APIs Design

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Hello

Prerequisites

Developers!

You'll be designing an interface for *"programmers"*

Perspective

Perspective of an API user over an API designer

Goal

Start asking - what are we trying to achieve?

Success

“Is measured by how quickly developers can get up to speed and start enjoying success using your API.”

REST

Software Architectural Style -
A.K.A The internet now a days

Resources

Use nouns not verbs!

/getAllMovies

/getMovies/<id>

/addMovie

/deleteMovie

/updateMovie/<id>

/getAllMovies

/getMovies/<id>

/addMovie

/deleteMovie

/updateMovieTitle/<id>

/updateMovieDirector/<id>

/updateMovieReleaseDate/<id>

/updateMovieDirectors/<id>

…


COLBERT

/movies

/movies/**<id>**

HTTP Verbs

GET, POST, PUT, PATCH, DELETE

GET /movies *list movies*

POST /movies *creates a movie*

PUT /movies/**<id>** *updates movie*

PATCH /movies/**<id>** *partially updates a movie*

DELETE /movies/**<id>** *removes a movie*

Chuck Norris

Plurals

/movies instead of **/movie**

Relationships

Be careful with nested relationships

Relationships

If a resource can only exist
within another resource:

GET /team/**<id>**/players *lists all players of an specific team*

GET /team/**<id>**/players/**<id>** *retrieves player of a team*

POST /team/**<id>**/players *creates a new player in a team*

PUT /team/**<id>**/players/**<id>** *updates player of a team*

DELETE /team/**<id>**/players/**<id>** *removes a player from a team*

Use `?`

```
GET /user?age=18&city=SFO
```

Filtering

Filter by fields, i.e:

```
GET /movies/?status=released
```

Sorting

```
GET /movies/?sort=-release_date,updated_at
```

Searching

```
GET /movies/?q=SOME_AWESOME_QUERY_TEXT
```

Aliases

For common queries, i.e:

GET /movies/released

Fields

Limiting the fields the API response contains.

GET /movies?**fields=id,directors,status**

Pagination

Limit the number of results per request

Pagination

```
GET /movies - 200 OK
{
  “status”: 200,
  “results”: [],
  “next”: “/movies?page=4”,
  “previous”: null,
}
```

Pagination

```
GET /movies?page=3 - 200 OK
{
  “status”: 200,
  “results”: [],
  “next”: “/movies?page=4”,
  “previous”: “/movies?page=2”,
}
```

Pagination with Metadata

```
GET /movies?page=3 - 200 OK
{
  “status”: 200,
  “results”: [],
  “total”: 94658,
  “next”: “/movies?page=4”,
  “previous”: “/movies?page=2”,
}
```

HTTP Status codes

HTTP Status codes

Use at least 3:

- 200 - Ok
- 400 - Bad request
- 500 - Internal Server Error

HTTP Status codes

Be gentle:

- 201 - Created
- 304 - Not modified
- 404 - Not found
- 401 - Unauthorized
- 403 - Forbidden

Return resource

Updates and creation should return a resource representation

```
POST /movies - 201 Created
{
  “id”: 1,
  “title”: “Inception”,
  “status”: “released”
}
```

Handle errors

Simple messages

```
{
  “code”: 845,
  “message”: “Invalid access token”,
  “description”: “The provided access token has
                  expired”
}
```

Validation messages

```
{
  “code”: 438,
  “message”: “Validation failed”,
  “errors”: [
    {
      “code”: 123,
      “field”: “title”,
      “message”: “title length must be less than 50”
    }…
  ]
}
```

Versioning

Specify the version on the URL, i.e:

```
GET /v1/movies
```

Subdomains

Consolidate API under one subdomain i.e:

api.gatos.io

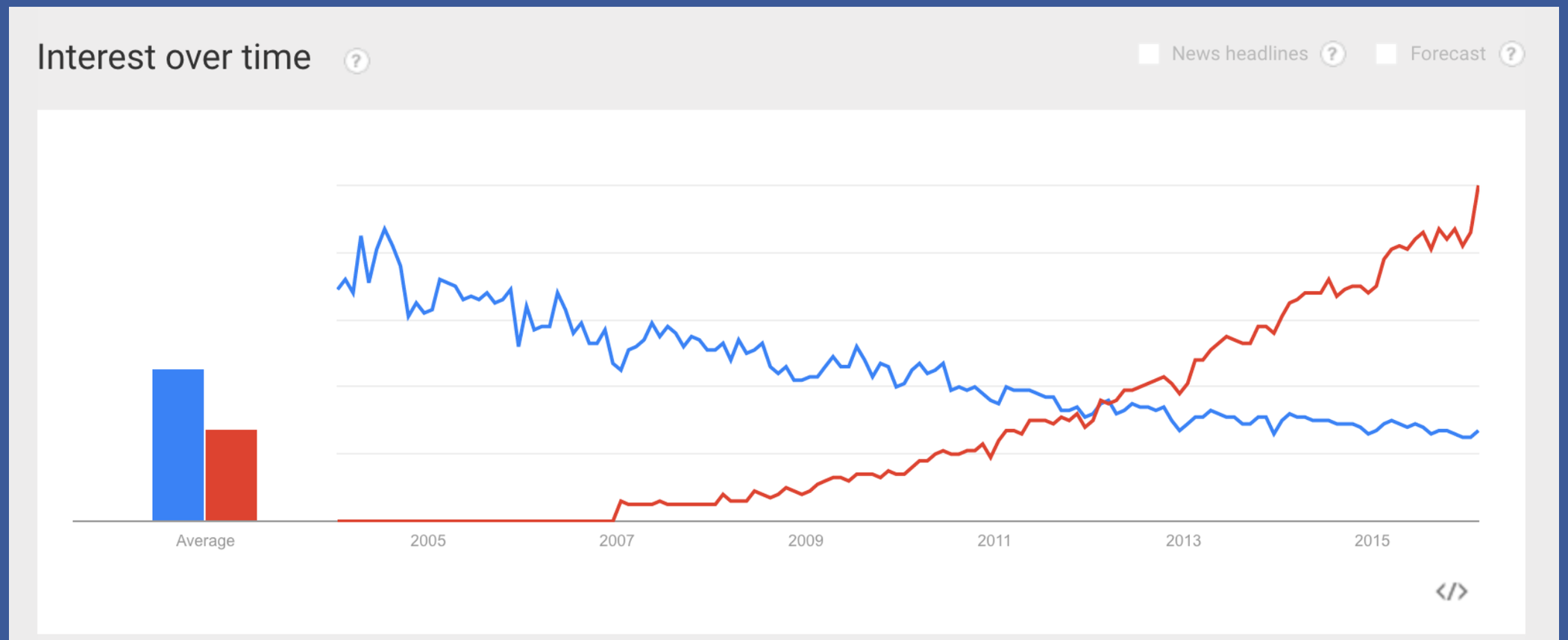
Stability & Consistency

JSON First

Set type on URL whenever its posible, i.e:

```
GET /movies?type=json
```

JSON First


Interest over time
News headlines
Forecast
Average
2005
2007
2009
2011
2013
2015

camelCase

vs

snake_case

camelCase VS snake_case

snake_case is **20%** easier to read than camelCase!

Authentication

RESTful APIs should be stateless. Access Tokens are always a good idea ;)

Browser

Browser explorable APIs are F**king
AWESOME!

Document your API!

Document your API!

Docs!

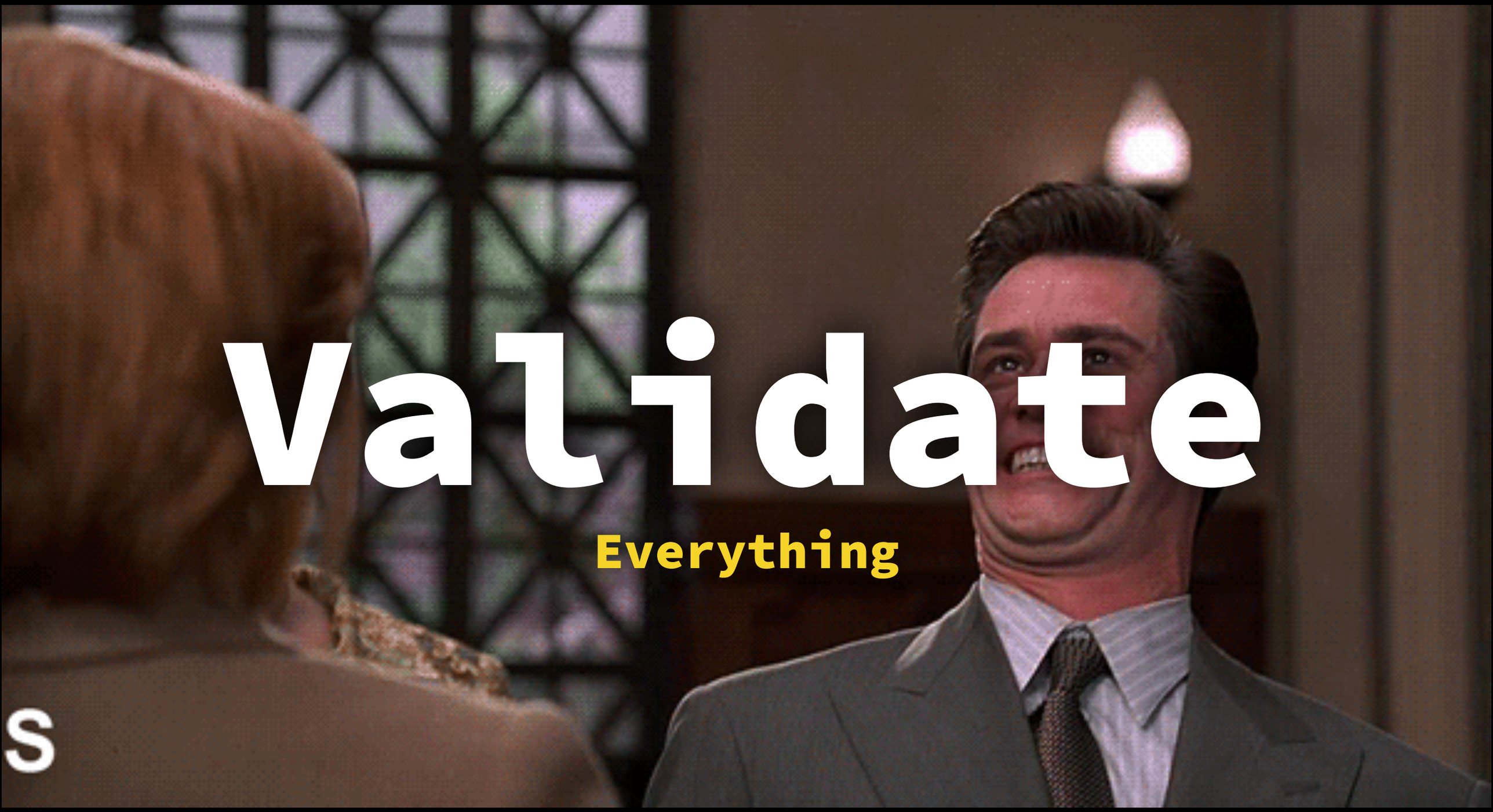
“One thing you hate more than having to write documentation is having to try to use an undocumented API”

Pro Tips


4GIFs.com
SSL
Everything

Cache

Everything


Validate
Everything


Protect Against
CSRF

Limit the

Requests


Complement with a
SDK

Gracias

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