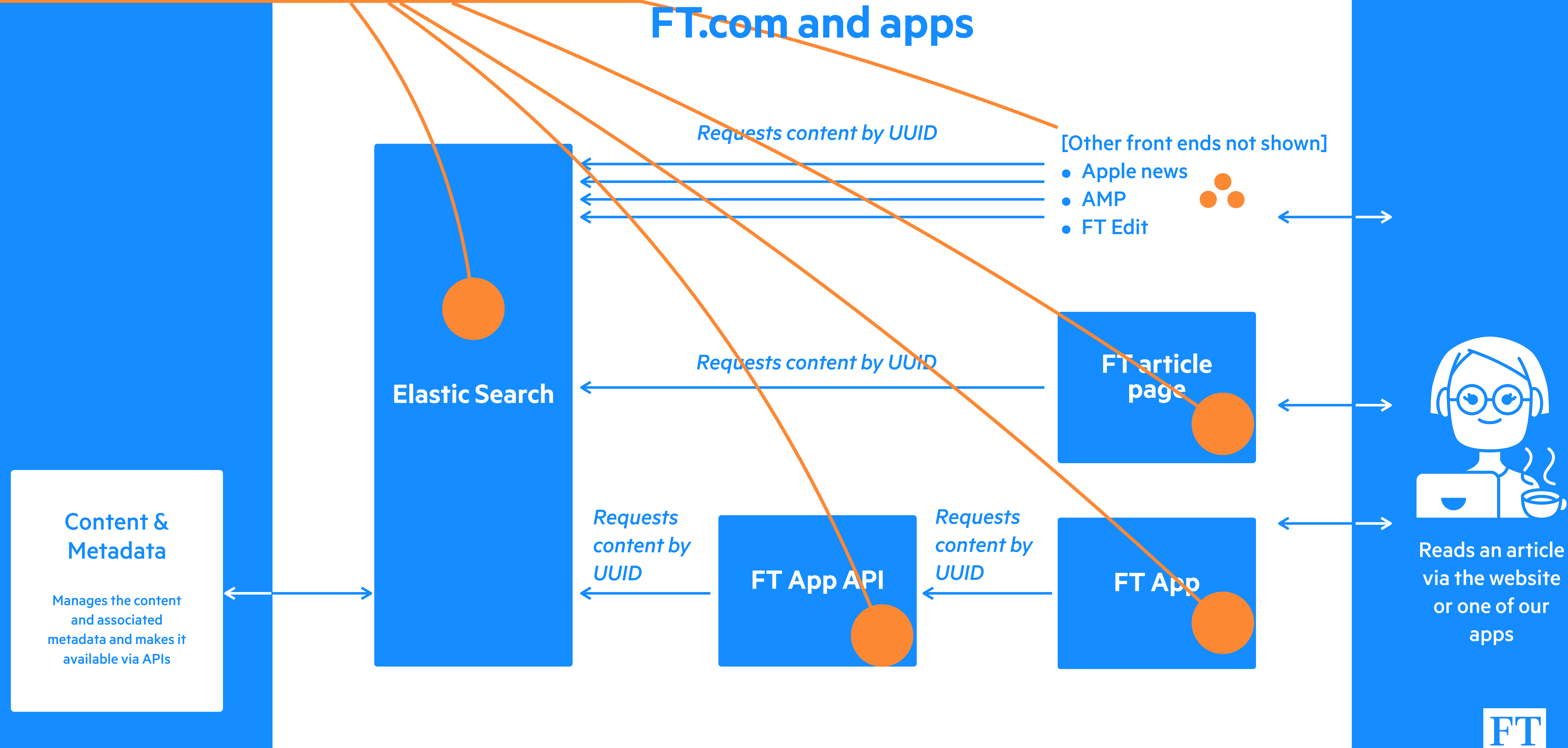
FT App API

FT App



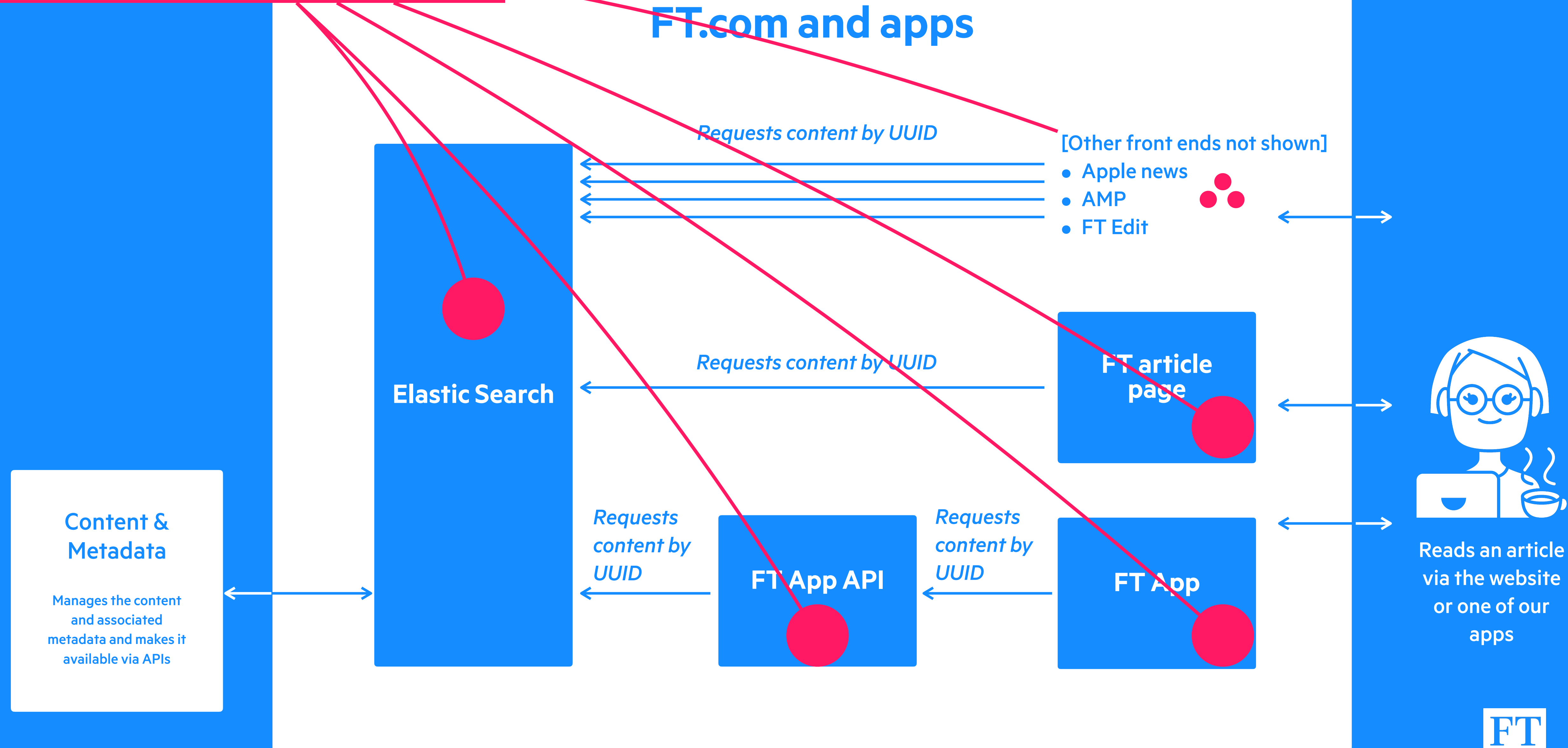
TRANSFORMING

FT.com and apps



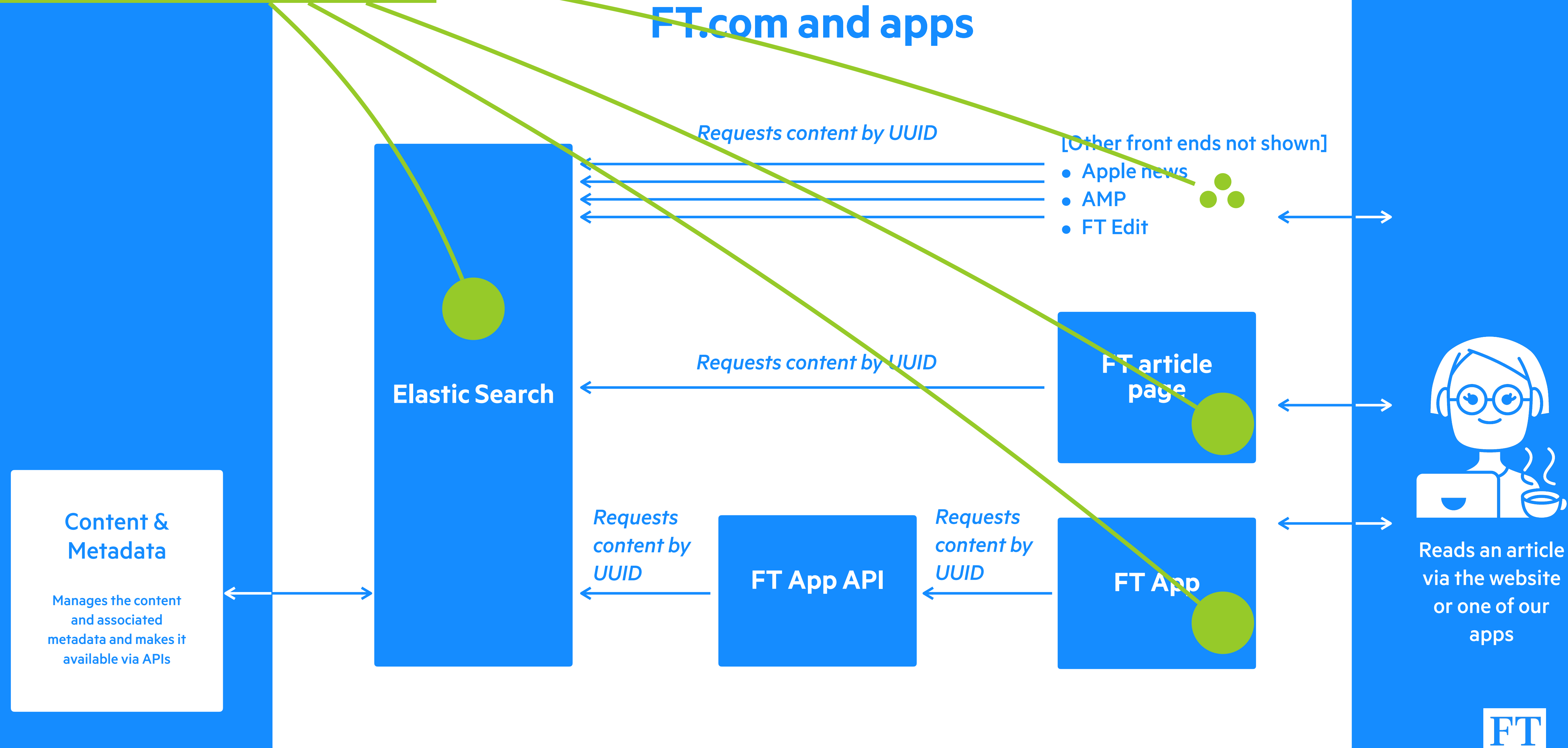
AUGMENTING

FT.com and apps

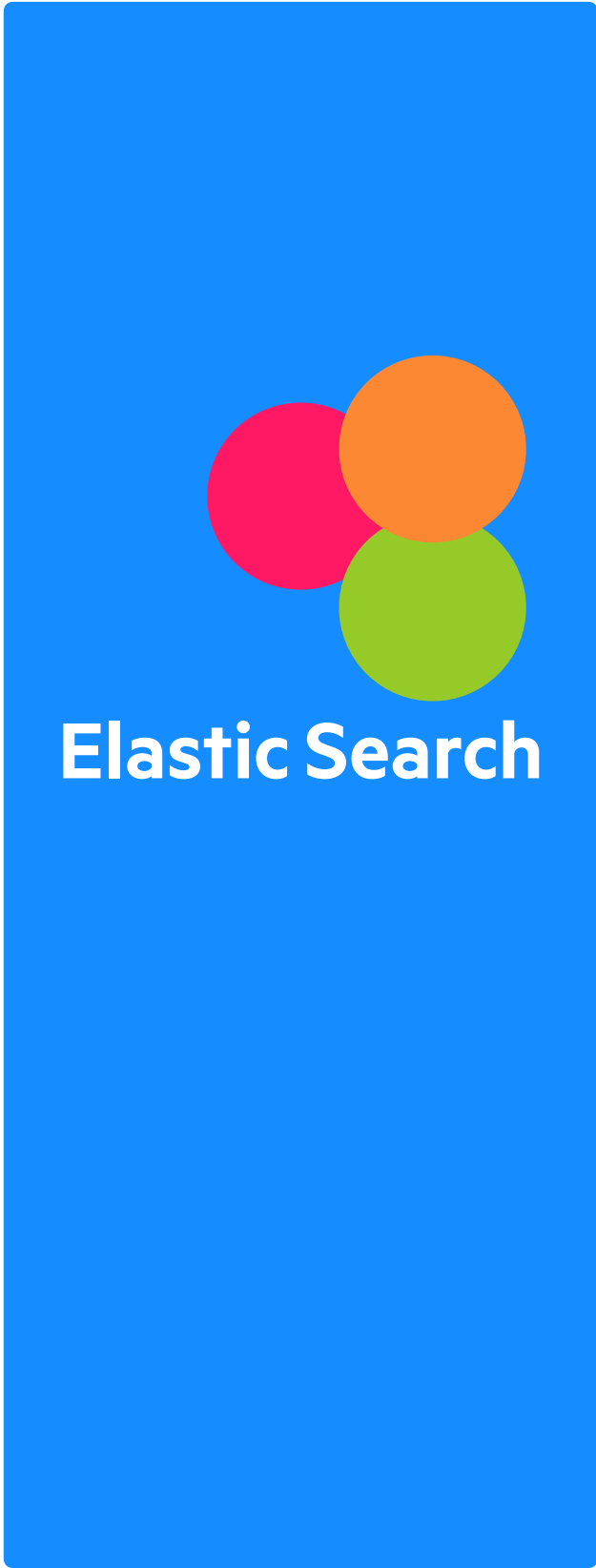


RENDERING

FT.com and apps



FT.com and apps

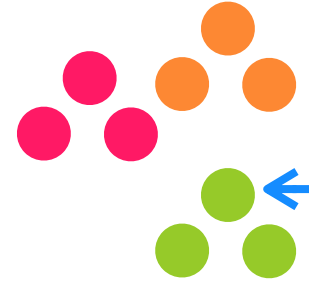


Requests content by UUID



[Other front ends not shown]

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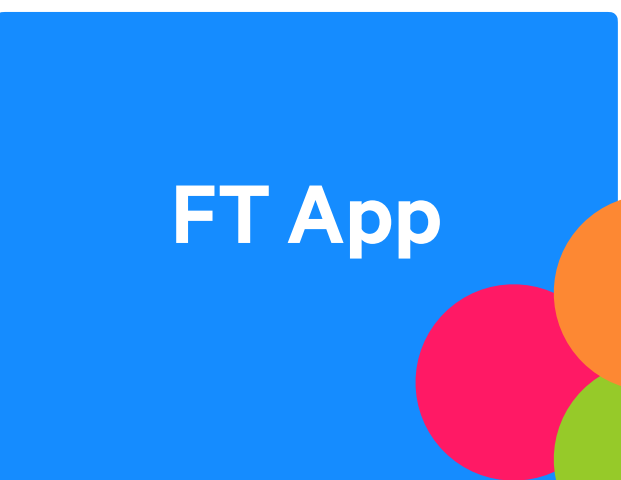
Requests content by UUID



Requests content by UUID



Requests content by UUID



Content & Metadata

Manages the content and associated metadata and makes it available via APIs

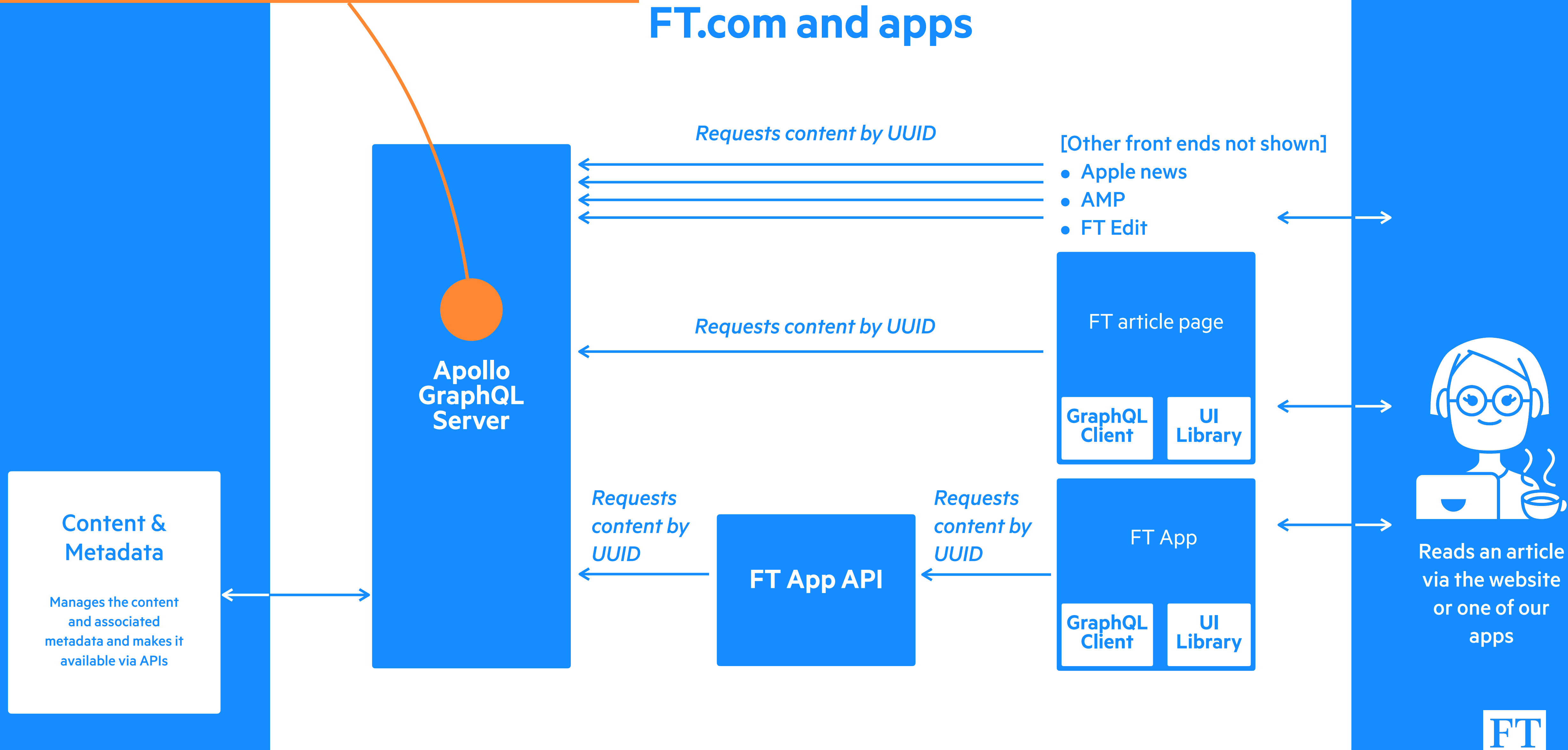


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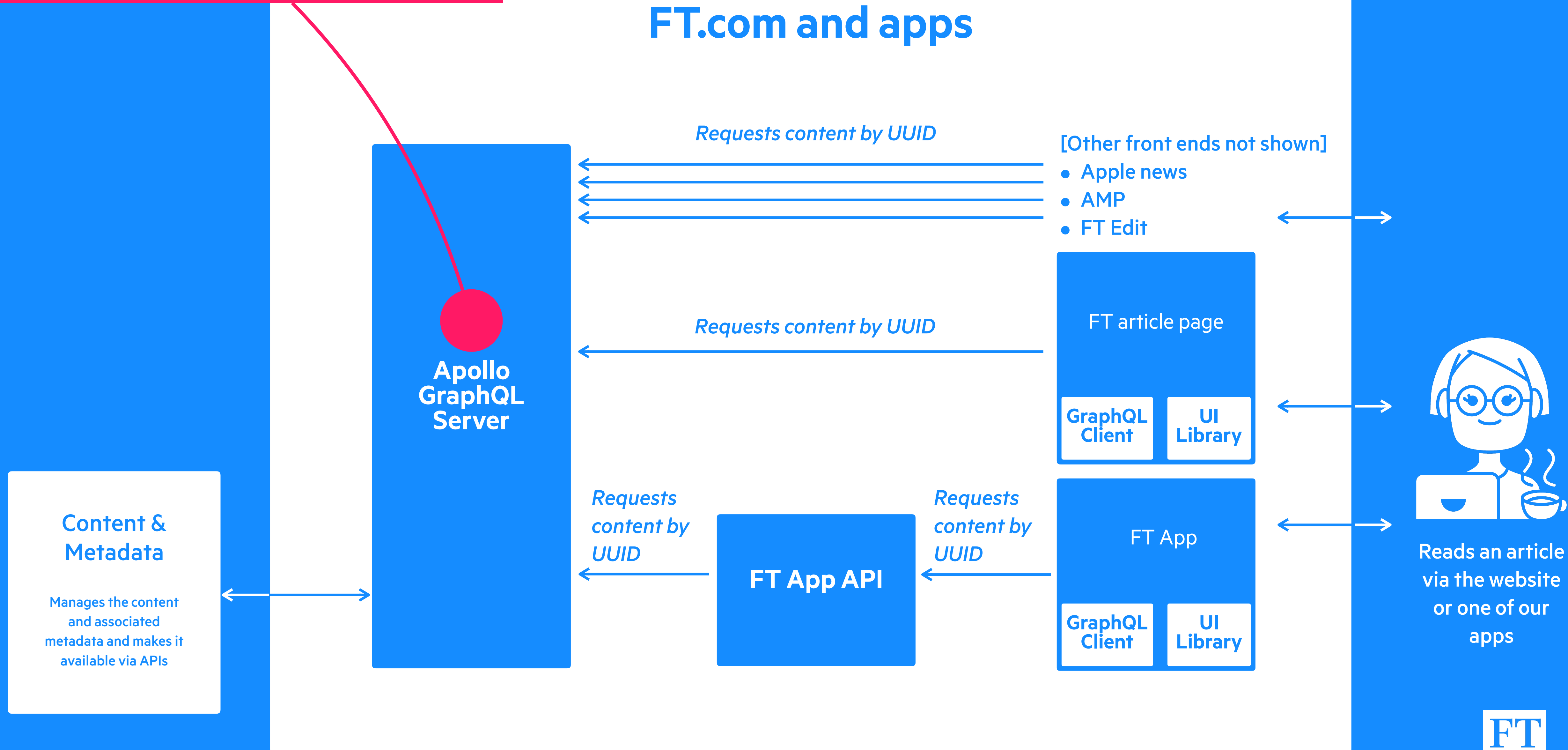
TRANSFORMING

FT.com and apps



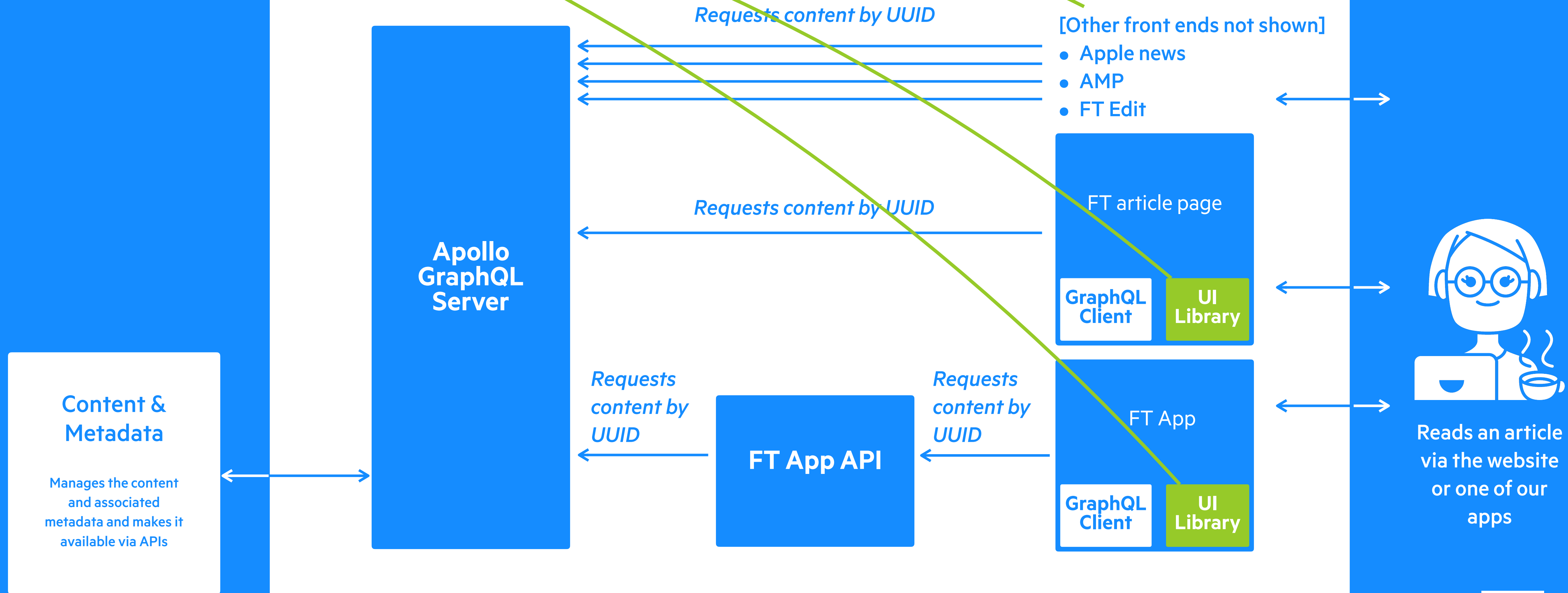
AUGMENTING

FT.com and apps

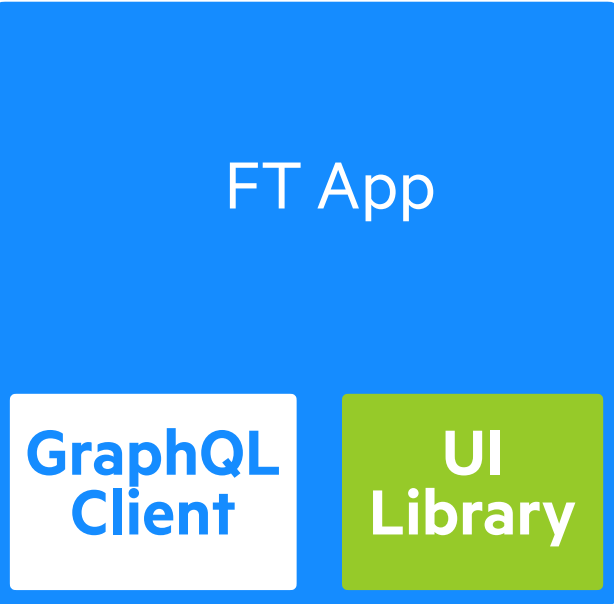
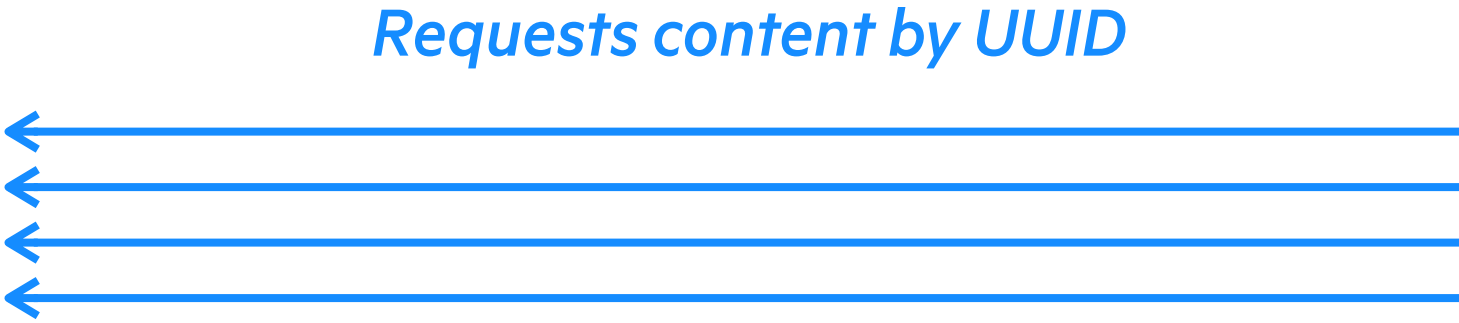


RENDERING

FT.com and apps



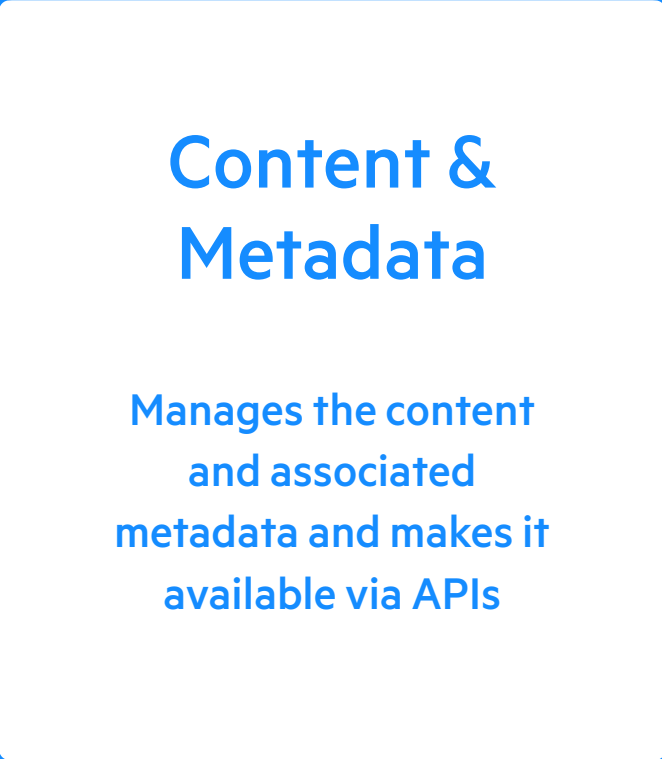
FT.com and apps



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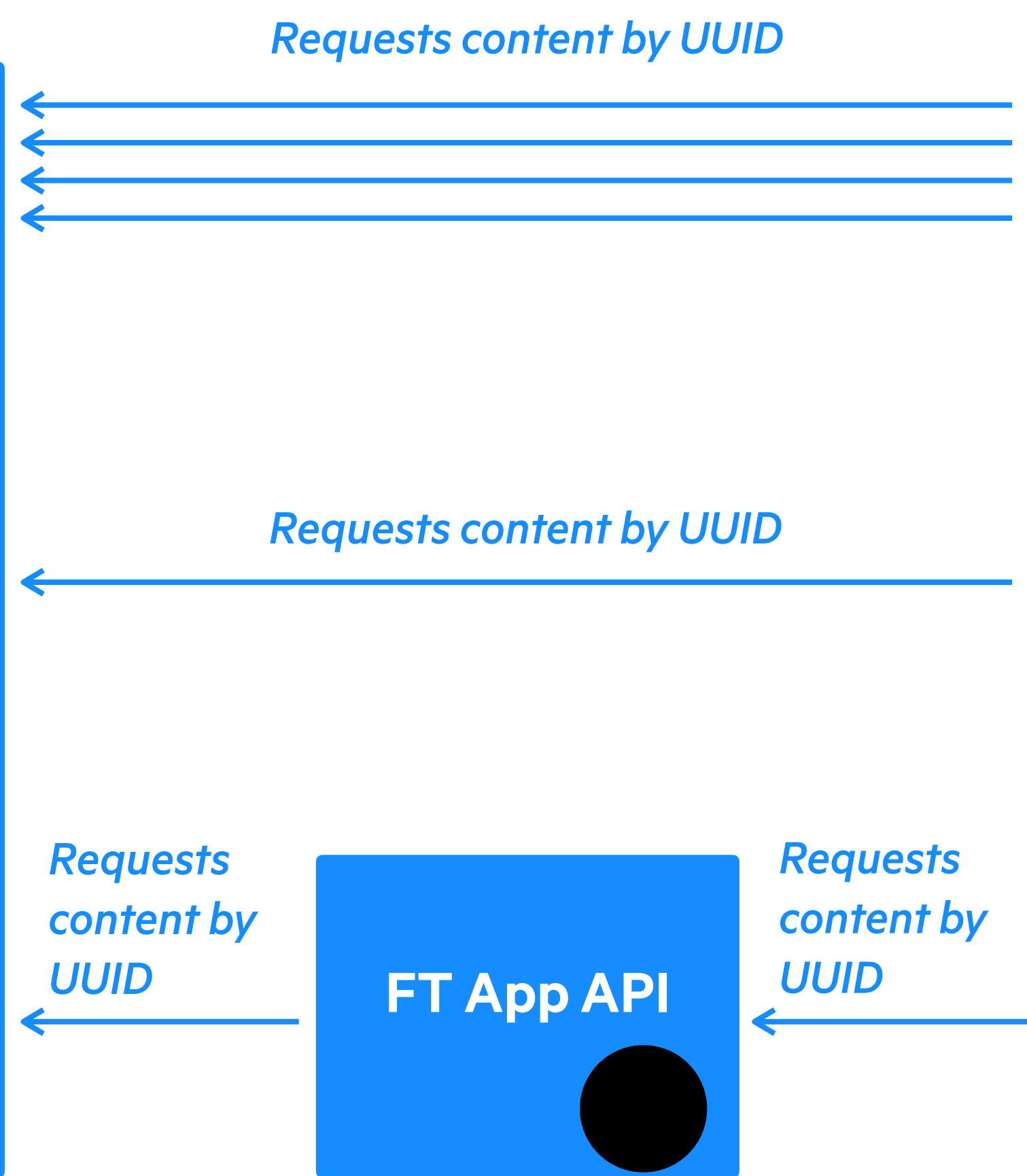
**We reintroduced this
bug for everyone**



FT.com and apps

Content & Metadata
Manages the content and associated metadata and makes it available via APIs

Elastic Search

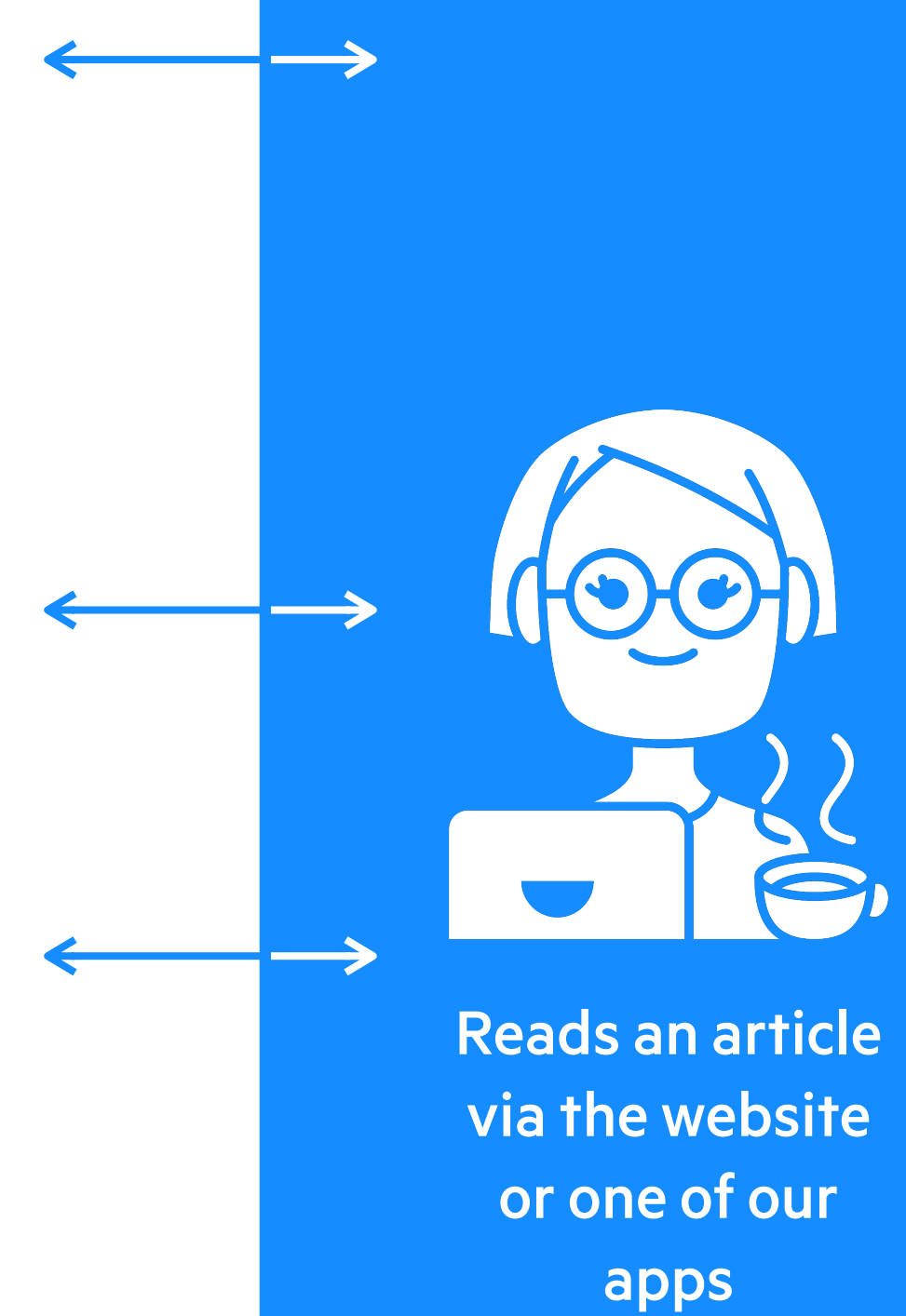


- [Other front ends not shown]
- Apple news
 - AMP
 - FT Edit

FT article page

FT App API

FT App





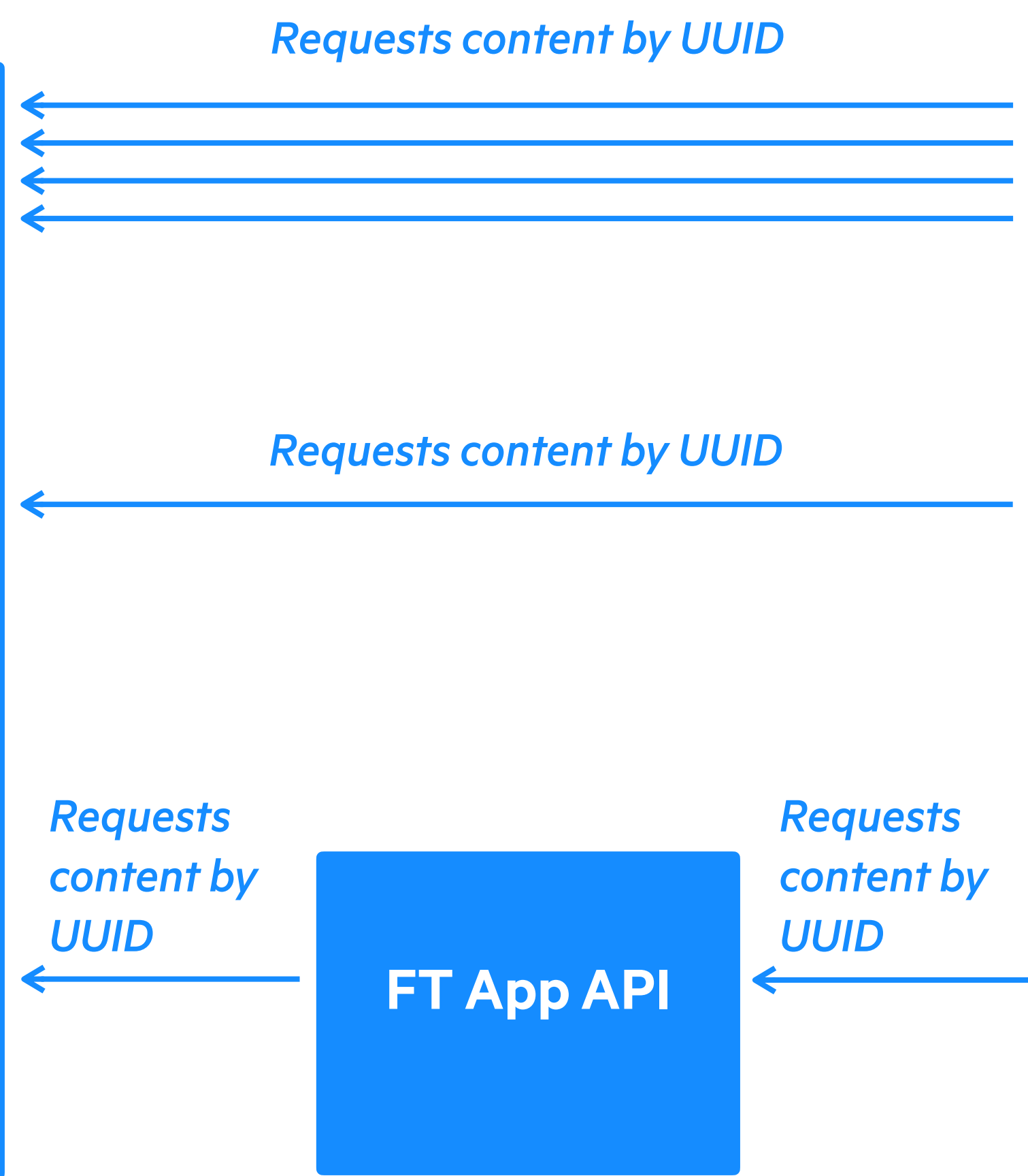
**But we were able to
fix it in a single place**



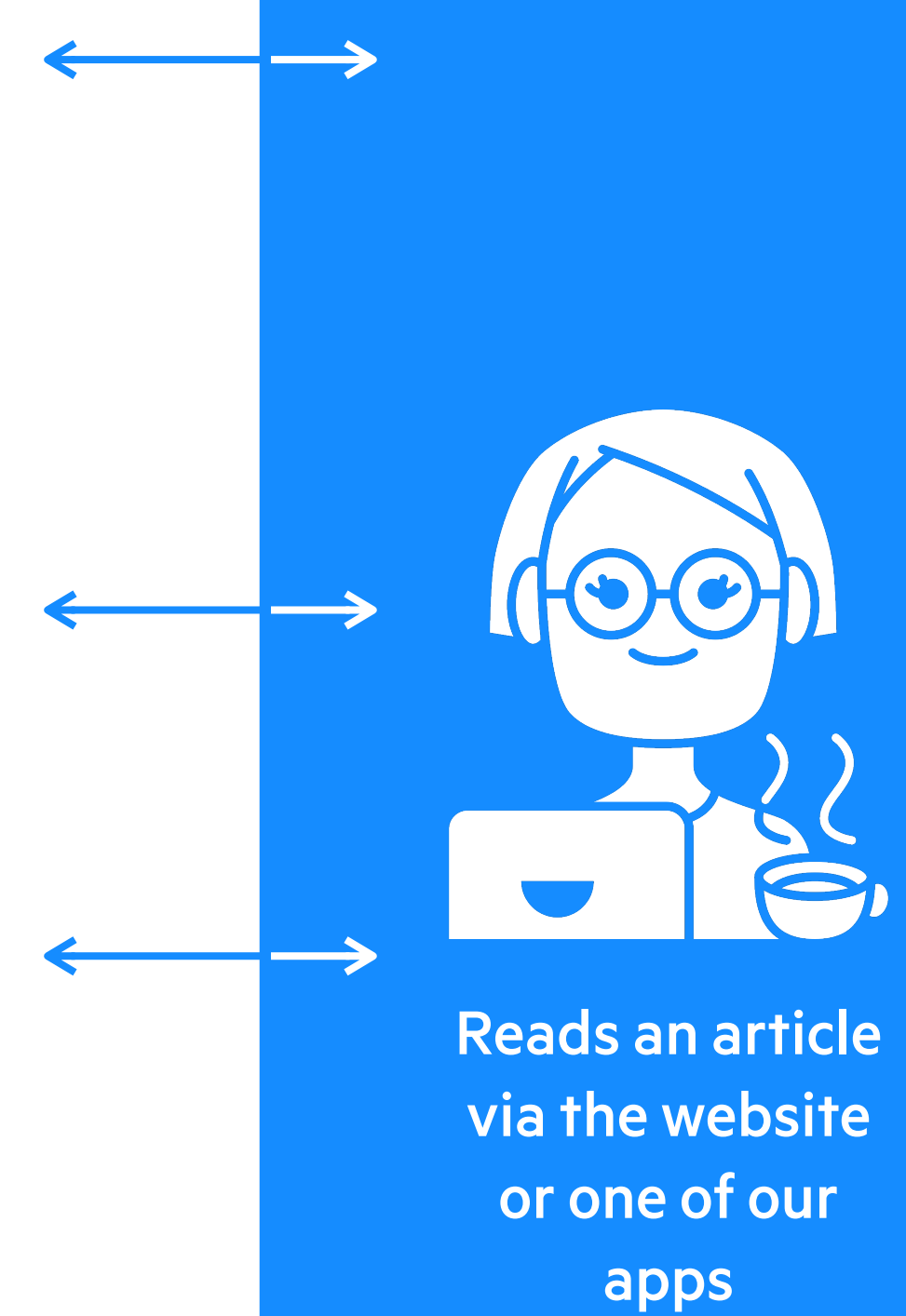
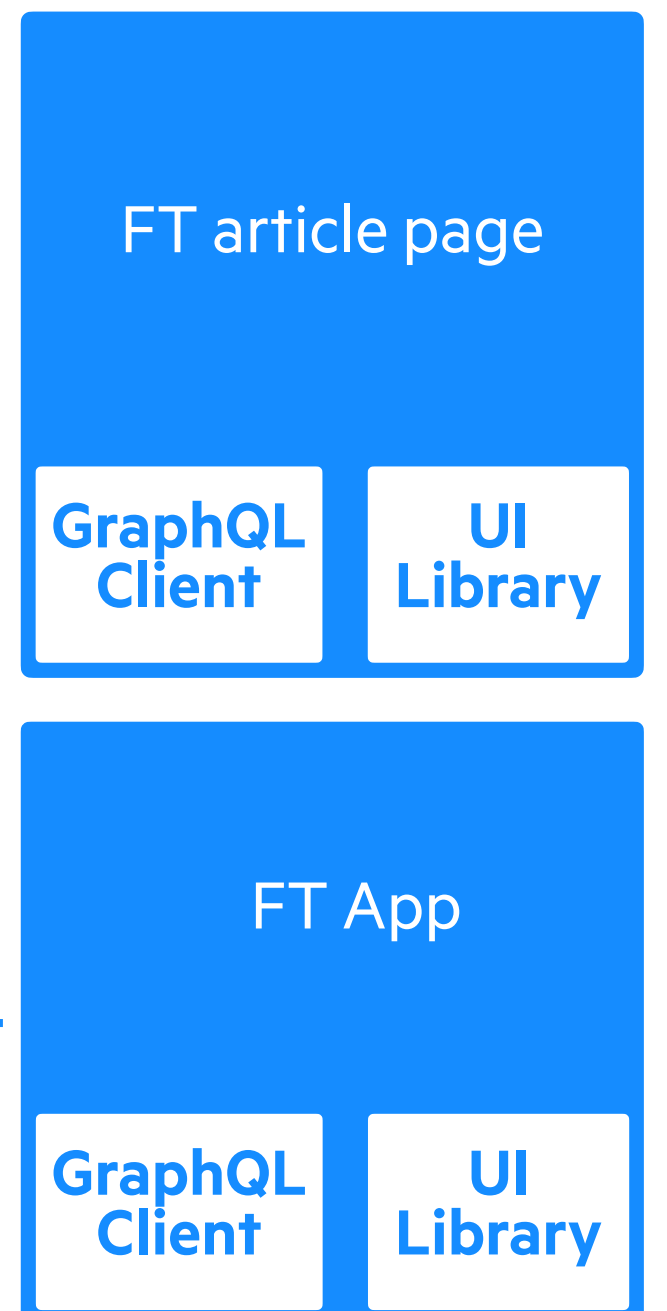
FT.com and apps

Content & Metadata
Manages the content and associated metadata and makes it available via APIs

Apollo GraphQL Server



- [Other front ends not shown]
- Apple news
 - AMP
 - FT Edit



PART 3: SOME PRACTICAL TIPS

How did we do this

Formed a small team of people with deep knowledge of our existing rendering code and a desire to improve it!

Gave them six months and a fairly open brief:

Simplify the way we render our content, make it easier to add new products to and maintain.

Ask for what you need and be prepared to negotiate, or drop the initiative, if you aren't able to get it.

**Give people a problem to
solve, not a solution to
implement**

Comms comms

comms

You Communicate Often and Well

The more senior you become, the more you will rely on strong communication skills. Almost everything you do will involve conveying information from your brain to other people's brains and vice versa. The better you are at being understood, the easier your job will be.

Tanya Reilly - The Staff Engineer's Path

Who are we trying to communicate with?

- Other engineers that will be using this
- Product, design, delivery, research
- Upstream teams (Spark and Content and metadata)
- Our future selves

**The agile
comms
handbook**

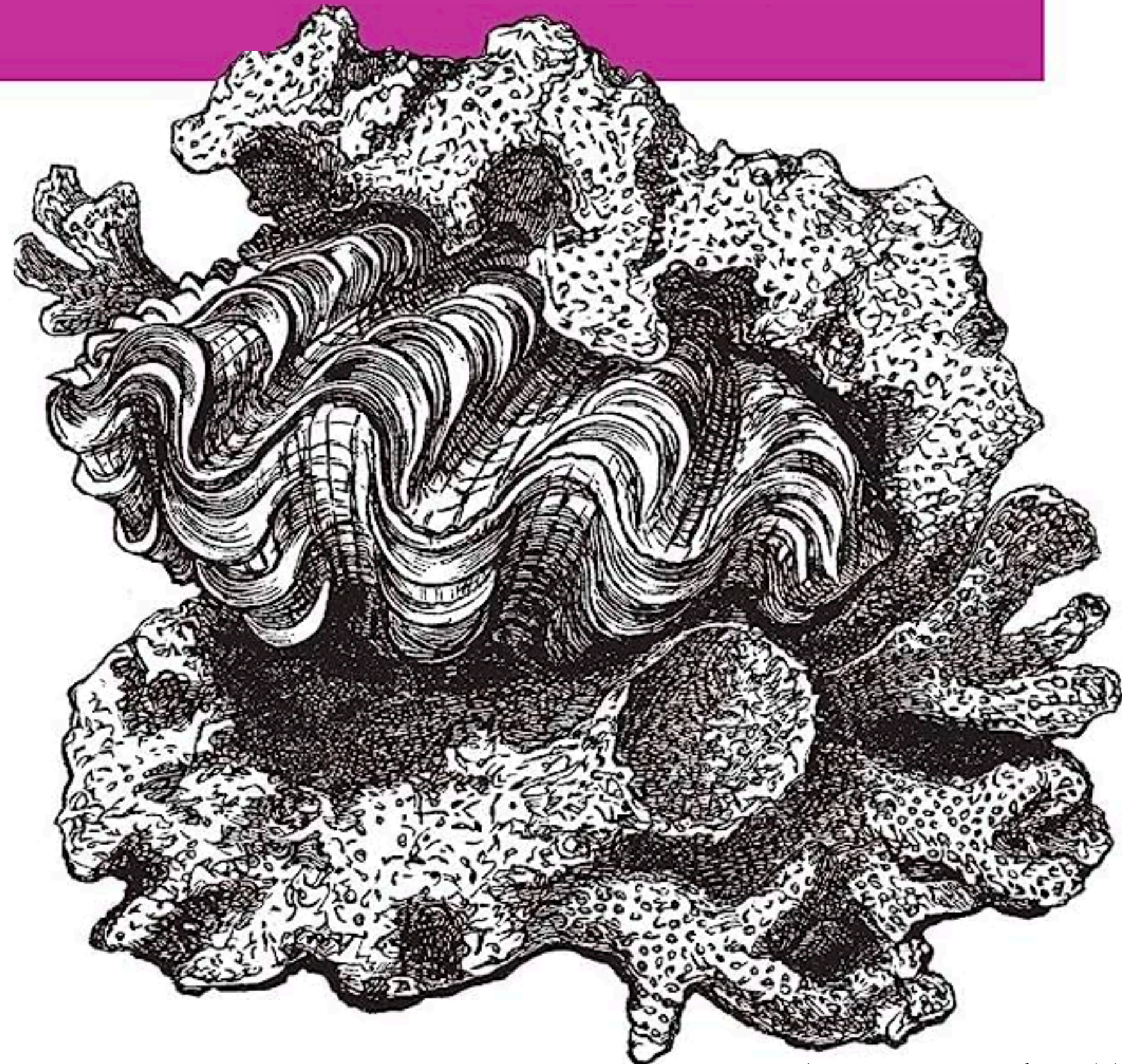
How to clearly, creatively
work in the open

Turnbull

A book about
communicating ideas
by Giles Turnbull

How to clearly, creatively work in the open

The Agile Comms Handbook



Giles Turnbull

A book about
communicating ideas
by Giles Turnbull

The layer cake of comms



The lure — a tweet length summary of what is going on

The context — a blog post, an email, a little video.
Tell people enough, but not so much that they don't have time to read it all

The detail — stuff only people elbow deep are going to care about - the tables, the architecture diagrams, the decision docs

The layer cake of comms



The context - this is the hard bit - it's not the usual engineering work (that's the detail layer)

Our Lure

“We’ve simplified the way we render our content, making it easier to add new products to and maintain.”

Weeknotes for the context layer

“Irreverent,
short, with
pictures”

FT.com API Rationalisa...

Share

Week 1: Architecture Diagrams

Created by Kara Brightwell
Jun 09, 2022 • 2 min read • 27 people viewed

via [No Context Grand Designs](#)

It's been one h*ck of a week already. Our first focus as a team is to work out what we need to work out. We're starting by drawing architecture diagrams of basically everything we might need to worry about, and learning about the systems we're diagramming as we go.

Obvs we're using the [C4 Model](#) (what do you take us for) so we're hopefully consistent in what we're drawing and how we're drawing it. We've got as far as a "Context" diagram for the very broad picture of the site, looking at and what it talks to, and a "Containers" diagram for one of our downstream

Quickstart

384505226/Week+4%3A+Looking+Back

Every post must have a reason for existing

Above all, make sure that every blog post has a purpose. When an organisation or team starts posting things just, *because ...* there's a risk that the blog as a whole will start sounding boring and repetitive.

One tip is to get a clear answer, early on, to the question: "What do we want readers to *understand, know or do* after reading this blog post?"

If that answer comes to mind easily and instantly, you know you're on the right track. If you take hours trying to come up with it, that's a sign that you need to rethink that particular blog post.

It doesn't matter if one post's purpose is small, even trivial. It's good to blog about small things as well as big things. The purpose of a post might be "To remind people that we said x last week, and that we're still thinking about it." That's fine. It's the clarity of purpose that matters most.

The best blogging is the sort that keeps readers interested, and the best way to do that is by being as lively and creative as possible.

Try to avoid "templated" blog posts that re-use the same format every time. Allow contributors to mix things up and play around with language, presentation and ideas.

The best blogging is the sort that keeps readers interested, and the best way to do that is by being as lively and creative as possible.

Little videos for the context layer

The value of an architecture diagram is partly in the actual act of drawing it

How to explain technical architecture with a natty little video

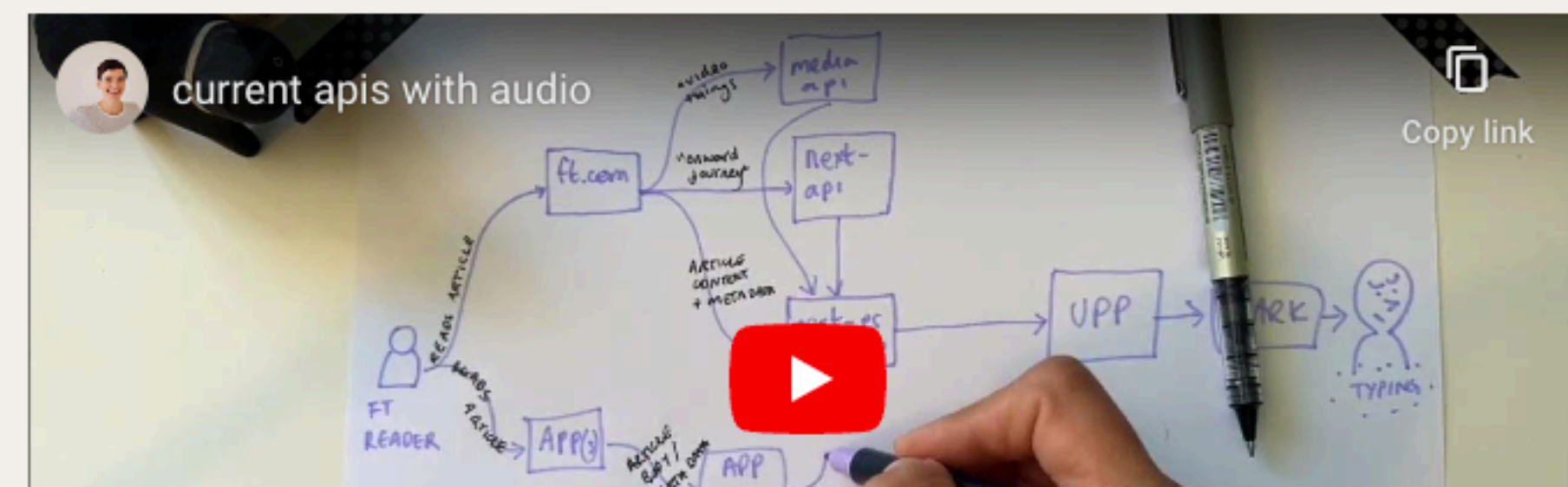
June 24, 2022

Me again. For one of the projects I'm currently overseeing at work I made a couple of videos to explain our current architecture.

I did this because I needed to explain a bit about it at our big team meeting (the one with product managers, delivery managers, people outside of Customer Products etc etc), but when I simply drew the diagrams and photographed them there was too much information to show on one slide and get people to look at.

It made me realise that much of the value in drawing a diagram is the actual act of drawing it. So instead of popping the finished sketch on a slide I tried to capture the act of drawing it instead.

Here is an example:



Decision docs in the detail layer

Document WHY as much as possible. Why typescript? Why HAST? Why a monorepo? Why GraphQL? Why CommonJS? Etc

FT.com API Rationalisa... / Architecture / Technical decisions

✎ 💬 ☆ 👁 🔒 Share ...

Typescript for production code

Created by Kara Brightwell, with a template
Last updated: Jul 19, 2022 • 2 min read • 👁 21 people viewed

Decision	👉 Let's use Typescript production code in the project
Status	DECIDED
Owners	@Kara Brightwell
Date	May 3, 2022

Scope

Any new production code we're writing should be written in Typescript. We should start with Typescript, not try to write Javascript then define types for it further down the line.

Goals

- Codifying an explicit schema contract between multiple areas of code, and our consumers
- Enabling developer tooling for increased confidence and productivity when handling large/complex data types

Non-goals

Blog posts in the detail layer

Get the team to blog things they are learning as they go

How we currently supply image teaser data to x-teaser



Created by Maggie Allen

Aug 10, 2022 · 3 min read · 14 people viewed

We use a module called [x-teaser](#) to render teaser components in both the article and the apps. Rendering an image in a teaser requires [3 parameters](#) to be passed to x-teaser: `url`, `width` and `height`.

But when we look at the `mainImage` data that comes to us via Spark and the Content & Metadata tool we can see that it has an `apiUrl` value, but no `url`, and nothing that gives us a clue about its dimensions.

```
- mainImage: {
  apiUrl: "https://api-t.ft.com/content/50f6db12-cc76-45e8-8c60-cab1f8520d96",
  - brands: [
    "http://www.ft.com/thing/dbb0bdae-1f0c-11e4-b0cb-b2227cce2b54"
  ],
  canBeSyndicated: "verify",
  description: "BoE chief economist Huw Pill",
  id: "https://api-t.ft.com/content/50f6db12-cc76-45e8-8c60-cab1f8520d96",
  - members: [
    - {
      apiUrl: "https://api-t.ft.com/content/9df14b51-031a-415b-87fd-3cd99884c121",
      binaryUrl: "https://d1e00ek4ebabms.cloudfront.net/production/9df14b51-031a-415b-87fd-3cd99884c121",
      - brands: [
        "http://www.ft.com/thing/dbb0bdae-1f0c-11e4-b0cb-b2227cce2b54"
      ],
      canBeSyndicated: "verify",
      - copyright: {
        notice: "© Charlie Bibby/FT"
      },
      description: "BoE chief economist Huw Pill",
      firstPublishedDate: "2022-07-27T06:51:20+0000"
```

**“if all teams [communicated] as API
rationalisation did ... that’s the goal”**

— Our CPO



SUMMARY

1. Little things can tell us big things about our systems

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2. To fix the big things, you need a team who isn't looking at anything else

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1. Little things can tell us big things about our systems
2. To fix the big things, you need a team who isn't looking at anything else
3. As a staff plus engineer effective comms is part of your job

Unspaghettiing FT.com's Content Pipeline



Kara Brightwell · Follow

Published in FT Product & Technology · 13 min read · Dec 2, 2022

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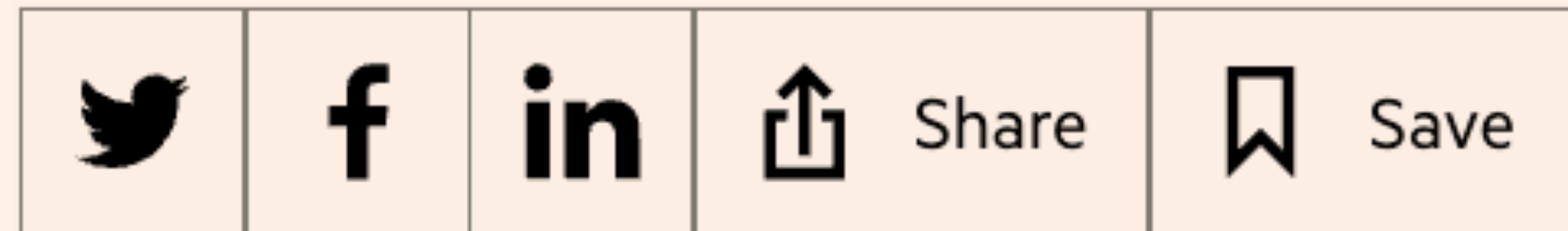
Read the original apostrophe article here

bit.ly/staff-plus-apostrophes



A screenshot of a web browser window. The address bar shows the URL 'ft.com/content/c70f...'. The page header includes the 'FINANCIAL TIMES' logo and 'myFT' branding. The article title is 'Why I'm possessive about apostrophes' under the 'Opinion FT Magazine' category. The author is 'ROBERT SHRIMSLEY' with a '✓ Added' button next to his name. A small portrait of the author is visible on the right. At the bottom, a yellow banner features the text 'You're a' and a small illustration of a person in a cap and vest.

People who had a significant role in this work



Alice Bartlett, Rowan Manning, Kara Brightwell, Arjun Gadhia, Ashoor Namrood, Chee Rabbits, Rowan Beentje, Charlotte Payne and Malcolm Moore in London, **Maggie Allen** in Bangor, **Dimitar Terziev** in Sofia, and **Nayana Shetty** and **Nick Ramsbottom** in absentia

