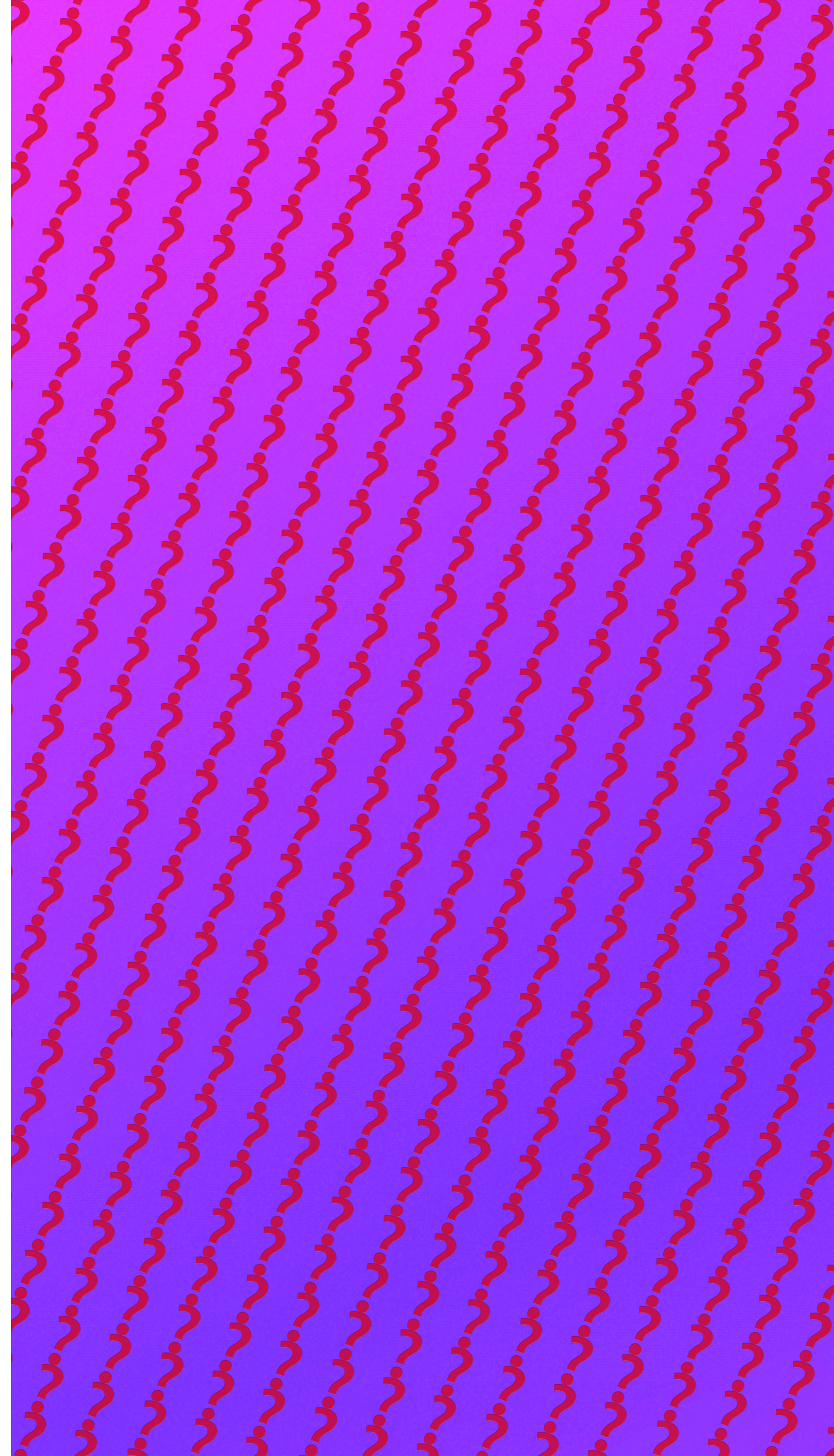


**GraphQL is a superpower for your
Product Manager and Designer**

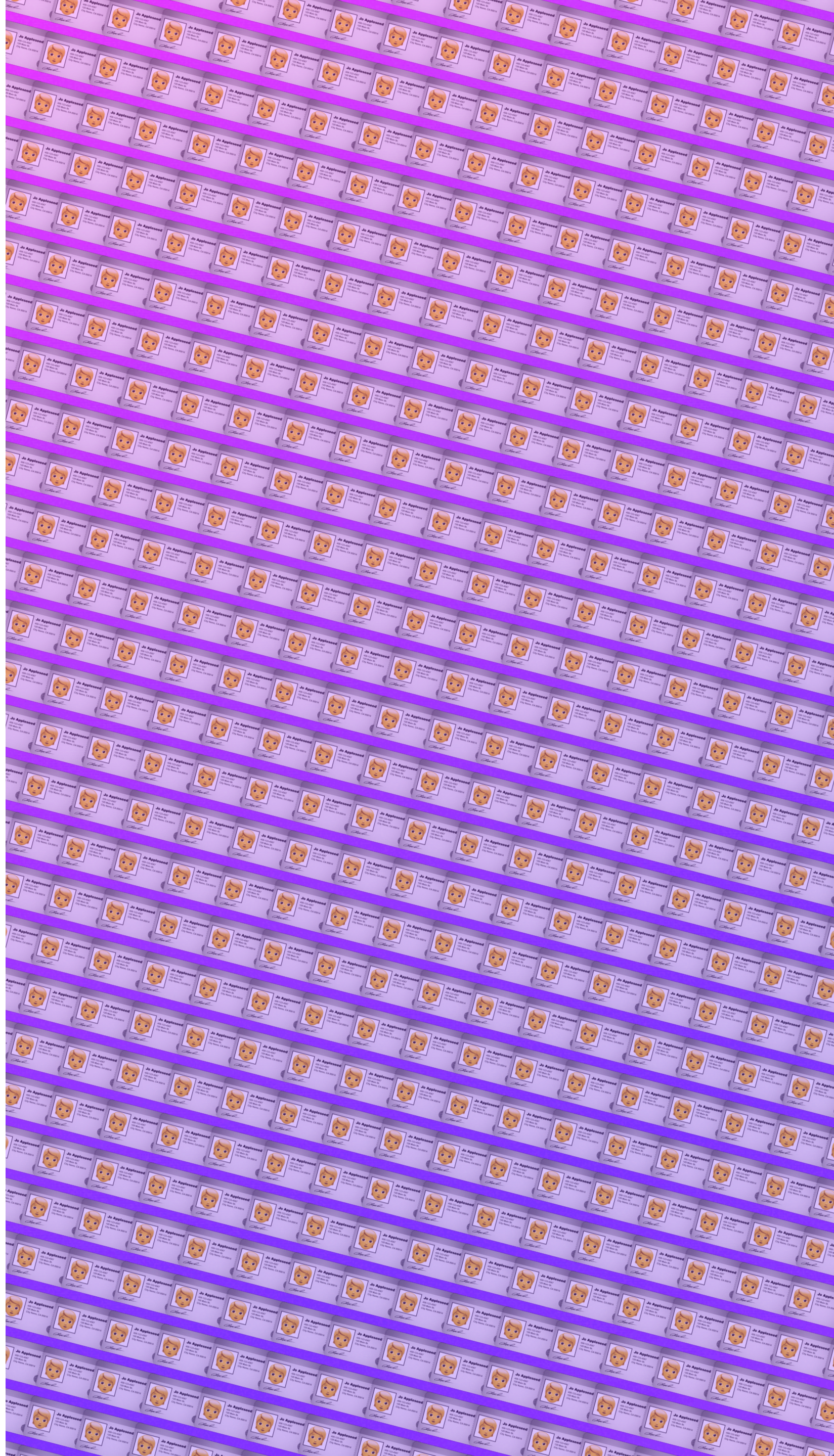
query

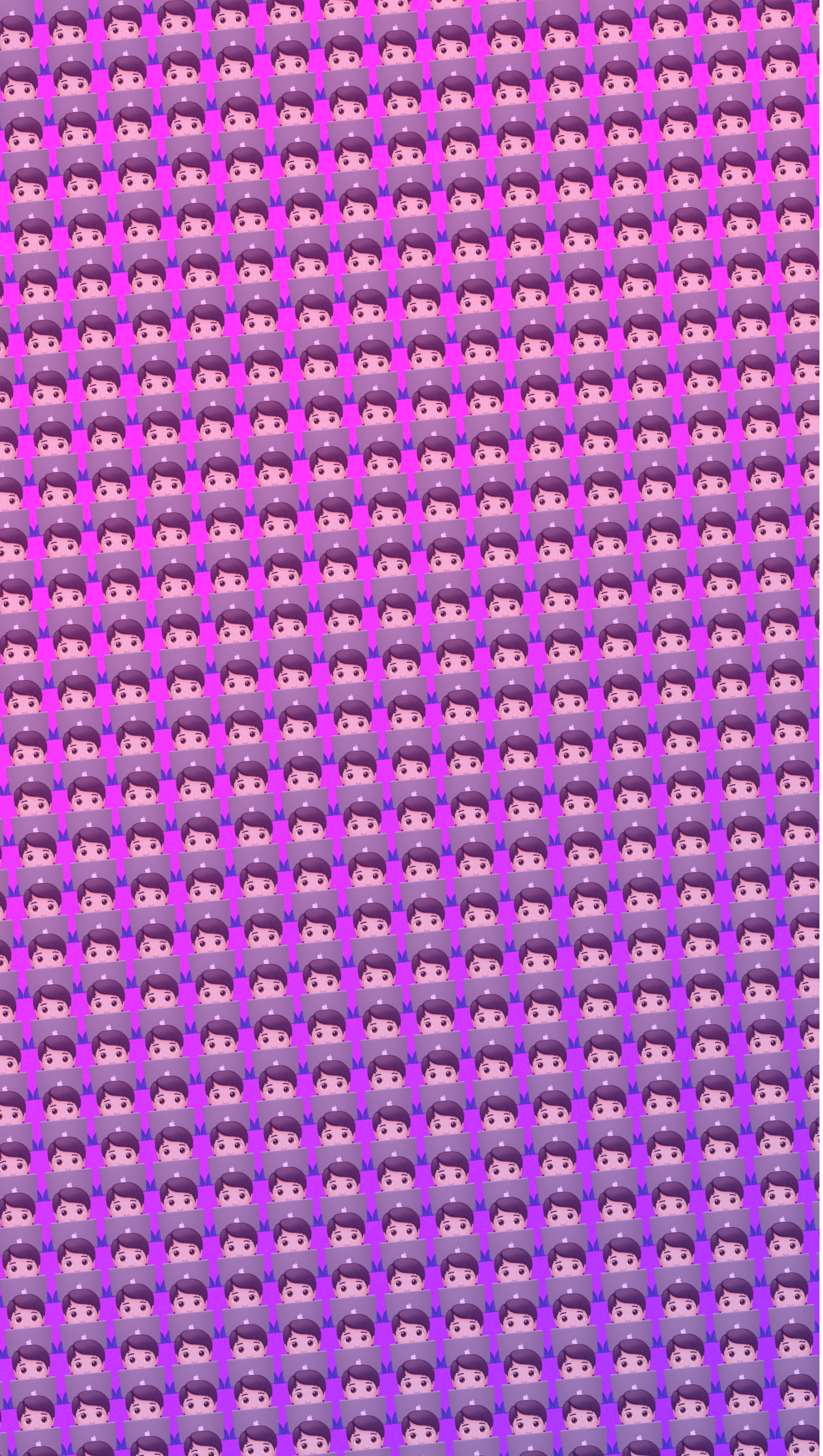




introspection

id





`__typename`



query



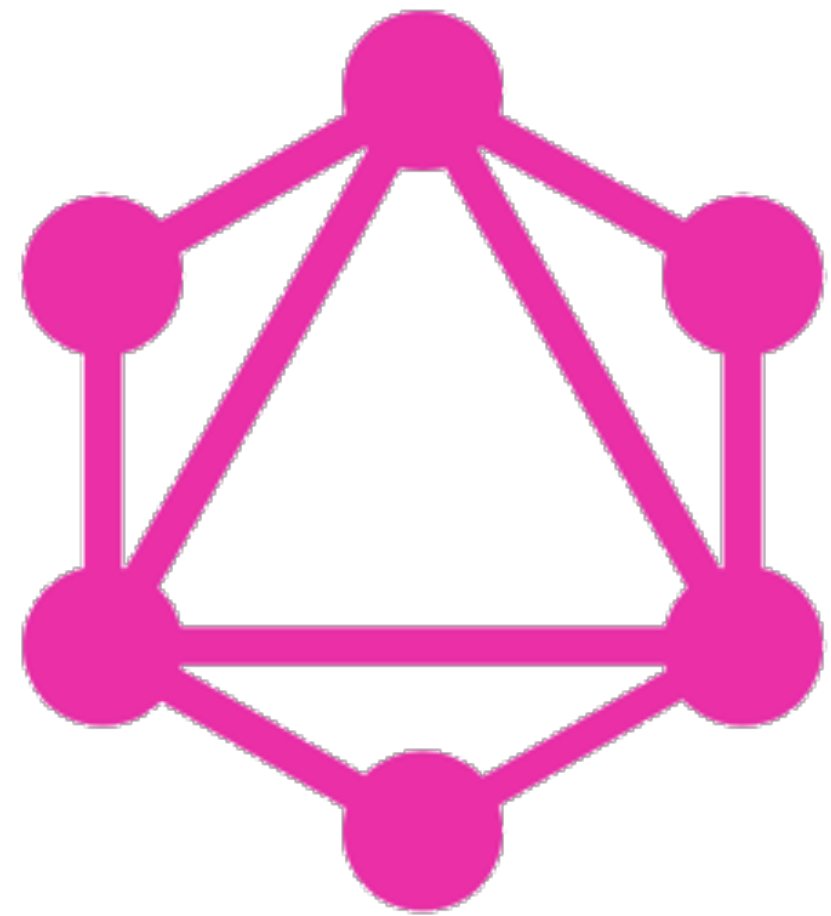
introspection



id



__typename



GraphQL

About this talk

No prior knowledge necessary.

Assumes that you value empowering cross-functional partners.

GraphQL's value can be felt by the whole team - not just eng!

Hi, I'm Jeff.

Jeff Auriemma (he/him)

- No superpowers :(
- Father of three, master of none
- Baking, Hiking, coffee-making
- EM @ Apollo GraphQL



GraphQL for designers

PLAYLIST




JeffQL

808s & Heartbreak



Music League · 15 songs



#	TITLE	ALBUM	DATE ADDED	🕒
1	 살다가 SG Wannabe	살다가	Aug 30, 2023	4:43
2	 How Close We Came Dan Croll	Talk To You	Aug 30, 2023	4:42
3	 Something About Us	Discovery	Aug 30, 2023	3:52

```
# traditional JSON API
```

```
curl -X GET \
```

```
  --url https://api.musicapp.dev/playlists/1
```

```
# traditional JSON API
curl -X GET \
  --url https://api.musicapp.dev/playlists/1
```

```
// server response
{
  "collaborative": false,
  "description": "string",
  "external_urls": {
    "spotify": "string"
  },
  "followers": {
    "href": "string",
    "total": 0
  },
  "href": "string",
  "id": "string",
  "images": [
    {
      "url": "https://i.scdn.co/image/ab67616d00001e02ff9ca10b55ce82ae553c8228",
      "height": 300,
      "width": 300
    }
  ],
  "name": "string",
  "owner": {
    "external_urls": {
      "spotify": "string"
    },
    "followers": {
      "href": "string",
      "total": 0
    },
    "href": "string",
    "id": "string",
    "type": "user",
    "uri": "string",
    "display_name": "string"
  },
  "public": false,
  "snapshot_id": "string",
  "tracks": {
    "href": "https://api.spotify.com/v1/me/shows?offset=0&limit=20",
    "limit": 20,
    "next": "https://api.spotify.com/v1/me/shows?offset=1&limit=1",
    "offset": 0,
    "previous": "https://api.spotify.com/v1/me/shows?offset=1&limit=1",
    "total": 4,
    "items": [
```

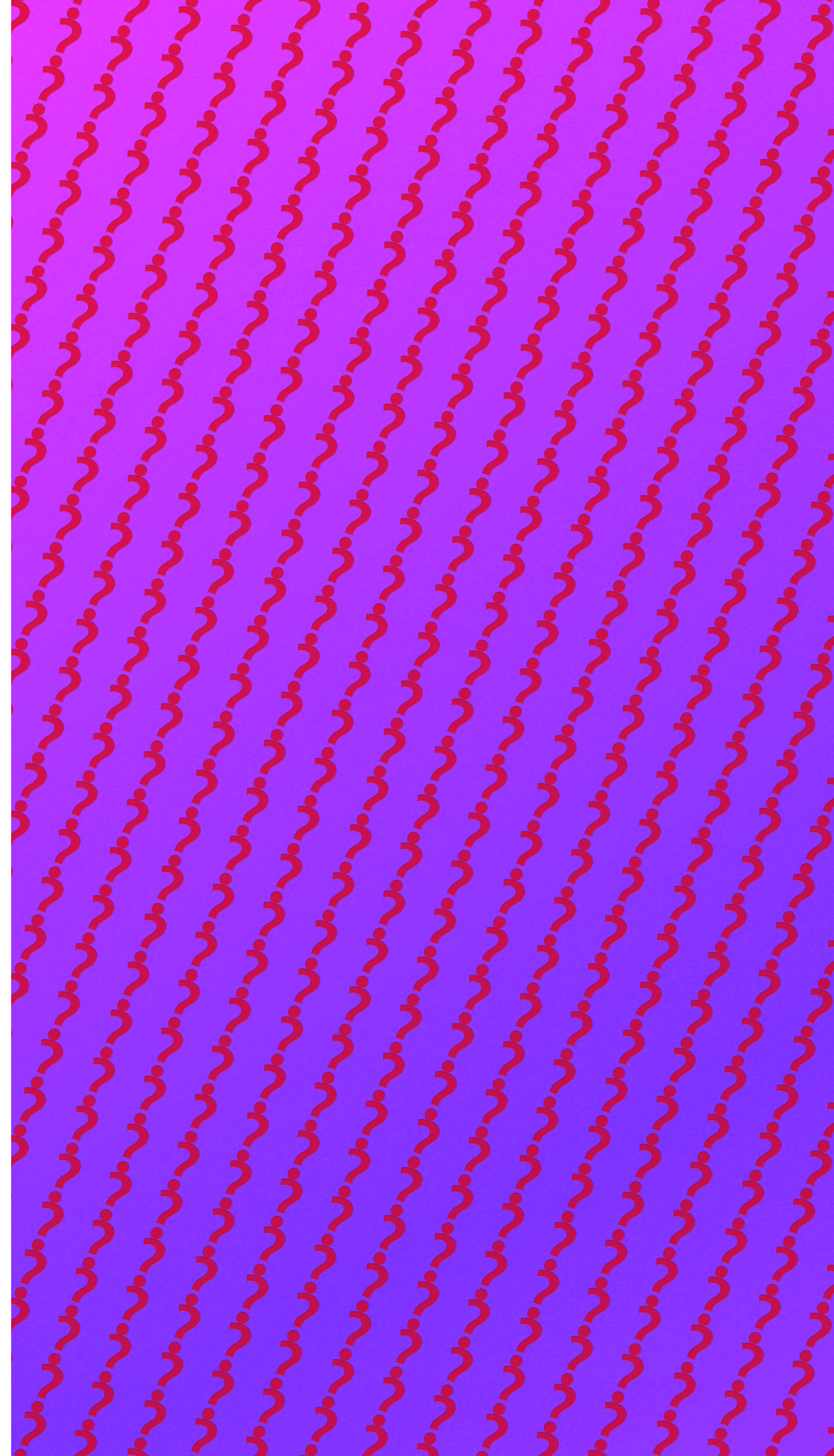
```
# GraphQL API
curl -X POST \
  --url https://api.musicapp.dev/graphql \
  --data '{
    "variables": { "playlistId": "1" },
    "query": "query ($playlistId: ID!) {
      playlist(id: $playlistId) {
        name
      }
    }"
  }'
```

```
# GraphQL API
curl -X POST \
  --url https://api.musicapp.dev/graphql \
  --data '{
    "variables": { "playlistId": "1" },
    "query": "query ($playlistId: ID!) {
      playlist(id: $playlistId) {
        name
      }
    }"
  }'
```

```
// server response
```

```
{
  "data": {
    "playlist": {
      "name": "808s & Heartbreak 💔"
    }
  }
}
```

query



Documentation

Root > Query > playlist

← **playlist: Playlist** ✓

A playlist owned by a Spotify user.

Arguments

- ✓ id: ID!

Metadata for Playlist Type

Information about a playlist owned by a Spotify user

Fields

- ✓ collaborative: Boolean!
- + description: String
- + externalUrls: ExternalUrl!
- + id: ID!
- + images: [Image!]!
- ✓ name: String!
- + owner: User!
- ✓ public: Boolean
- + tracks(...): PlaylistTrackConnect...
- + uri: String!

Operation

```
1 query PlaylistQuery($playlistId: ID!) {
2   playlist(id: $playlistId) {
3     name
4     collaborative
5     public
6   }
7 }
```

Variables

```
1 {
2   "playlistId": "7kVaqk5RLMnFlPyRnvhES4"
3 }
```

JSON

+ Add files

Response

STATUS 200 | 337ms | 56B

```
{
  "data": {
    "playlist": {
      "name": "808s & Heartbreak 📖"
    }
  }
}
```

**GraphQL IDEs are great for the
design process.**

Your Library

Liked Songs
Playlist · Spotify

Your Episodes
Playlist · Spotify

GraphQLConf 2023
Playlist · JeffQL

Vacation 🌴🍹
Playlist · Music League

808s & Heartbreak 💔
Playlist · Music League

Numbers 1/34
Playlist · Music League

Surprise, surprise 📺
Playlist · Music League







PLAYLIST

808s & Heartbreak 💔

Music League · 15 songs



#	TITLE	ALBUM	🕒
1	 살다가 SG Wannabe	살다가	4:43
2	 How Close We Came Dan Croll	Talk To You	4:42
3	 Something About Us Daft Punk	Discovery	3:52
4	 Little Wanderer Death Cab for Cutie	Kintsugi	4:18





Designer



Eng

Fake MESSENGER

Fake MESSENGER

*I need answers and I'm
blocked until I have them*



Ok thanks 😊

*Isn't there a simpler way to
get this information?*

*The design review is tomorrow
and I need it to go well*



SANDBOX

● http://localhost:3000/graph 

Publish




Documentation

Root



Root Types

- query: Query 
- mutation: Mutation
- subscription: Subscription



introspection

introspection

available fields and mutations

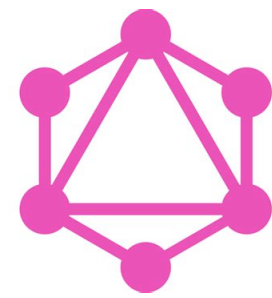
The act of looking inward; a view of the ~~inside or interior~~; specifically, the act of directly observing the states and processes of one's own ~~mind~~; examination of ~~one's own thoughts or feelings~~.

GraphQL API

the full read and write capabilities of your entire service

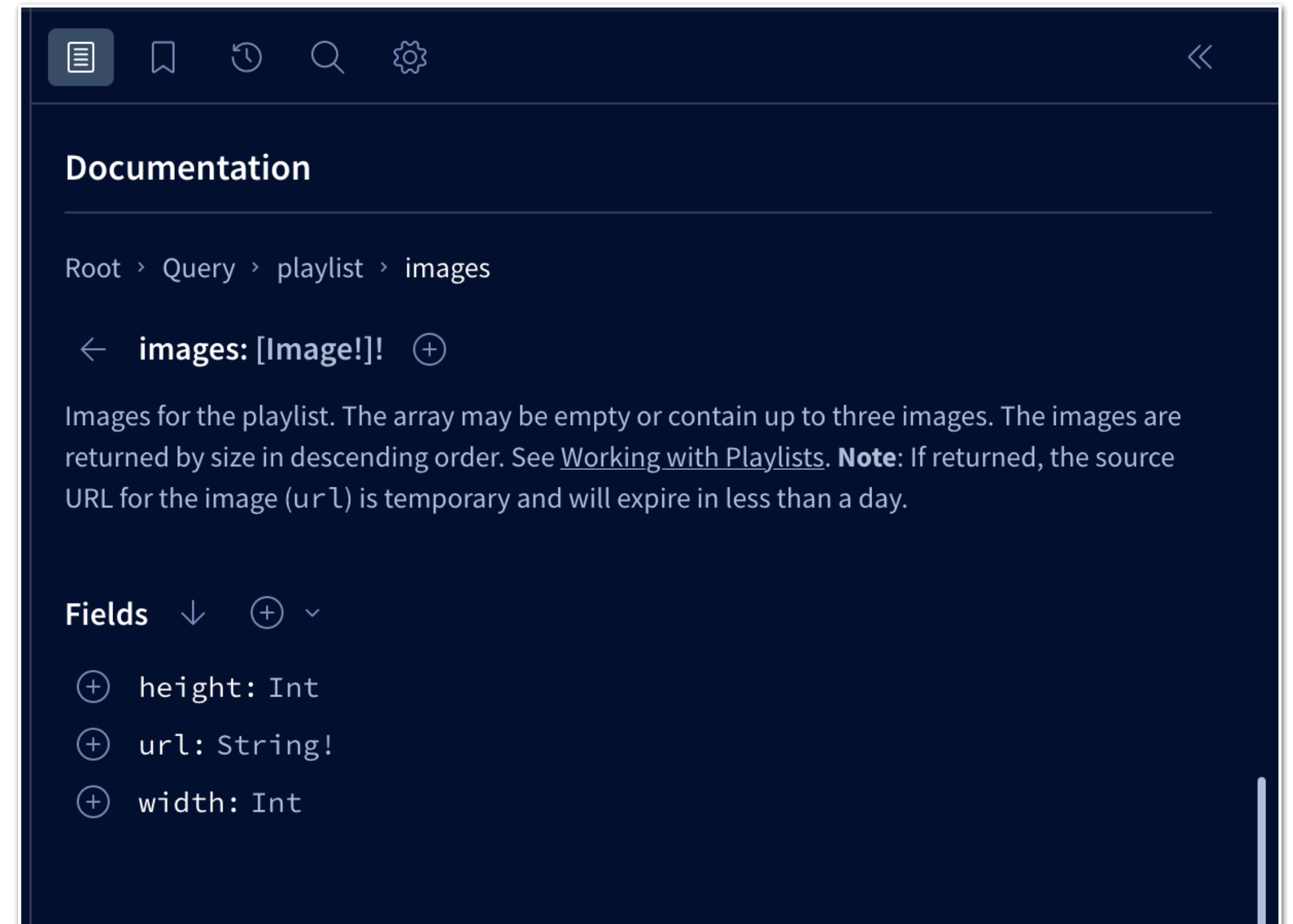
- ~~The Dictionary~~ GraphQL Specification (paraphrased)

GraphQL APIs are understood through introspection.



schema.graphql

```
"""
  Images for the playlist. The array may be empty or contain up to
  three images.
  The images are returned by size in descending order.
  See [Working with Playlists](https://developer.spotify.com
  /documentation/general/guides/working-with-playlists/).
  **Note**: If returned, the source URL for the image (`url`) is
  temporary and
  will expire in less than a day.
  """
  images: [Image!]!
```



The screenshot shows a dark-themed interface with a top navigation bar containing icons for a menu, bookmark, refresh, search, and settings. Below the navigation bar is a section titled "Documentation" with a breadcrumb trail: "Root > Query > playlist > images". Underneath, there is a back arrow, the text "images: [Image!]!", and a plus icon. A paragraph of text follows: "Images for the playlist. The array may be empty or contain up to three images. The images are returned by size in descending order. See [Working with Playlists](\"https://developer.spotify.com/documentation/general/guides/working-with-playlists/). **Note:** If returned, the source URL for the image (url) is temporary and will expire in less than a day." Below this text is a section titled "Fields" with a downward arrow, a plus icon, and a dropdown arrow. It lists three fields: "height: Int", "url: String!", and "width: Int", each preceded by a plus icon.

Introspection query

GraphQL is a superpower for your **designer**.

query + introspection = self-documenting APIs

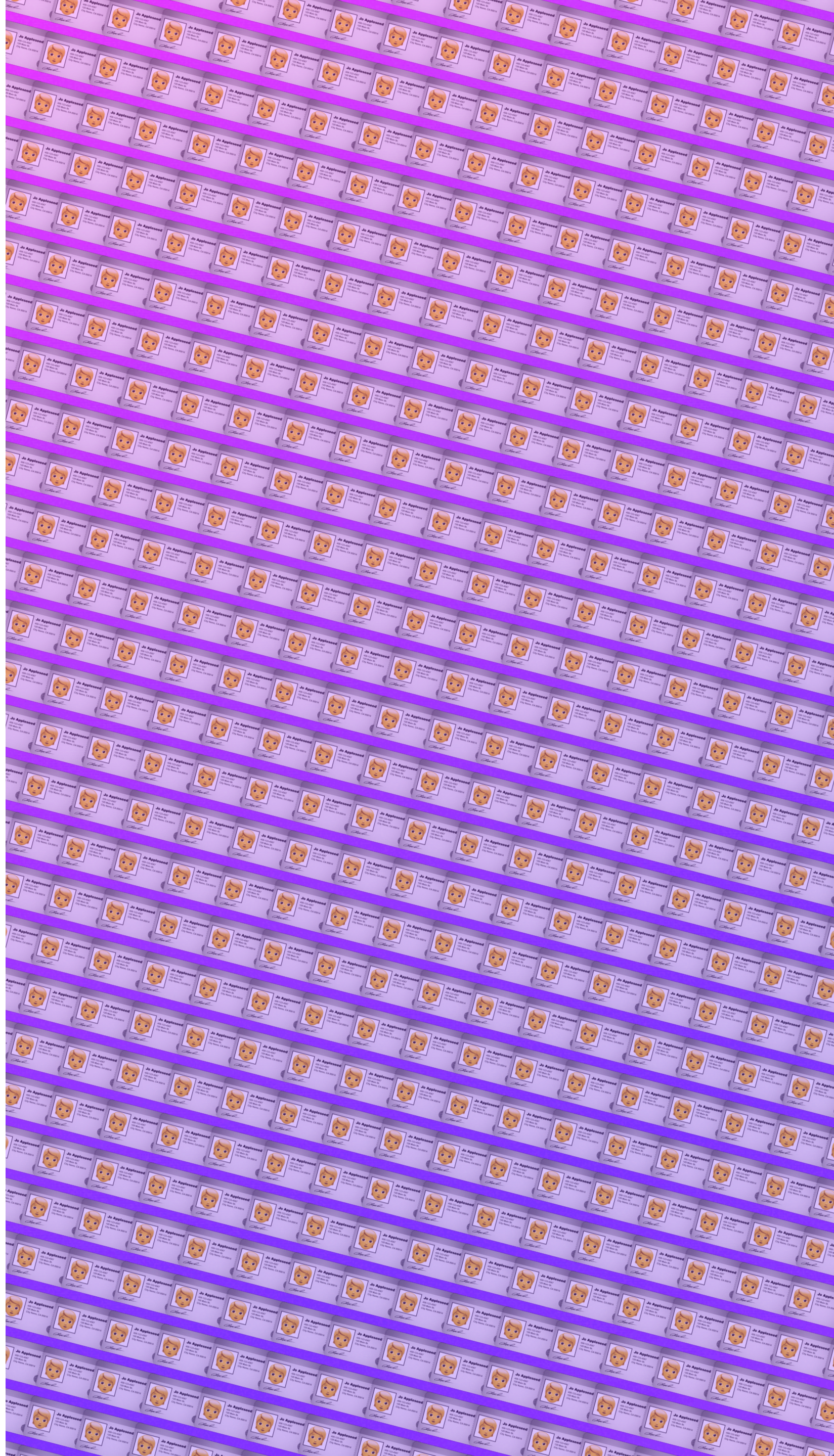
Easy-to-use tools

Self-service, reducing interruptions

Focus on what matters

GraphQL for PMs

id







GET `/playlists/:id`

GET /playlists/1







TITLE

- 1  살다가
SG Wannabe
- 2  How Close We Came
Dan Croll
- 3  Something About Us
Daft Punk
- 4  Little Wanderer



TITLE

- 1  살다가
SG Wannabe
- 2  How Close We Came
Dan Croll
- 3  Something About Us
Daft Punk
- 4  Little Wanderer

```
GET /playlists/1
```

```
{
```

```
  "name": "808s & Heartbreak 💔",
```

```
  "songs": [  
    // ...
```

```
    {
```

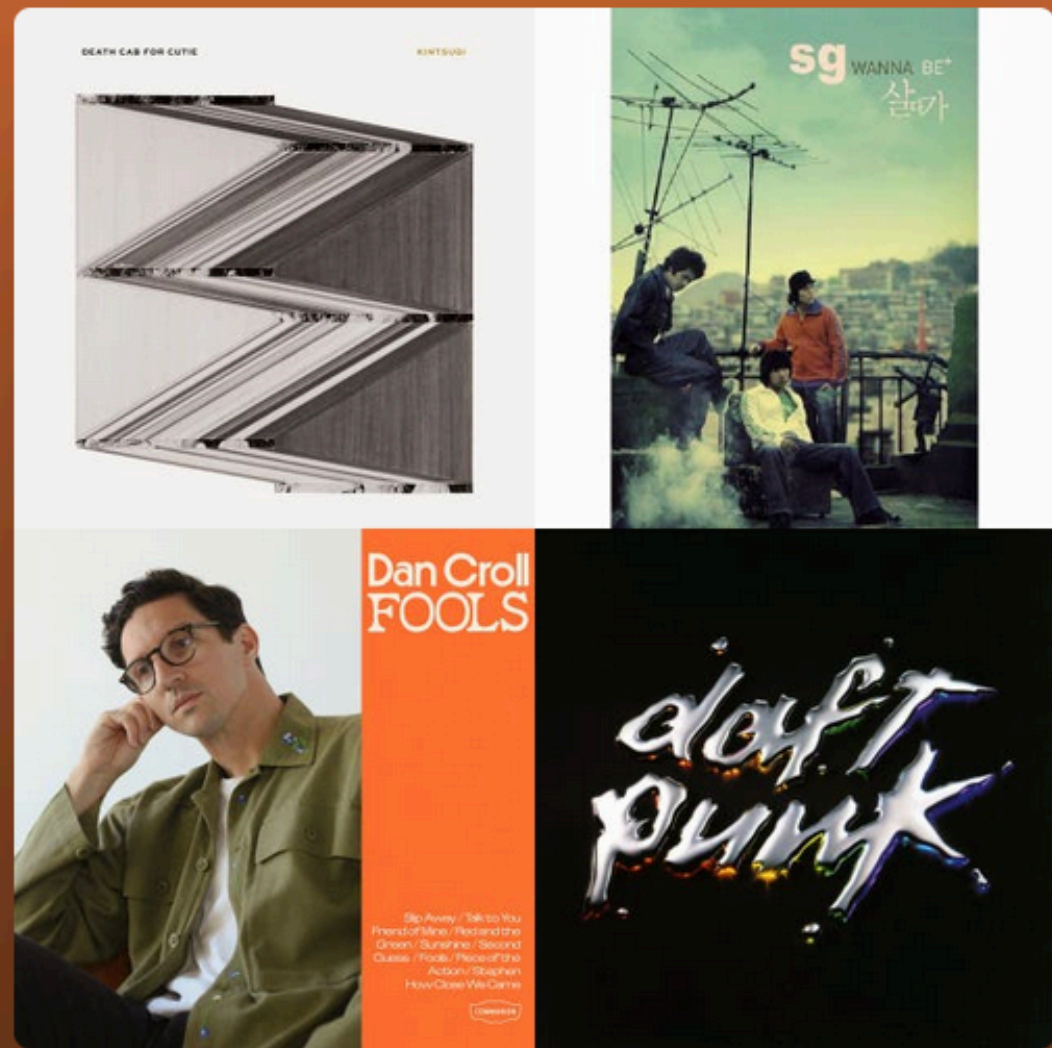
```
      {
```

```
        "title": "Something About Us",
```

```
        // ...
```

```
      }  
    ]
```

```
}
```



SONG

Something About Us

Daft Punk · 3:52



ALBUM

Discovery

Daft Punk · 2001 · 14 songs

Daft Punk

9,686,064 followers

Popular

- 1 Get Lucky (Radio Edit) [feat. Pharrell Williams, Nile Rodgers]
- 2 One More Time
- 3 Instant Crush (feat. Julian Casablancas)
- 4 Get Lucky (feat. Pharrell Williams, Nile Rodgers)
- 5 Around the World

Albums



TITLE


- 1 살다가
SG Wannabe
- 2 How Close We Came
Dan Croll
- 3 Something About Us
Daft Punk
- 4 Little Wanderer
Death Cab for Cutie



Like by Daft Punk

aster, Stronger

SONG

 JeffQL ▾

Something About Us

Daft Punk · 3:52



Daft Punk

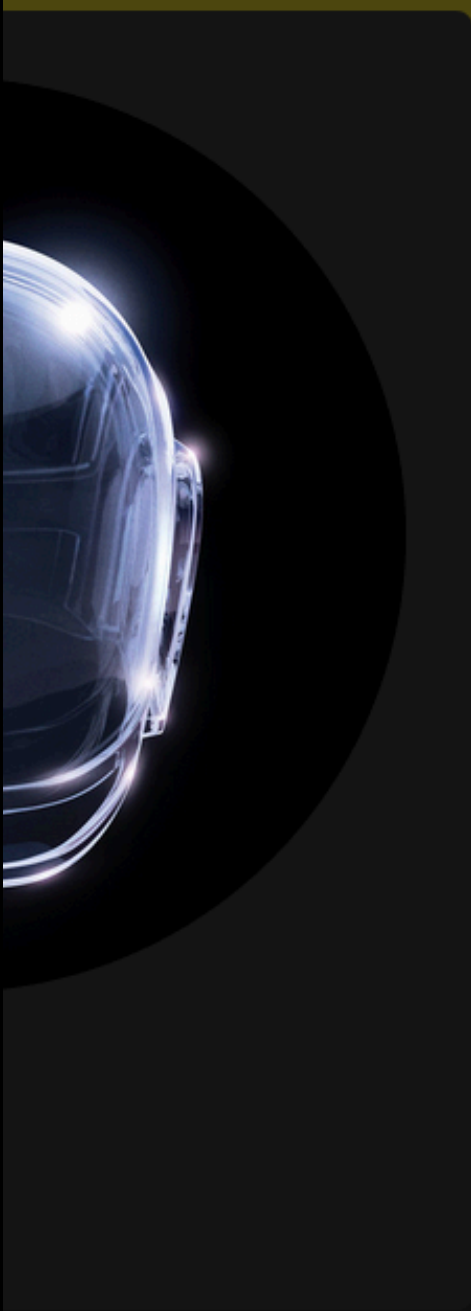
Artist



SONG

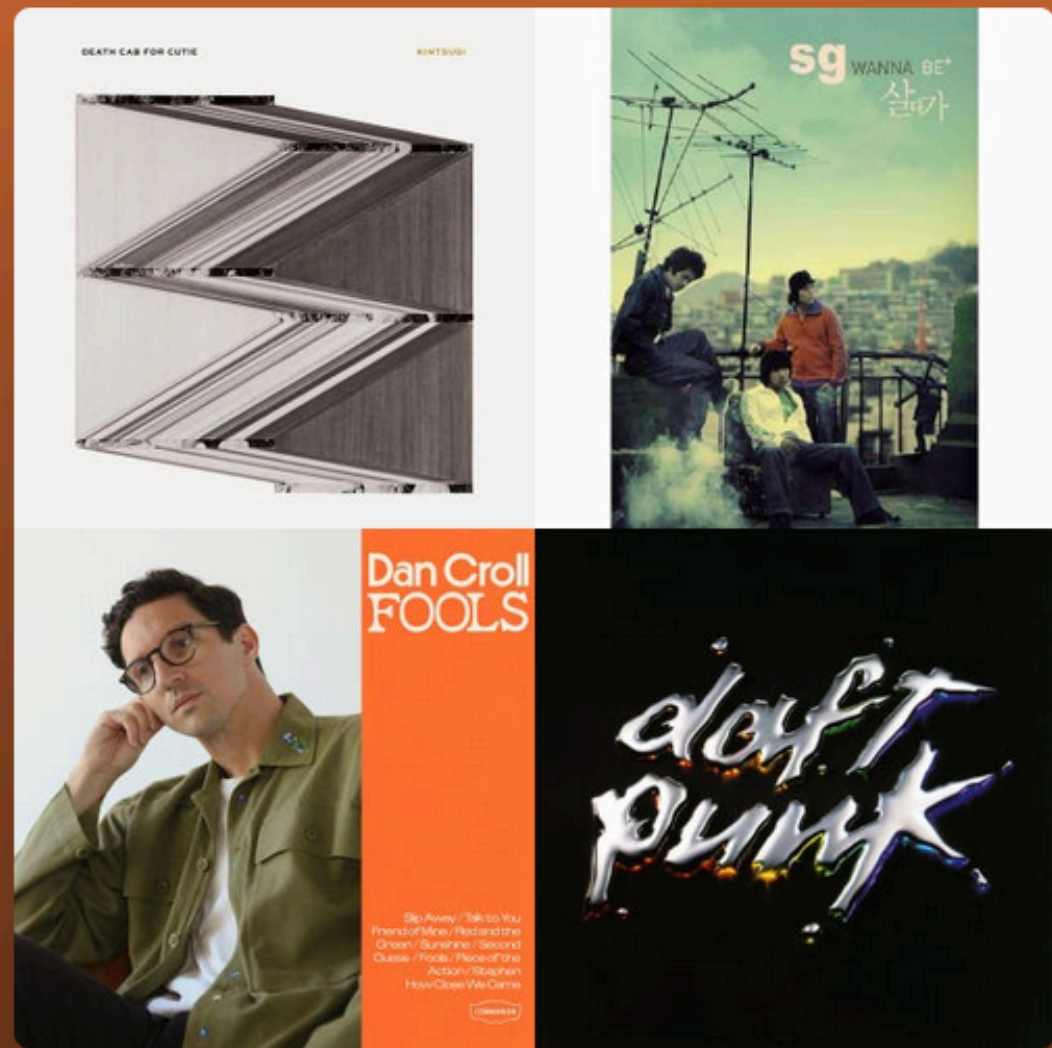
Something About Us

Daft Punk · 3:52

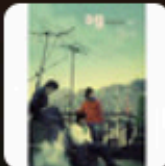





```
GET /songs/2
```

```
{  
  "title": "Something About Us",  
  // ...  
  "album": {  
    "title": "Discovery",  
    // ...  
  }  
}
```



TITLE

- 1  살다가
SG Wannabe
- 2  How Close We Came
Dan Croll
- 3  Something About Us
Daft Punk
- 4  Little Wanderer



SONG

Something About Us

Daft Punk · 3:52



Something About Us by Daft Punk



ALBUM

Discovery






Daft Punk · 2001 · 14 songs

Something About Us by Daft Punk

Daft Punk

9,686,064 followers

Popular

- 1  Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers]
- 2  One More Time
- 3  Instant Crush (feat. Julian Casablancas)
- 4  Get Lucky (feat. Pharrell Williams and Nile Rodgers)
- 5  Around the World

Albums






ALBUM

Discovery

Daft Punk · 2001 · 14 songs



#	TITLE	
1	One More Time Daft Punk	5:20
2	Aerodynamic Daft Punk	3:32
3	Digital Love	5:01



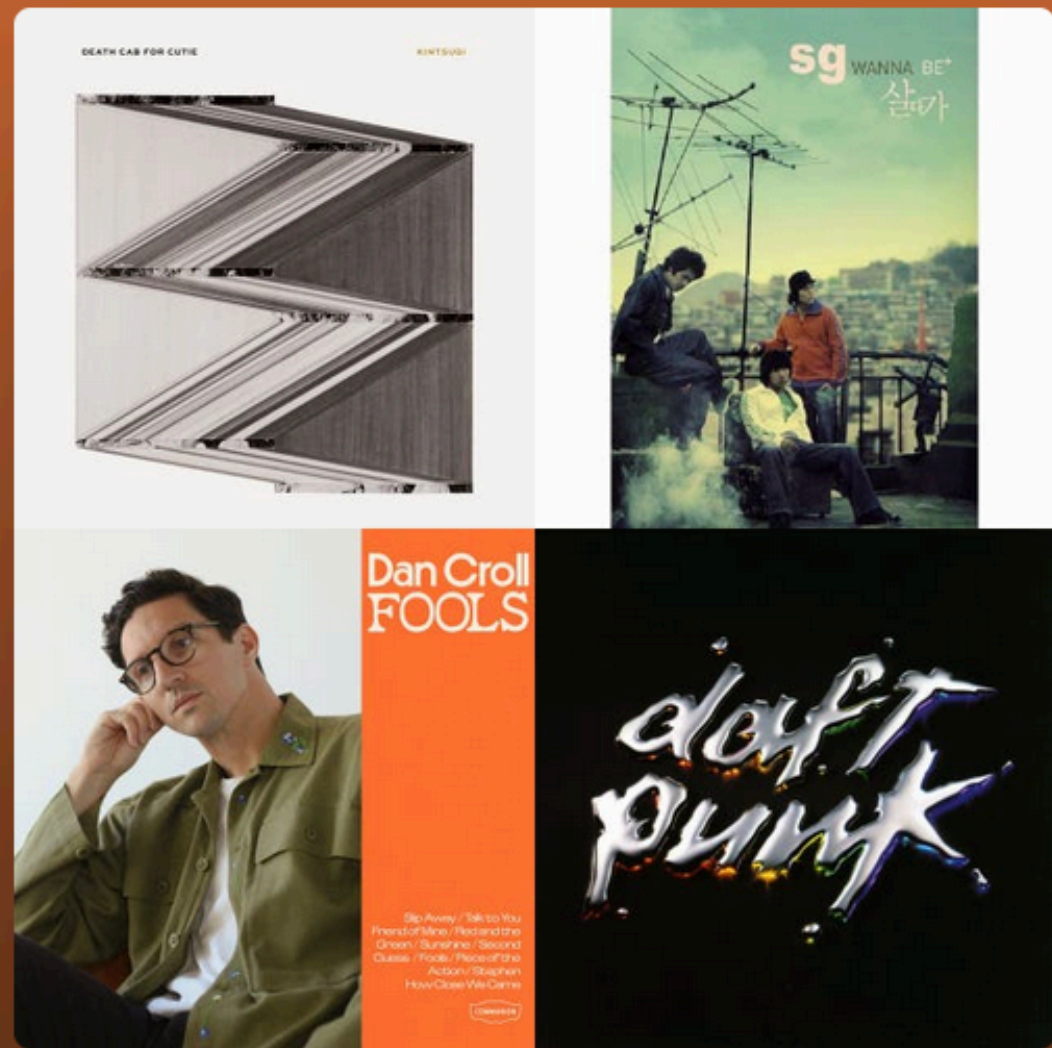
ALBUM

Discovery

Daft Punk · 2001 · 14 songs

```
GET /albums/3
```

```
{  
  "title": "Discovery",  
  "year": 2001,  
  "artist": {  
    "name": "Daft Punk",  
    // ...  
  }  
  // ...  
}
```



SONG

Something About Us

Daft Punk · 3:52



ALBUM

Discovery

Daft Punk · 2001 · 14 songs

Daft Punk

9,686,064 followers

Popular

- 1 Get Lucky (Radio Edit) [feat. Pharrell Williams, Nile Rodgers]
- 2 One More Time
- 3 Instant Crush (feat. Julian Casablancas)
- 4 Get Lucky (feat. Pharrell Williams, Nile Rodgers)
- 5 Around the World

Albums



TITLE

- 1 살다가
SG Wannabe
- 2 How Close We Came
Dan Croll
- 3 Something About Us
Daft Punk
- 4 Little Wanderer



Albums by Daft Punk

Albums by Daft Punk






Daft Punk



JeffQL ▾

9,686,064 followers

Popular






-  1 **Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers]** 4:08
-  2 **One More Time** 5:20
-  3 **Instant Crush (feat. Julian Casablancas)** 5:37
-  4 **Get Lucky (feat. Pharrell Williams and Nile Rodgers)** 6:09
-  5 **Around the World** 7:09

Albums

Daft Punk

9,686,064 followers

Popular

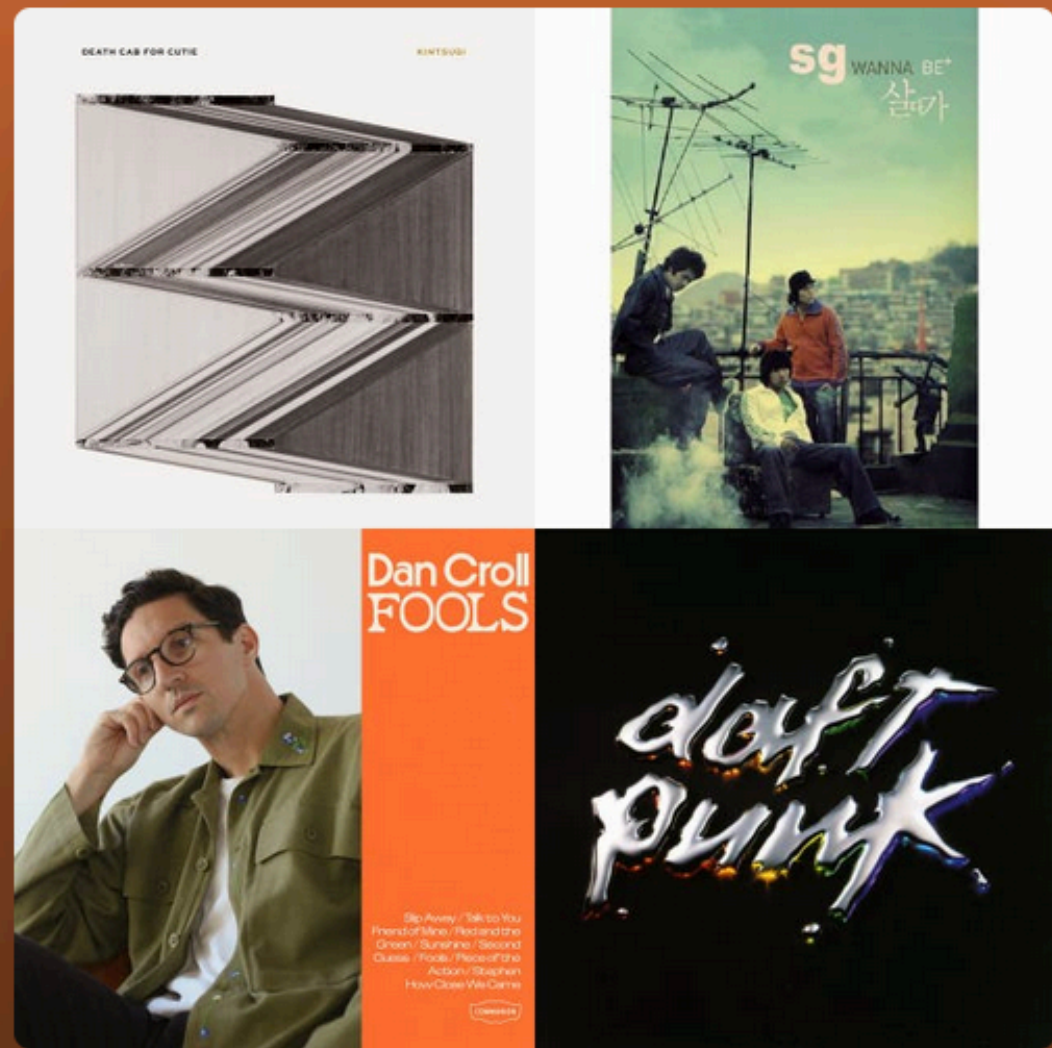
-  1 Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers]
-  2 One More Time
-  3 Instant Crush (feat. Julian Casablancas)
-  4 Get Lucky (feat. Pharrell Williams and Nile Rodgers)
-  5 Around the World

Albums

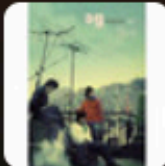





```
GET /artists/4
```

```
{  
  "name": "Daft Punk",  
  "followerCount": 9686064,  
  "popularSongs": [...],  
  "albums": [...],  
}
```

TITLE

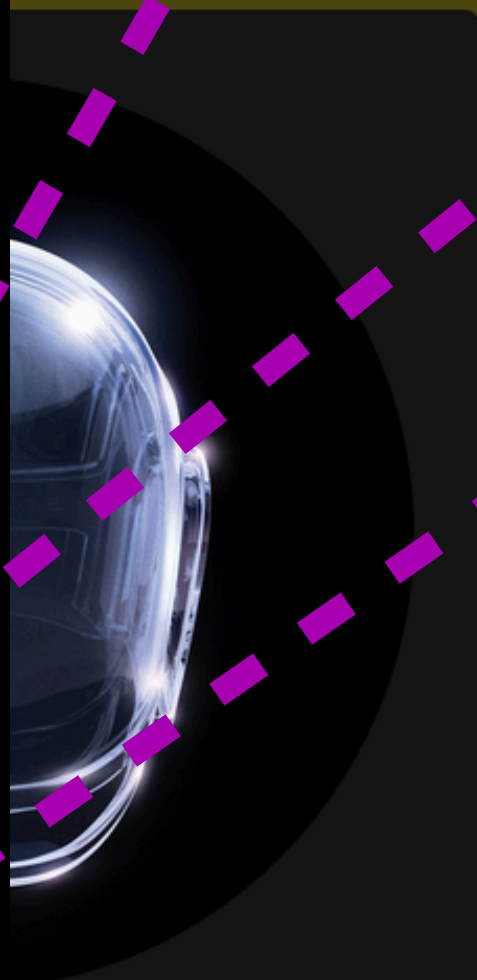
- 1  살다가
SG Wannabe
- 2  How Close We Came
Dan Croll
- 3  Something About Us
Daft Punk
- 4  Little Wanderer



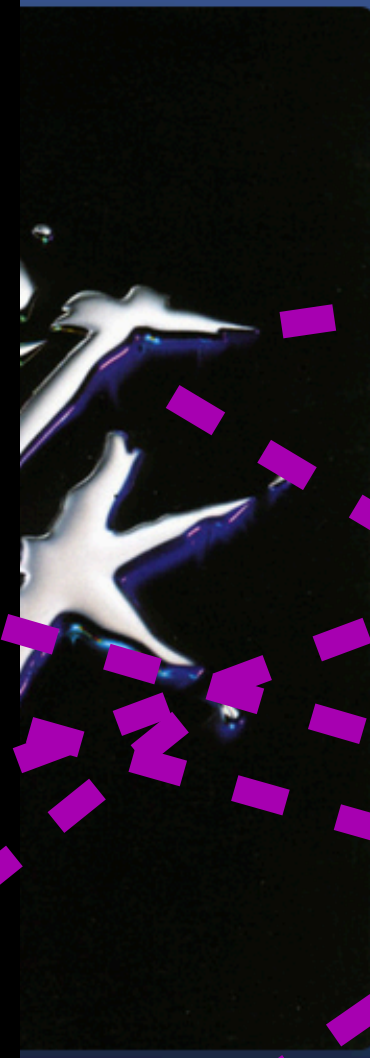
SONG

Something About Us

Daft Punk · 3:52



Something About Us by Daft Punk



ALBUM

Discovery






Daft Punk · 2001 · 14 songs

Something About Us by Daft Punk

Daft Punk

9,686,064 followers

Popular

- 1  Get Lucky (Radio Edit) [feat. Pharrell Williams & Nile Rodgers]
- 2  One More Time
- 3  Instant Crush (feat. Julian Casablancas)
- 4  Get Lucky (feat. Pharrell Williams & Nile Rodgers)
- 5  Around the World

Albums





PM



Eng

Fake MESSENGER

فك MESSENGER

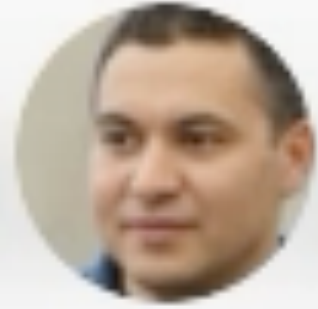
Should I stand up a new service for this?

About two months



I'm going to have to write a bunch of conditionals

No matter what, I'll need a few new dashboards



PM



Eng

Great thanks!

By the way, we're looking at a new A/B test. We want to try showing upcoming tour dates on the Artist page - how long do you think that would take?

About two months

Fake MESSENGER

Fake MESSENGER

*This seems simple, why
such a long estimate?*



Ok thanks 😊

*Is there really nowhere we
can cut scope?*

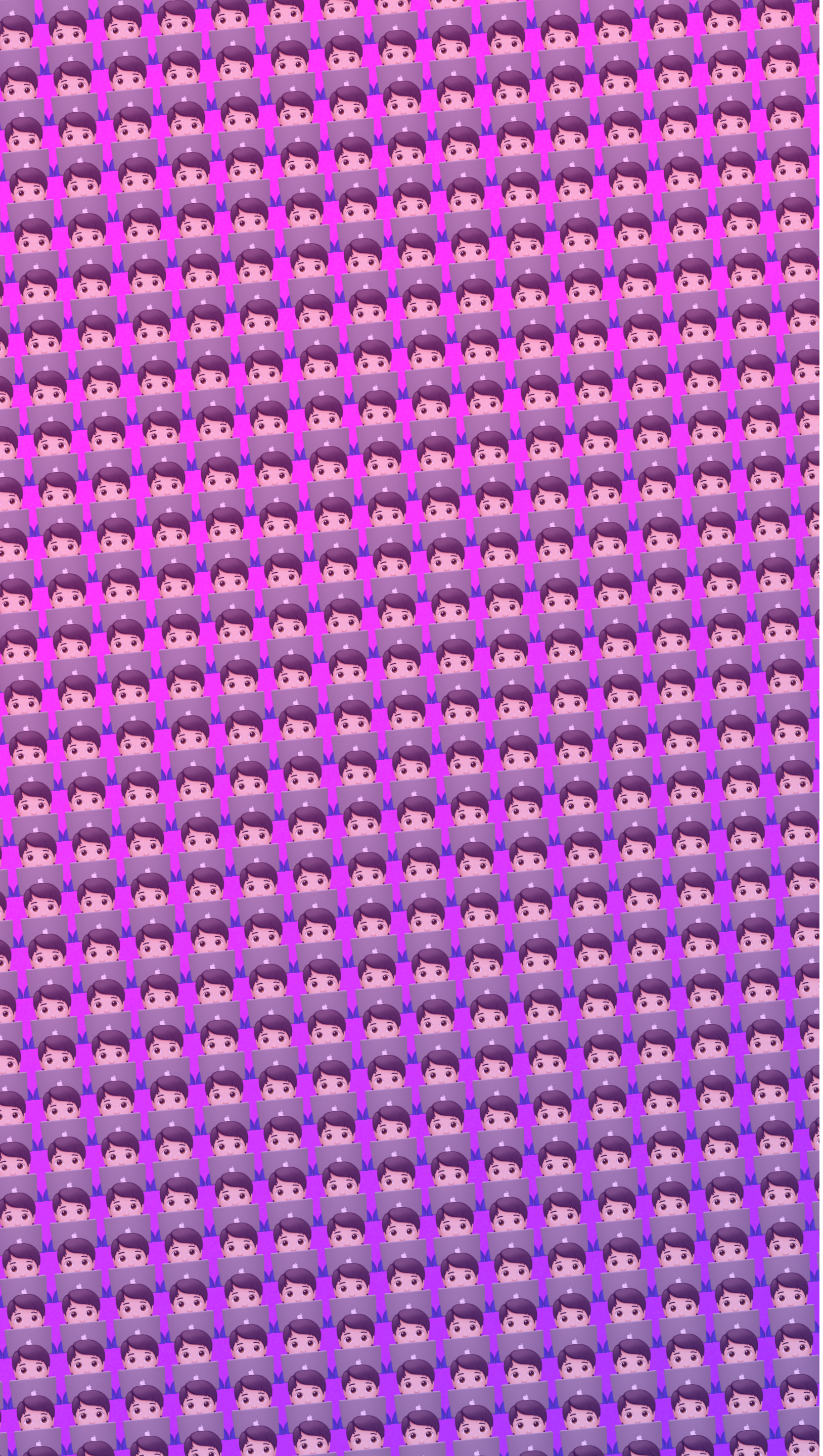
*How am I going to explain this
to my Director?*

Tight coupling is a **Product problem**.

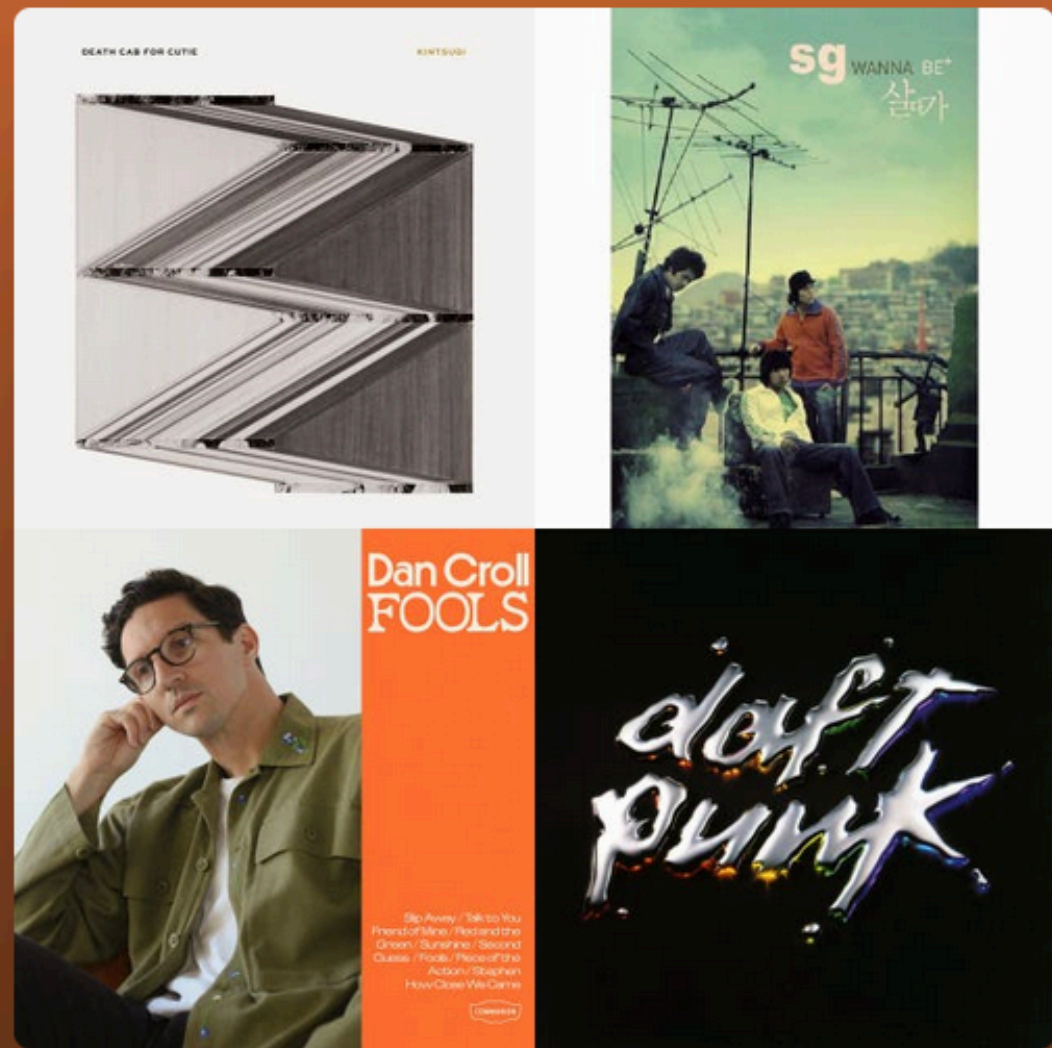
Development takes longer.

Experimentation is more difficult.

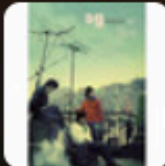



Data shape and UI structure should be decoupled.



__typename



TITLE

- 1  살다가
SG Wannabe
- 2  How Close We Came
Dan Croll
- 3  Something About Us
Daft Punk
- 4  Little Wanderer



SONG

Something About Us

Daft Punk · 3:52



Something About Us by Daft Punk



ALBUM

Discovery






Daft Punk · 2001 · 14 songs

Discovery by Daft Punk

Daft Punk

9,686,064 followers

Popular





- 1  Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers]
- 2  One More Time
- 3  Instant Crush (feat. Julian Casablancas)
- 4  Get Lucky (feat. Pharrell Williams and Nile Rodgers)
- 5  Around the World

Albums





TITLE

- 1  살다가
SG Wannabe
- 2  How Close We Came
Dan Croll
- 3  Something About Us
Daft Punk
- 4  Little Wanderer

```
query {
  playlist(id: "1") {
    id
    __typename
    name
    images { url }
    songs {
      id
      __typename
      title
      album {
        id
        __typename
        title
        images { url }
      }
      artist {
        id
        __typename
        name
      }
    }
  }
}
```

```
query {
  playlist(id: "1") {
    id
    __typename
    name
    images { url }
    songs {
      id
      __typename
      title
      album {
        id
        __typename
        title
        images { url }
      }
      artist {
        id
        __typename
        name
      }
    }
  }
}
```

```
{
  "data": {
    "playlist": {
      "id": "1",
      "__typename": "Playlist",
      "name": "808s & Heartbreak 💔",
      "images": [
        {
          "url": "https://foo.bar/image.jpg"
        }
      ],
      "songs": [
        // ...
        {
          "id": "2",
          "__typename": "Song",
          "name": "Something About Us",
          "album": {
            "id": "3",
            "__typename": "Album",
            "name": "Discovery"
          },
          "artist": {
            "id": "4",
```

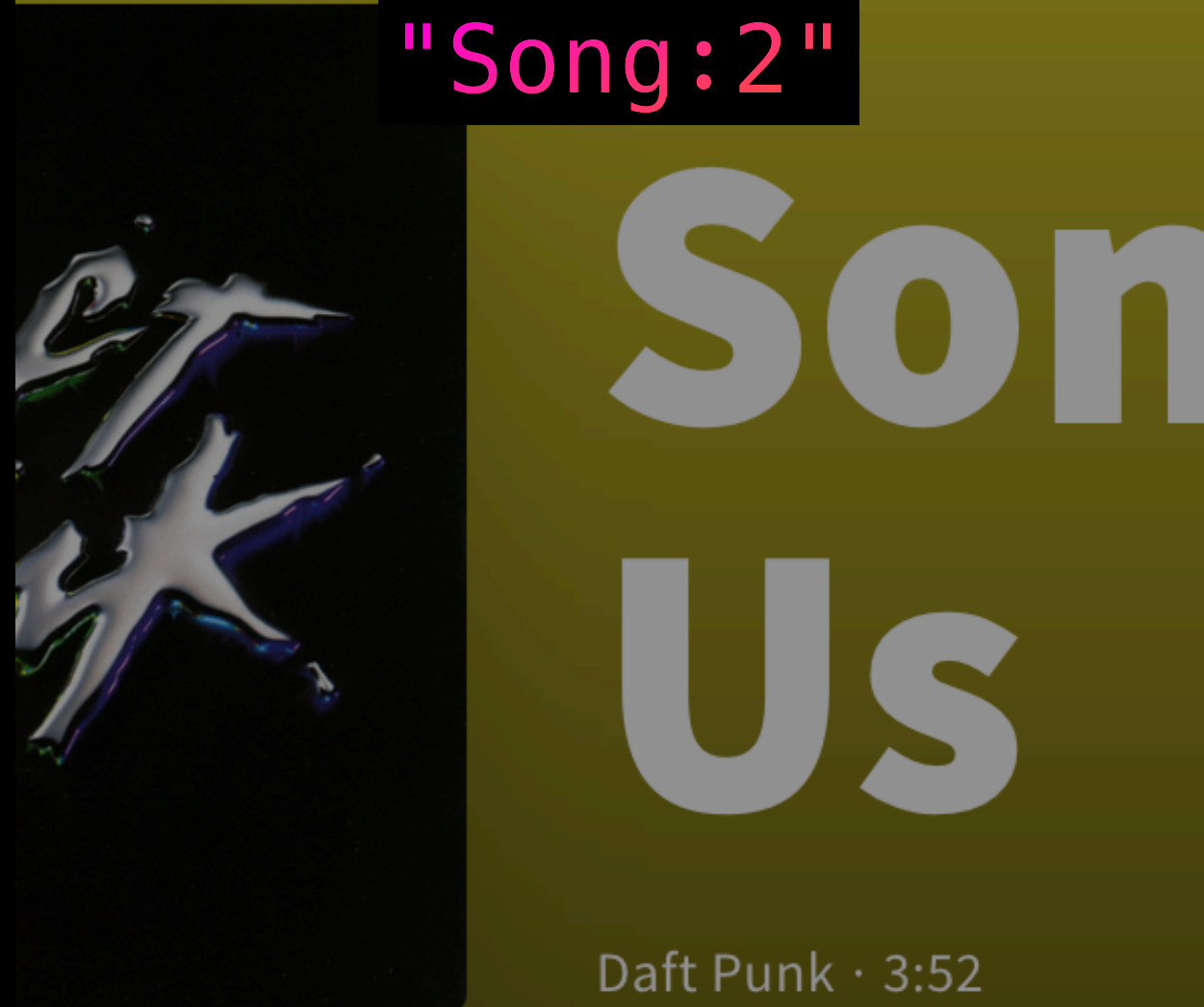
```
    "url": "https://foo.bar/image.jpg"
  }
],
"songs": [
  // ...
  {
    "id": "2",
    "__typename": "Song",
    "name": "Something About Us",
    "album": {
      "id": "3",
      "__typename": "Album",
      "name": "Discovery"
    },
    "artist": {
      "id": "4",
      "__typename": "Artist",
      "name": "Daft Punk"
    }
  }
]
}
```

```
{
  "Playlist:1": {
    "name": "808s & Heartbreak 💔",
    "images": [...],
    "songs": [
      // ...
      { "__ref": "Song:2" }
    ]
  },
  "Song:2": {
    "name": "Something About Us",
    "album": { "__ref": "Album:3" },
    "artist": { "__ref": "Artist:4" }
  },
  "Album:3": {
    name: "Discovery"
  },
  "Artist:4": {
    name: "Daft Punk"
  },
}
```

"Playlist:1"



"Song:2"








"Album:3"



Daft Punk "Artist:4"

9,686,064 followers

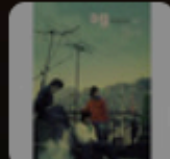



Popular

- 1  Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers]
- 2  One More Time
- 3  Instant Crush (feat. Julian Casablancas)
- 4  Get Lucky (feat. Pharrell Williams and Nile Rodgers)
- 5  Around the World

Albums



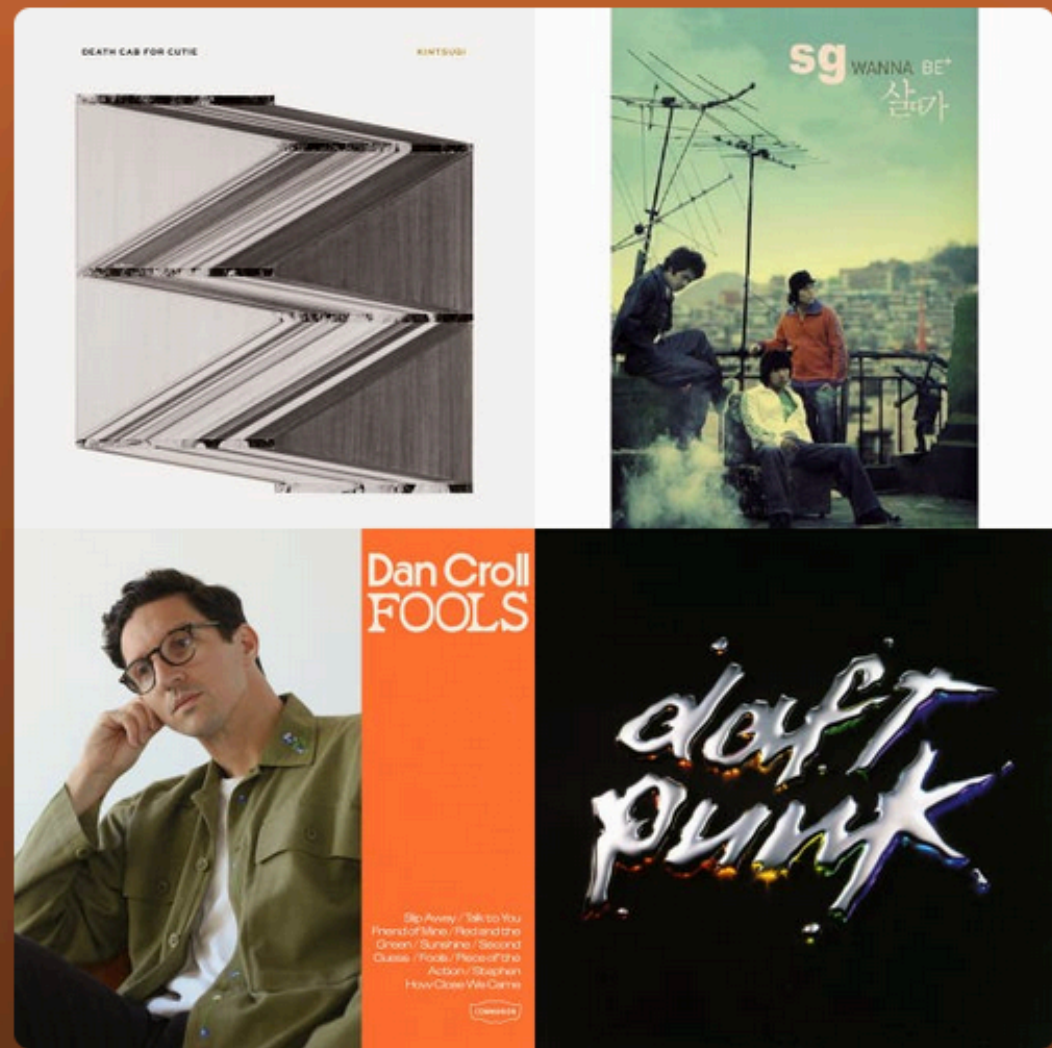
TITLE

- 1  살다가
SG Wannabe
- 2  How Close We Came
Dan Croll
- 3  Something About Us
Daft Punk
- 4  Little Wanderer







ke by Daft Punk

aster, Stronger



TITLE

- 1  살다가
SG Wannabe
- 2  How Close We Came
Dan Croll
- 3  Something About Us
Daft Punk
- 4  Little Wanderer



SONG

Something About Us

Daft Punk · 3:52



Something About Us by Daft Punk



ALBUM

Discovery






Daft Punk · 2001 · 14 songs

Discovery by Daft Punk

Daft Punk

9,686,064 followers

Popular

- 1  Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers]
- 2  One More Time
- 3  Instant Crush (feat. Julian Casablancas)
- 4  Get Lucky (feat. Pharrell Williams and Nile Rodgers)
- 5  Around the World

Albums



Daft Punk

"Artist:4"

JeffQL ▾

"User:37"

9,686,064 followers

Popular

- | | | | | |
|---|---|---|------|-----------|
| 1 |  | Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers] | 4:08 | "Song:10" |
| 2 |  | One More Time | 5:20 | "Song:52" |
| 3 |  | Instant Crush (feat. Julian Casablancas) | 5:37 | "Song:77" |
| 4 |  | Get Lucky (feat. Pharrell Williams and Nile Rodgers) | 6:09 | "Song:23" |
| 5 |  | Around the World | 7:09 | "Song:96" |






Albums

- | | | | |
|---|--|---|---|
|  <p>"Album:83"</p> |  <p>"Album:48"</p> |  <p>"Album:55"</p> |  <p>"Album:10"</p> |
|---|--|---|---|

Daft Punk

9,686,064 followers

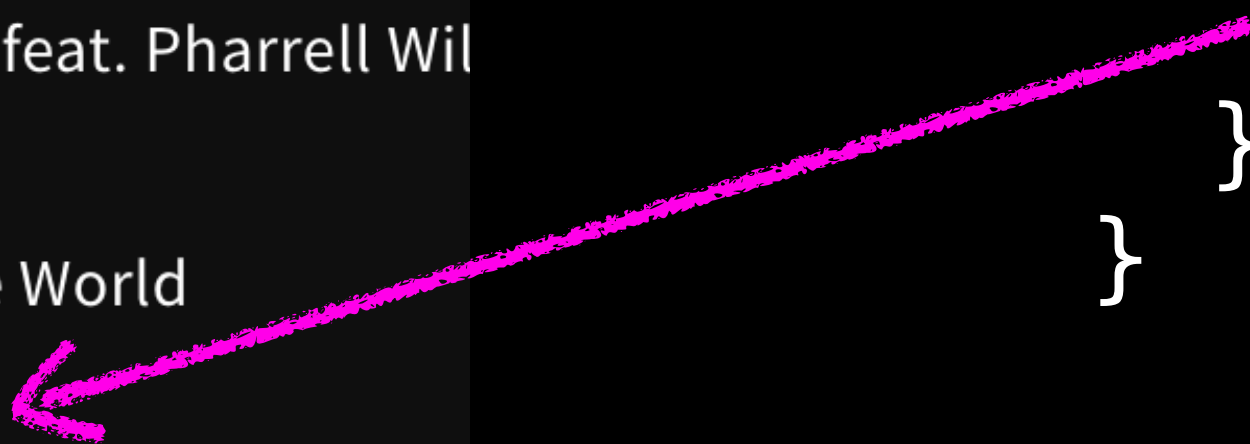
Popular

-  1 Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers]
-  2 One More Time
-  3 Instant Crush (feat. Julian Casablancas)
-  4 Get Lucky (feat. Pharrell Williams and Nile Rodgers)
-  5 Around the World

Albums



```
query ($featureFlag: Boolean! = false) {  
  artist(id: "4") {  
    id  
    __typename  
    name  
    popularSongs { ... }  
    albums { ... }  
    tourDates @include(if: $featureFlag) { ... }  
  }  
}
```








Daft Pu

9,686,0



Popular

- 1  Radio Edit) [feat.
- 2  Julian C
- 3  feat. Pharrell Wil
- 4  Around the World
- 5  daft punk

Alb








```
query ($featureFlag: Boolean! = false) {  
  artist(id: "4") {  
    id  
    __typename  
    name  
    popularSongs { ... }  
    albums { ... }  
    tourDates @include(if: $featureFlag) { ... }  
  }  
}
```


Daft Punk

9,686,064 followers

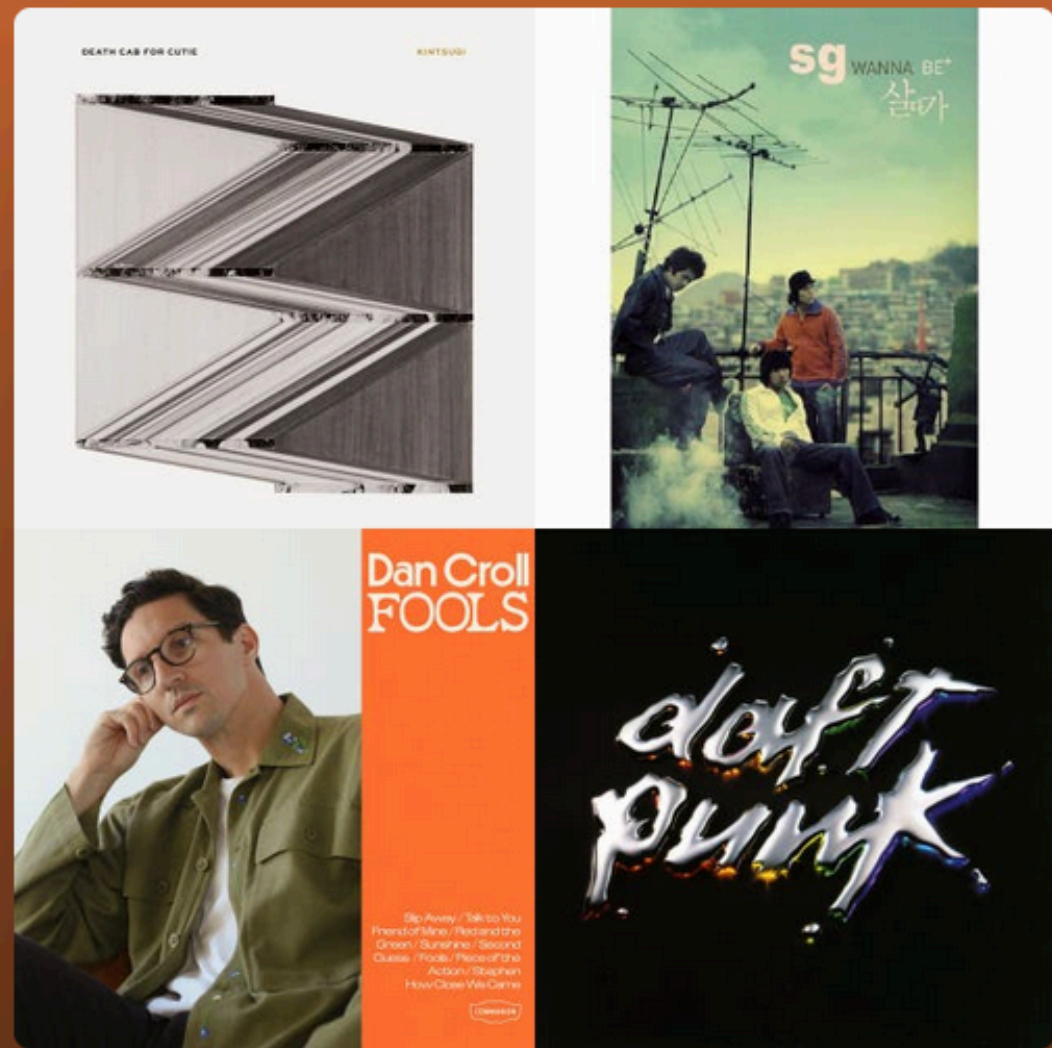
Popular

-  1 Get Lucky (Radio Edit) [feat. Pharrell Williams and Nile Rodgers]
-  2 One More Time
-  3 Instant Crush (feat. Julian Casablancas)
-  4 Get Lucky (feat. Pharrell Williams and Nile Rodgers)
-  5 Around the World

Albums



```
query ($featureFlag: Boolean! = false) {  
  artist(id: "4") {  
    id  
    __typename  
    name  
    popularSongs { ... }  
    albums { ... }  
    tourDates @deprecated(reason: "didn't work out")  
  }  
}
```



SONG

Some Us

Daft Punk · 3:52



ke by Daft Punk



TITLE

- 1 Give Life Back to Music
Daft Punk
- 2 The Game of Love
Daft Punk
- 3 Giorgio by Moroder
Daft Punk
- 4 Within

Daft Punk

9,686,064 followers

Popular

- 1 Get Lucky (Radio Edit) [feat. Pharrell Williams & Nile Rodgers]
- 2 One More Time
- 3 Instant Crush (feat. Julian Casablancas)
- 4 Get Lucky (feat. Pharrell Williams & Nile Rodgers)
- 5 Around the World

Albums



TITLE

- 1 살다가
SG Wannabe
- 2 How Close We Came
Dan Croll
- 3 Something About Us
Daft Punk
- 4 Little Wanderer



Ok thanks! 🚀🔥

GraphQL is a superpower for your **PM**.

id + _typename = data decoupled from UI

Rapid iteration, reduced conditionals

One API serves all platforms

Experiments made easy



query



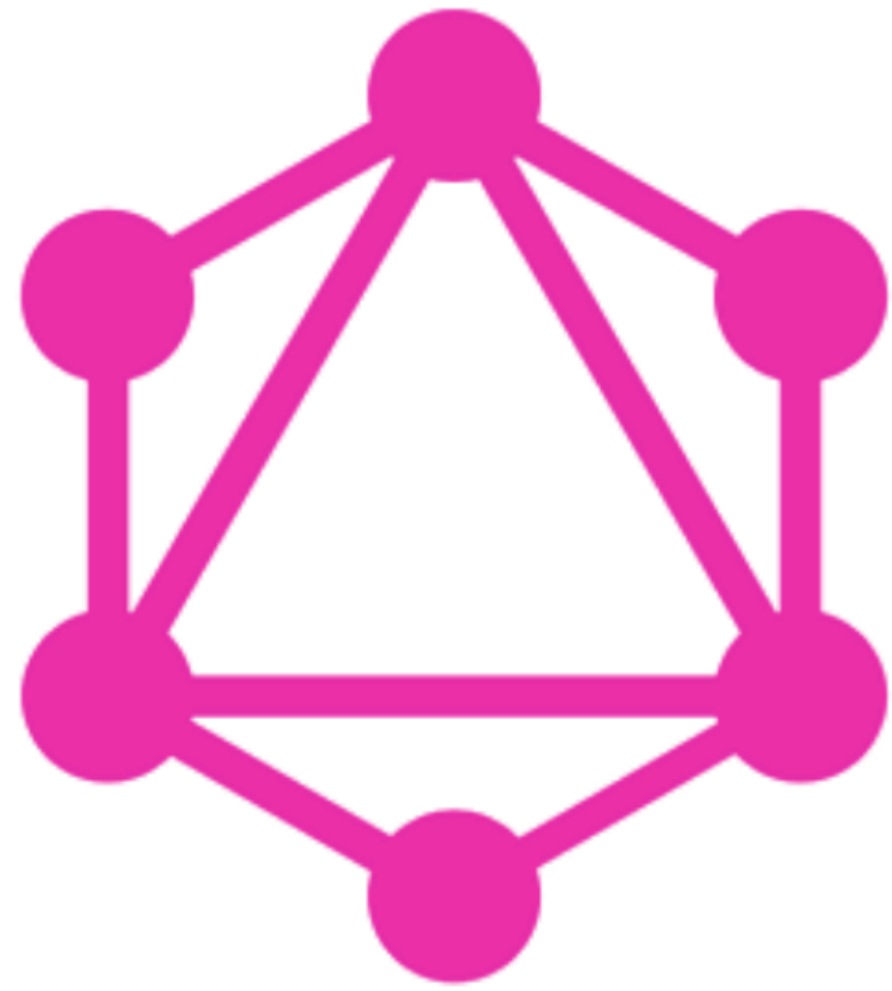
introspection



id



__typename



GraphQL

**GraphQL is a superpower for your
Product Manager and Designer**