Government
Digital & Data

Understanding APIs in Government

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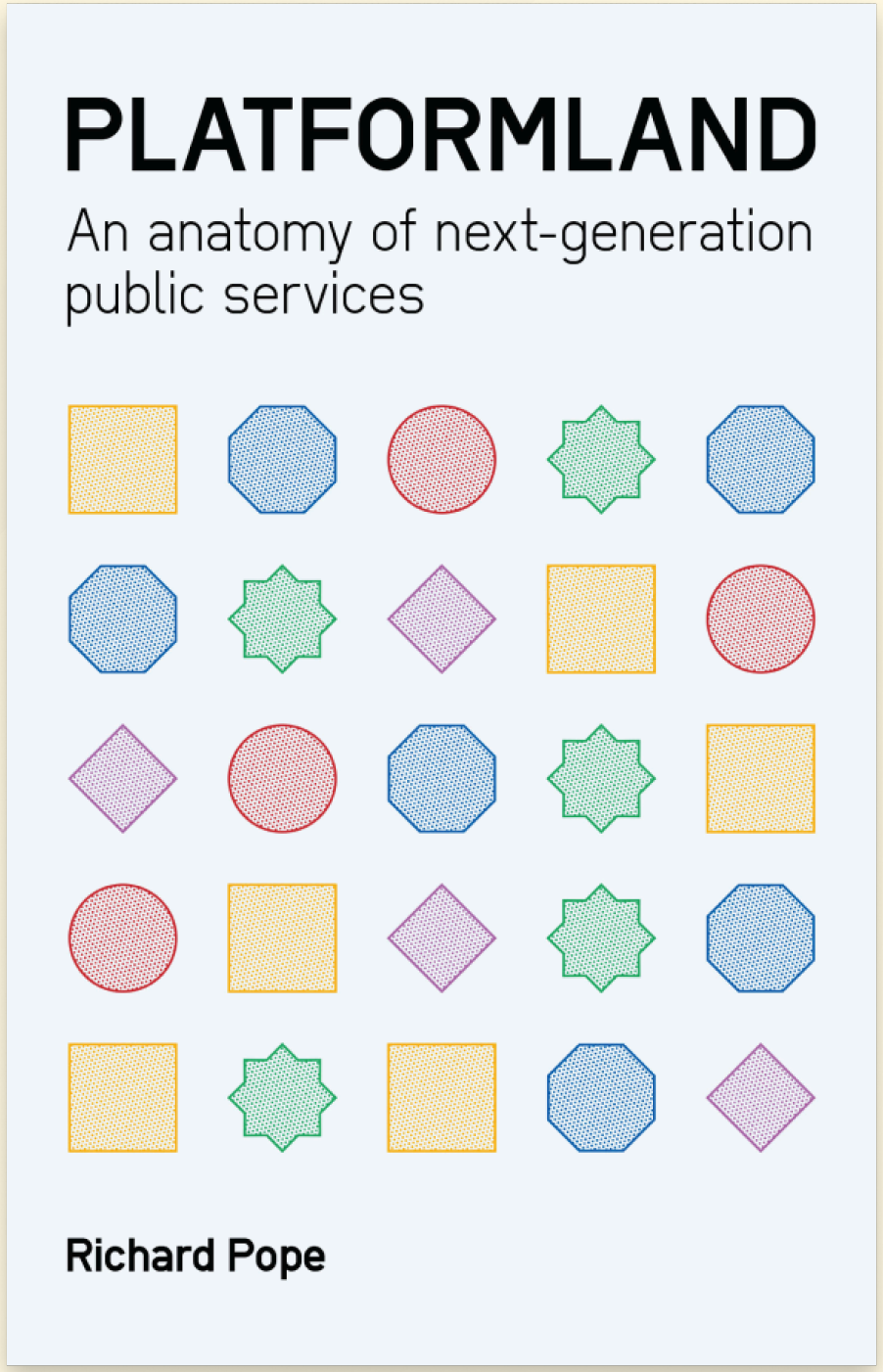
- **What**
- **How**
- **When**
- **Where**
- **Why**

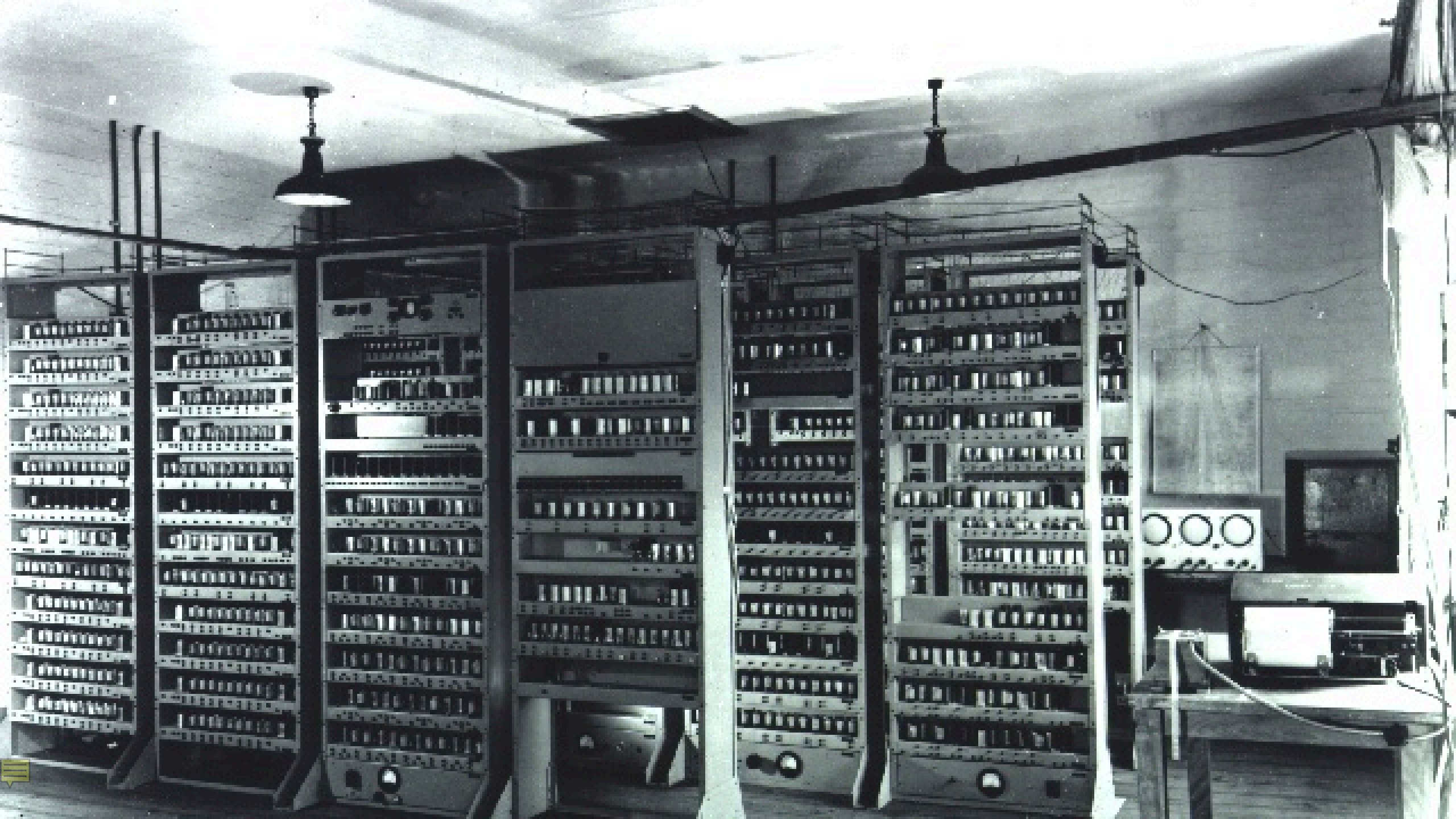
...an API

Platformland:

An anatomy of next-generation public services

anatomyofpublicservices.com



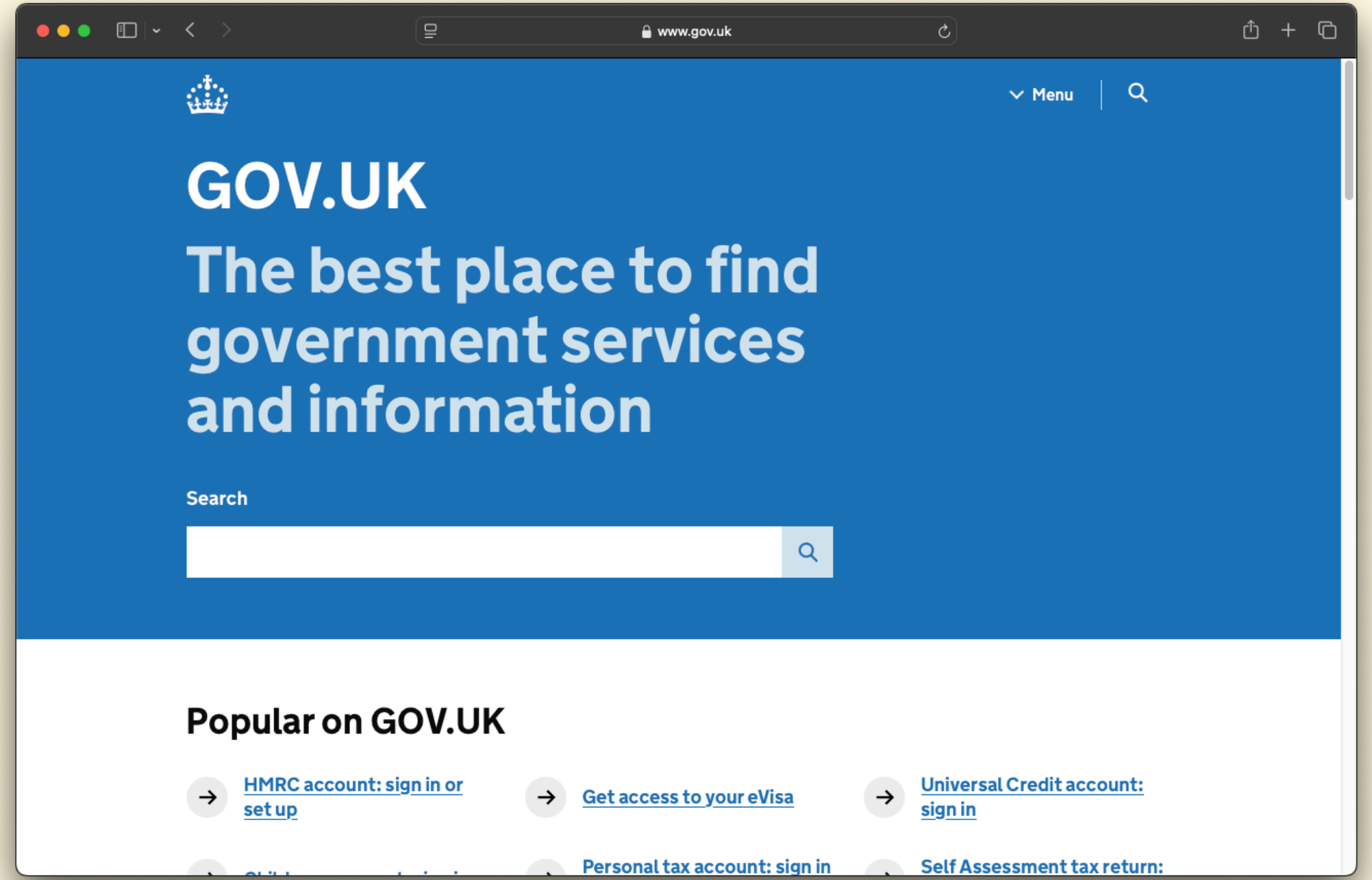


CONTRACT
THIS AGREEMENT made this
by
and between
and
day of
, 20
WITNESSETH: That in consideration
kept and performed on the part
(First Party)
(Second Party),
I. Said party of
ovenants and agreements to be
reto, respectively as herein stated:
ants and agrees that it shall:

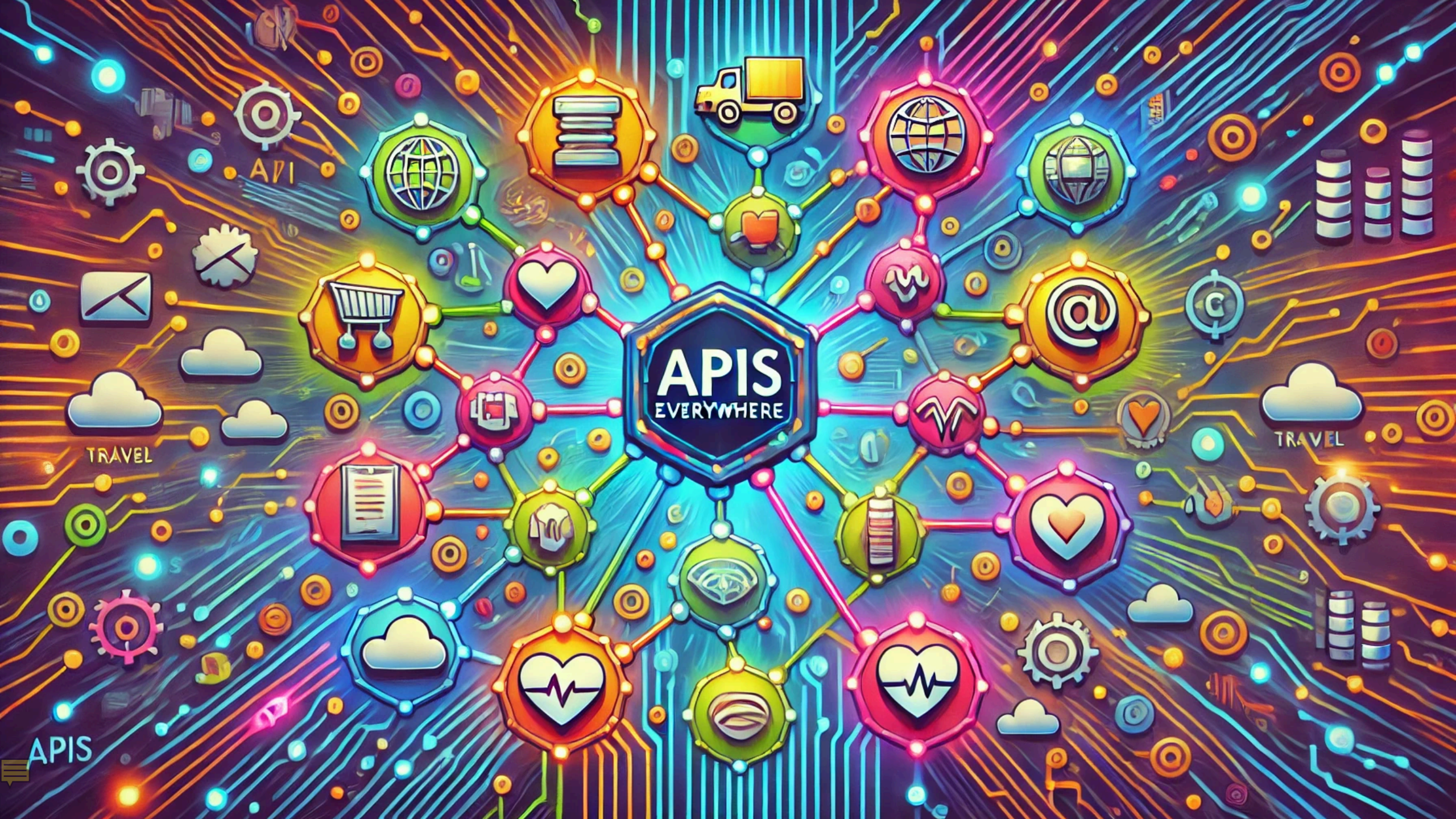
API

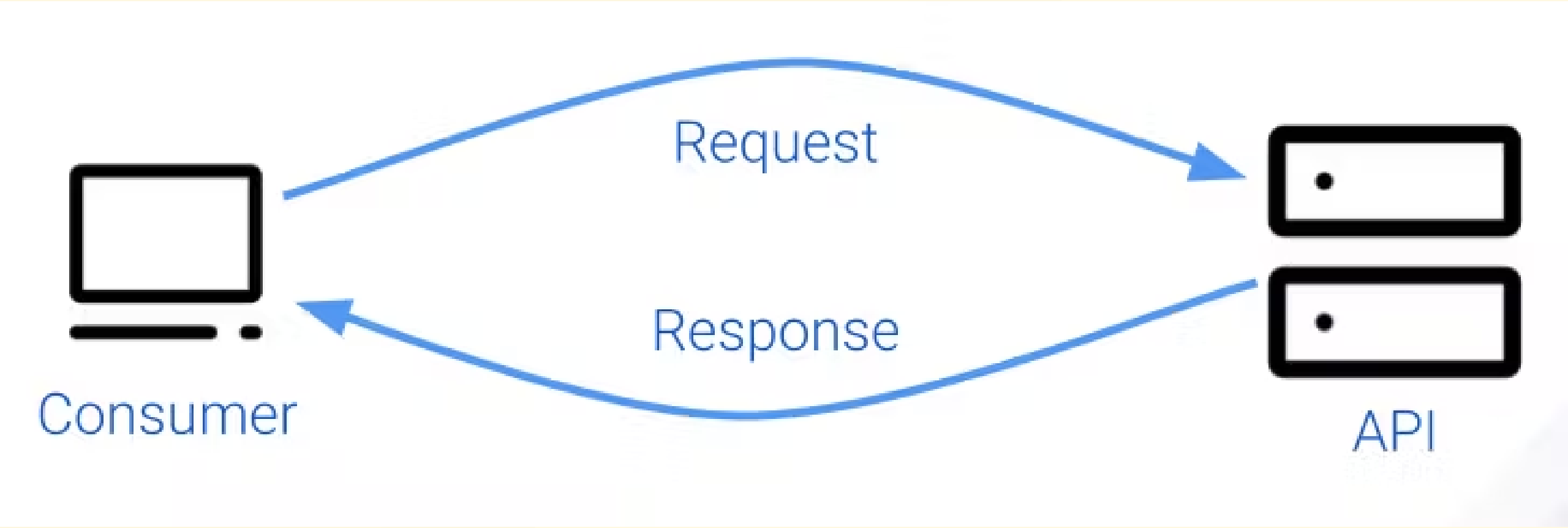
Key Concepts

HI!
Hi!
Hello!
Hello!
SERVER


www.gov.uk
Menu
GOV.UK
The best place to find government services and information
Search
Popular on GOV.UK
HMRC account: sign in or set up
Get access to your eVisa
Universal Credit account: sign in
Personal tax account: sign in
Self Assessment tax return:

CONTACT FORM
FORM
FORM
Contact Form
Takem a bequest
Contact Form
ire submited
Request
DEFABASE


APIS
EVERYWHERE
API
TRAVEL
TRAVEL
APIS


Request
Response
Consumer
API

Endpoint

e.g. https://api.gov.uk/v1

07.8,724
ONSOD.

API GATEWAY
REQUEST
PROCESS
RESPONS
API
API

Types of APIs

RPC (Remote Procedure Call)

SOAP (Simple Object Access Protocol)

REST

(Representational State Transfer)

GraphQL

Data Formats

JSON (JavaScript Object Notation)

```
{
  "name": "John",
  "age": 30,
  "city": "New York",
  "children": [
    {
      "name": "Jane",
      "age": 5
    }
  ]
}
```

XML (eXtensible Markup Language)

```
<Person>
  <Name>John</Name>
  <Age>30</Age>
  <City>New York</City>
  <Children>
    <Child>
      <Name>Jane</Name>
      <Age>5</Age>
    </Child>
  </Children>
</Person>
```

CSV (Comma-Separated Values)

```
Name,Age,City
John,30,New York
```

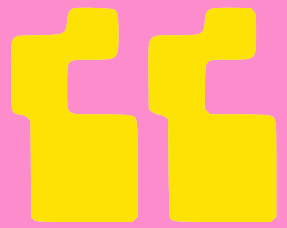
```
ParentName,ChildName,ChildAge
John,Jane,5
```

Plain Text

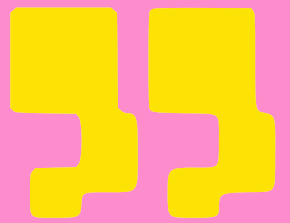
```
John is thirty years old and lives in New York,
he has a child named Jane who is five years old.
```

The end of the abstract jargon

How Companies Use APIs



1. All teams will henceforth expose their data and functionality through service interfaces.



2. Teams must communicate with each other through these interfaces.

> 3. There will be no other form of interprocess communication allowed: no direct linking, no direct reads of another team's data store, no shared-memory model, no back-doors whatsoever. The only communication allowed is via service interface calls over the network

4. It doesn’t matter what technology they use. HTTP, Corba, Pubsub, custom protocols — doesn’t matter.

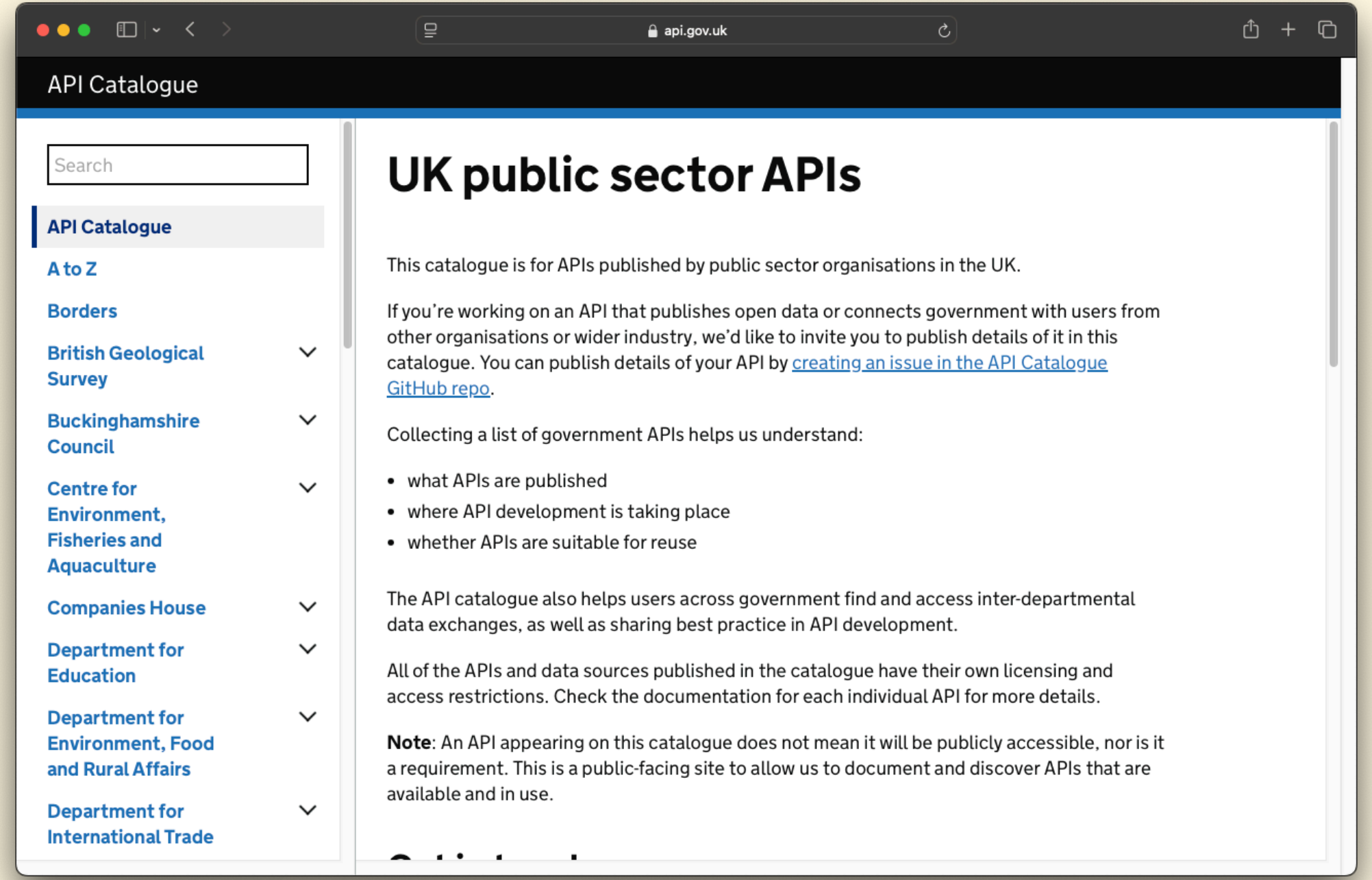
5. All service interfaces, without exception, must be designed from the ground up to be externalizable. That is to say, the team must plan and design to be able to expose the interface to developers in the outside world. No exceptions.

6. Anyone who doesn’t do this will be fired.

7. Thank you; have a nice day!

Government and APIs

Data Sharing


api.gov.uk
API Catalogue
Search
API Catalogue
A to Z
Borders
British Geological Survey
Buckinghamshire Council
Centre for Environment, Fisheries and Aquaculture
Companies House
Department for Education
Department for Environment, Food and Rural Affairs
Department for International Trade
UK public sector APIs
This catalogue is for APIs published by public sector organisations in the UK.
If you're working on an API that publishes open data or connects government with users from other organisations or wider industry, we'd like to invite you to publish details of it in this catalogue. You can publish details of your API by creating an issue in the API Catalogue GitHub repo.
Collecting a list of government APIs helps us understand:
what APIs are published
where API development is taking place
whether APIs are suitable for reuse
The API catalogue also helps users across government find and access inter-departmental data exchanges, as well as sharing best practice in API development.
All of the APIs and data sources published in the catalogue have their own licensing and access restrictions. Check the documentation for each individual API for more details.
Note: An API appearing on this catalogue does not mean it will be publicly accessible, nor is it a requirement. This is a public-facing site to allow us to document and discover APIs that are available and in use.

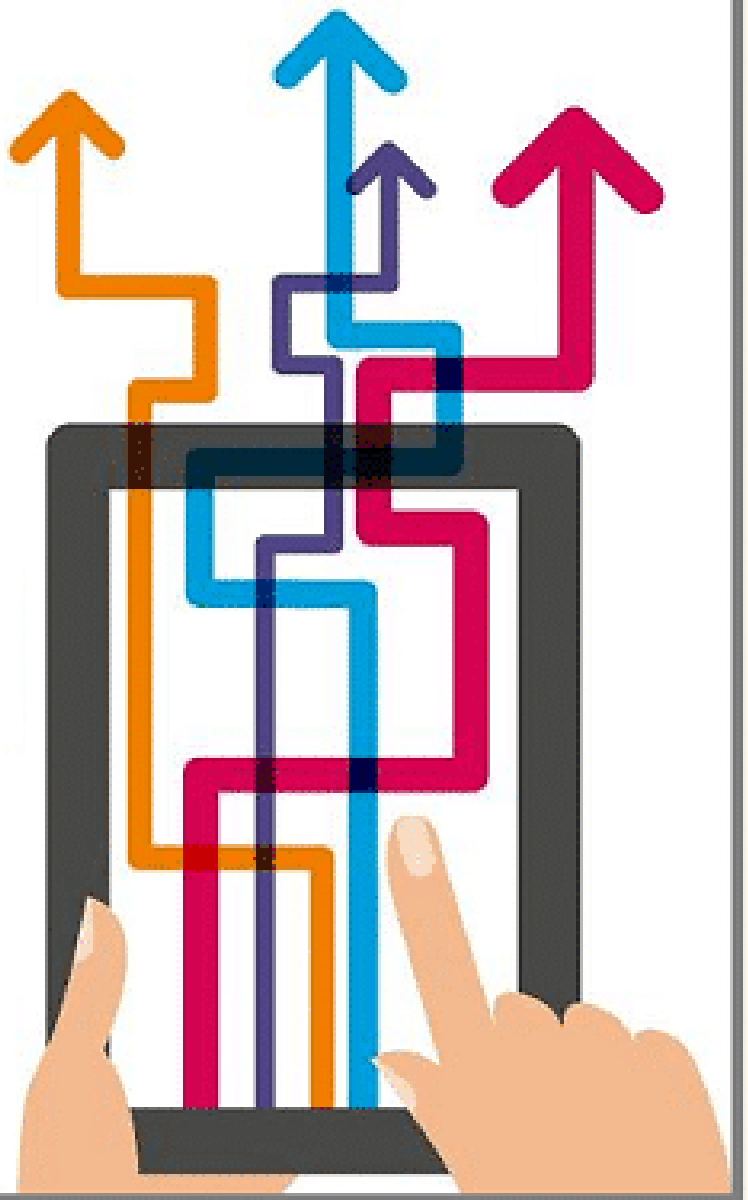
https://data.police.uk/api/metropolitan/E05009386/events


```
[
  {
    "contact_details":{},
    "description":"<p>A one-to-one consultation session
    in conjunction with property marking.<\/p>",
    "end_date":"2024-12-11T15:00:00",
    "title":"Property Marking Scheme",
    "address":"Bike Marking and Phone Marking
    schemes @ Lauriston Road, E9 (Opposite Fish House)",
    "type":"meeting",
    "start_date":"2024-12-11T13:30:00"
  },
]
```

Bin Collection Days
Bank holiday or
strike adjustment
API

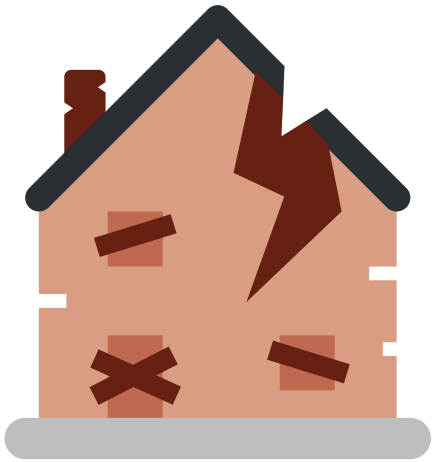
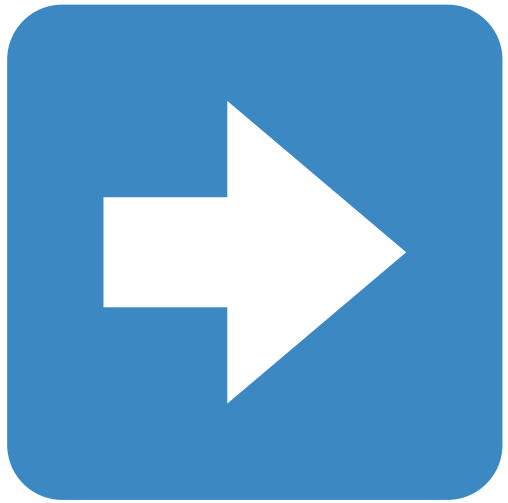
HM Revenue & Customs

Making tax digital



Future of Public Services

One Government

APIs in Government Today

DVLA

- Photo at the Roadside enquiry API service
- Provide DVSA a service to check theory test eligibility.
- Digitise paper-based prosecutions with HMCTS

find-and-use-an-api.education.gov.uk

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Department for Education | Find and Use an API

Overview APIs Applications Support

ALPHA This is a new service - your feedback will help us to improve it.

Create an account Sign in

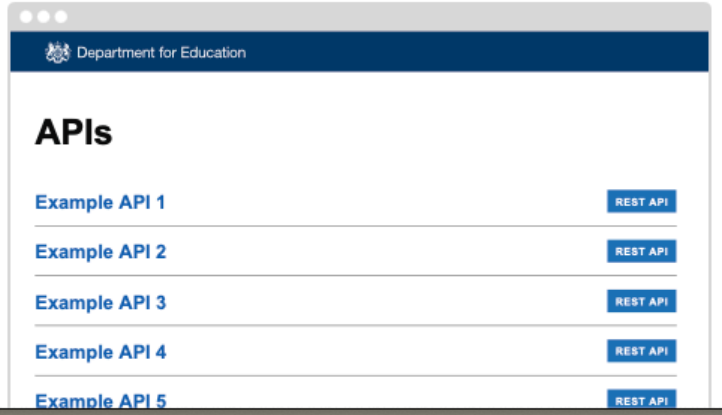
Find and Use an API

Connect to the Department for Education (DfE) digital services through our APIs.

Create an account or **sign in** to the Find and Use an API service.

Browse DfE APIs

You can browse public APIs from different sectors including schools, finance and corporate entities.



API

Challenges?

Key points:

- **Essential building blocks for modern digital services**
- **Seamless data sharing and reduce duplication**
- **Strategic asset, not just a technical tool**
- **More integrated citizen experiences**

> EOM

(end of message)

digitalpeople.blog.gov.uk/2024/09/17/get-cloud-certified-this-autumn

Get Cloud Certified this Autumn - applications now closed!

Martin Turner, Senior Change Delivery Manager, CDDO, 17 September 2024 - Capabilities, Community, Digital data and technology, Government Digital and Data, Skills and Learning, Training and progression

Introduction

Following the remarkable success of last October's Get Cloud Certified programme, the Central Digital and Data Office (CDDO) is pleased to announce the return of the programme, now featuring an expanded range of innovative training opportunities with a range of different cloud providers.

🙏 Thanks 🙏

- cns.me | talks.cns.me

- Platformland by Richard Pope
- Government as a Platform by Tim O'Reilly
- api.gov.uk

Chris Nesbitt-Smith

Q&A