



# Level Up Your Developer Experience

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# Kristen Womack

Principal Product Manager Lead

Microsoft Graph 

she/her



# TWO STATES OF EVERY DEVELOPER



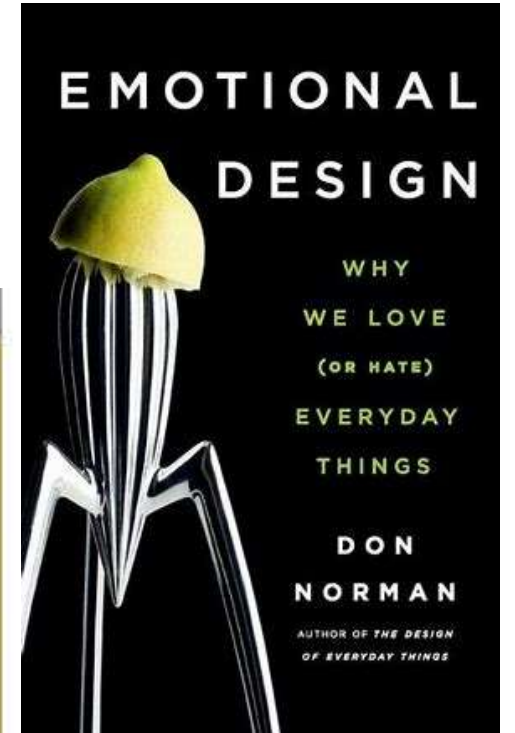
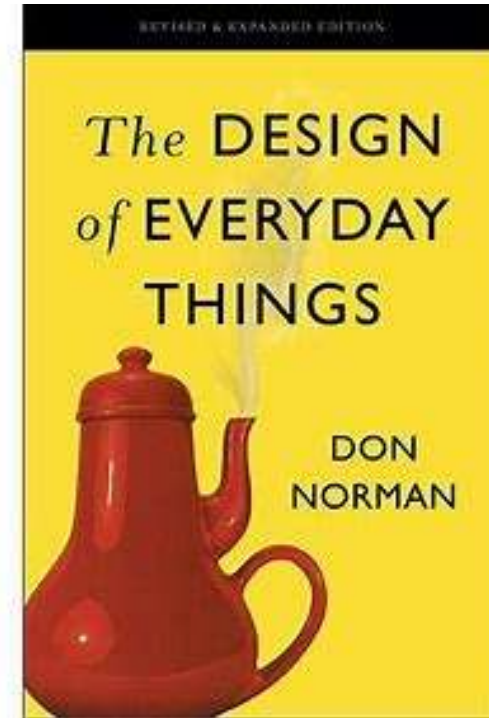
**I KNOW EXACTLY WHAT I'M DOING**



**I HAVE NO IDEA WHAT I'M DOING**

UX is how someone feels  
**about *themselves*** when using  
your product.

- *Don Norman*



**I HATE PROGRAMMING!  
I HATE PROGRAMMING!  
I HATE PROGRAMMING!**



**IT WORKS!!!  
I LOVE PROGRAMMING!**

# 1. Moments

To create extraordinary experiences



Why Certain Experiences Have Extraordinary Impact

# THE POWER OF MOMENTS

**CHIP HEATH & DAN HEATH**  
The bestselling authors of *SWITCH* and *MADE TO STICK*

 Elevation

 Insight

 Pride

 Connection

# 3:30:3 Rule for APIs





# Meta Journey

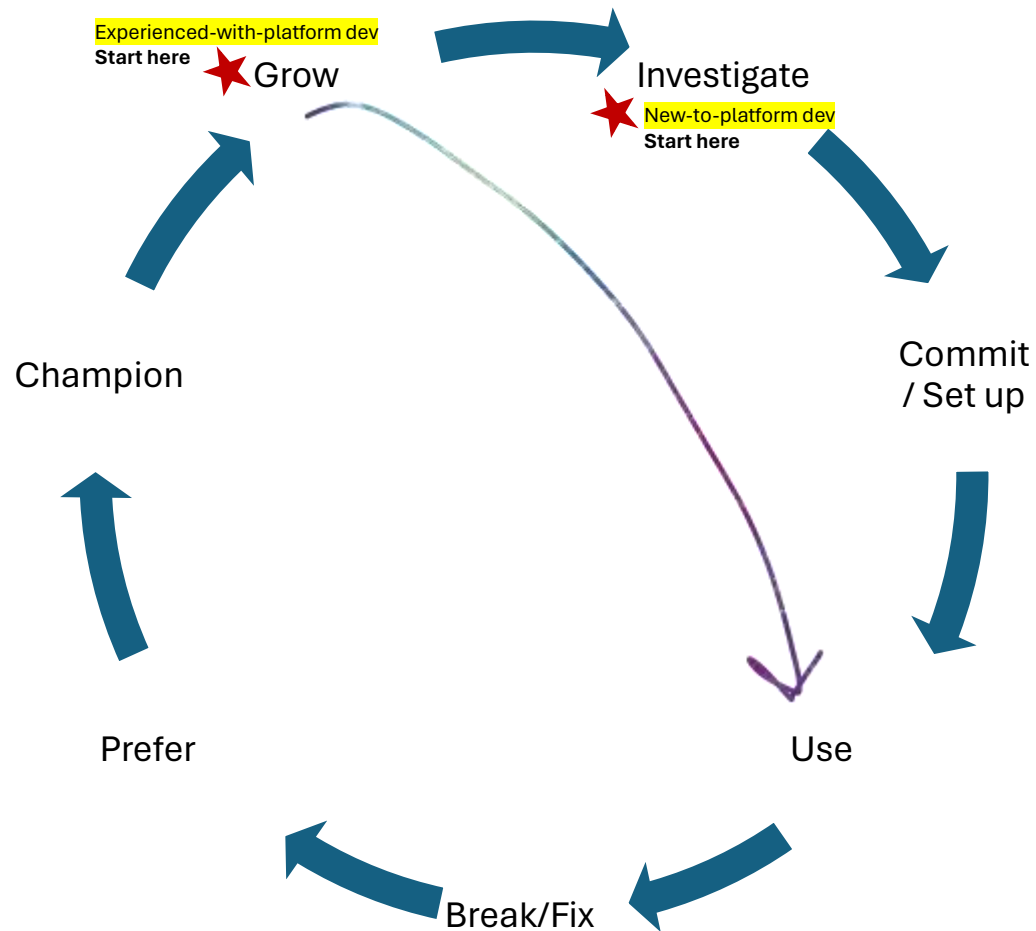
1. Nice to meet you | first API call, 200OK

2. Hello World | working code on your computer

3. Build / Integrate | tutorials, docs, SDKs

4. Deploy | operate in production





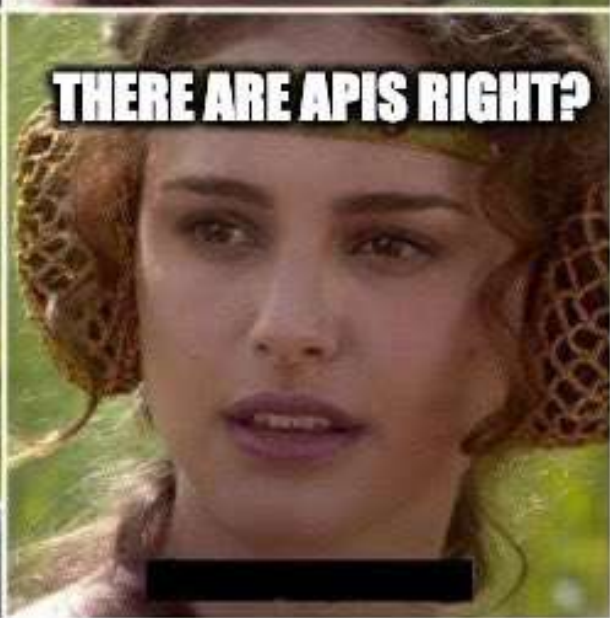
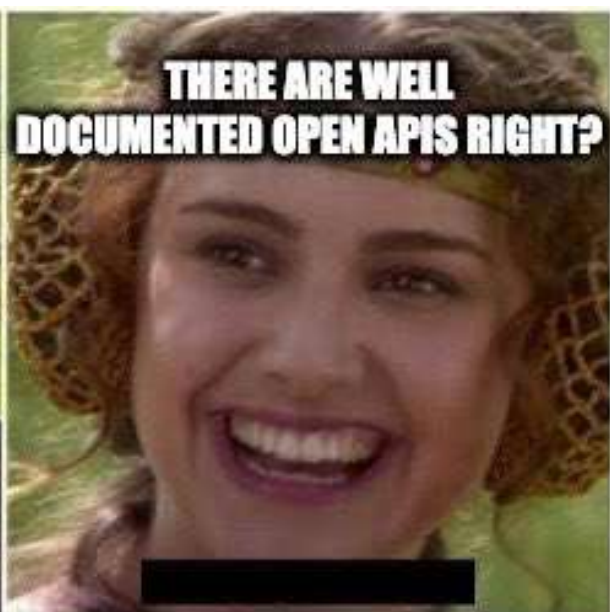
what do we want them to  
**feel?** ❤️

what do we want them to  
**think?** 🧠

what do we want them to  
**do?** 🏠

## 2. API Hierarchy of Needs

Foundational needs are primary





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Website/portal

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Conceptual Docs

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Reference Docs

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Code Samples

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Client Libraries/SDKs

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Changelog

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Status Page

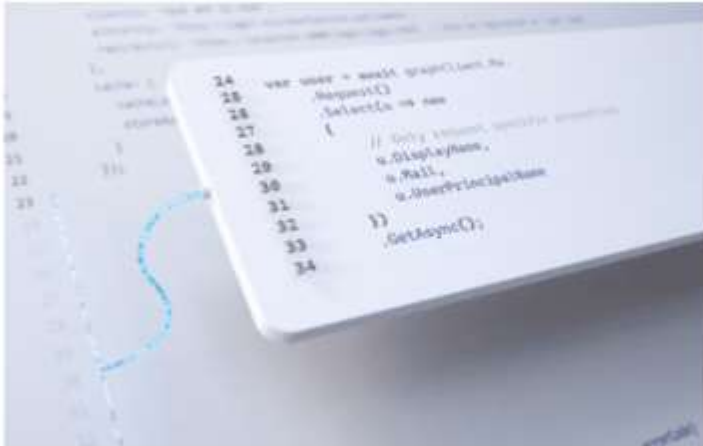
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Known Issues

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Test Env / Data

## Tools and resources



## Code samples

[View the sample gallery >](#)



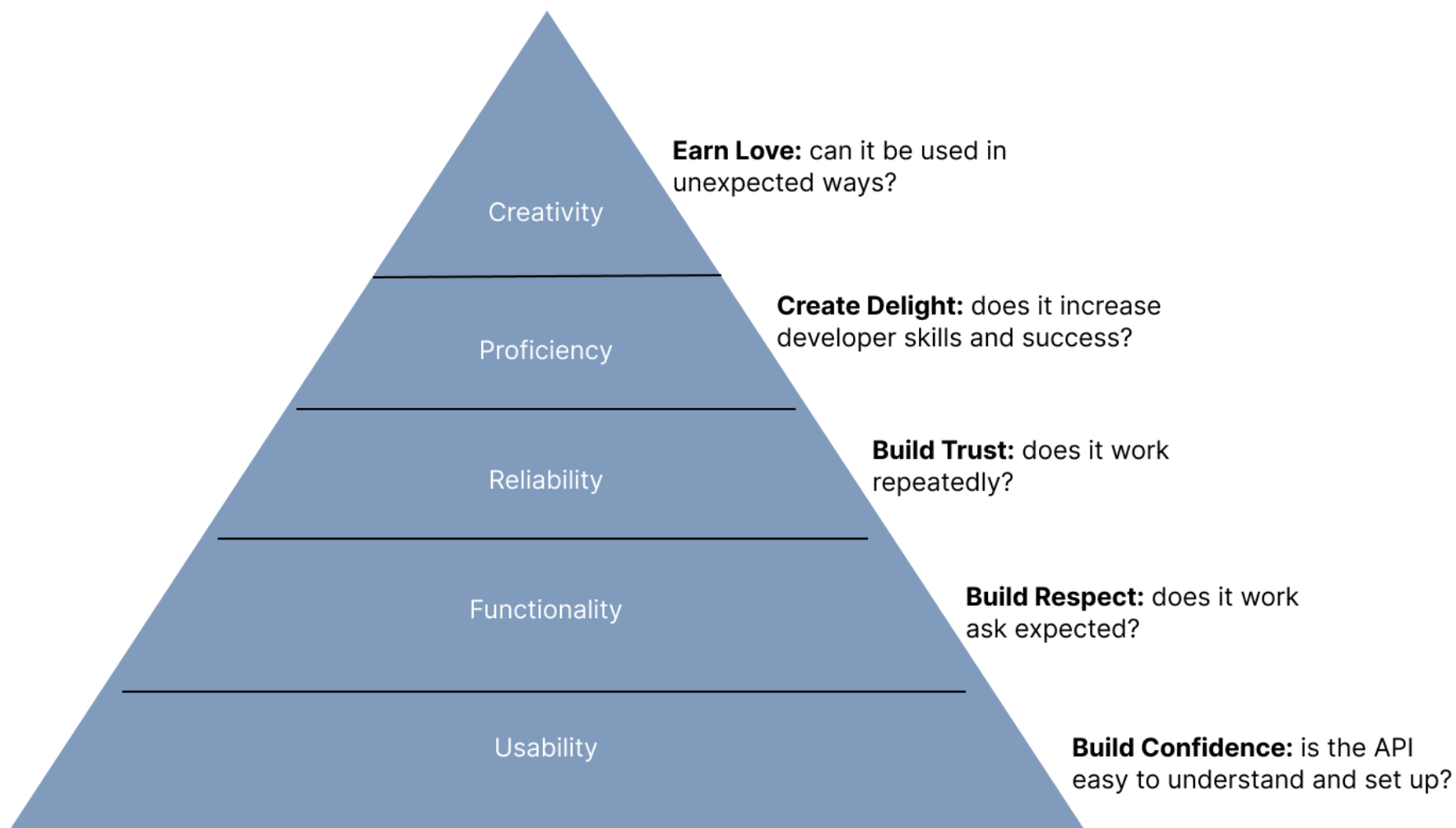
## SDKs

[View available SDKs >](#)

Try the API

[Try Graph Explorer >](#)

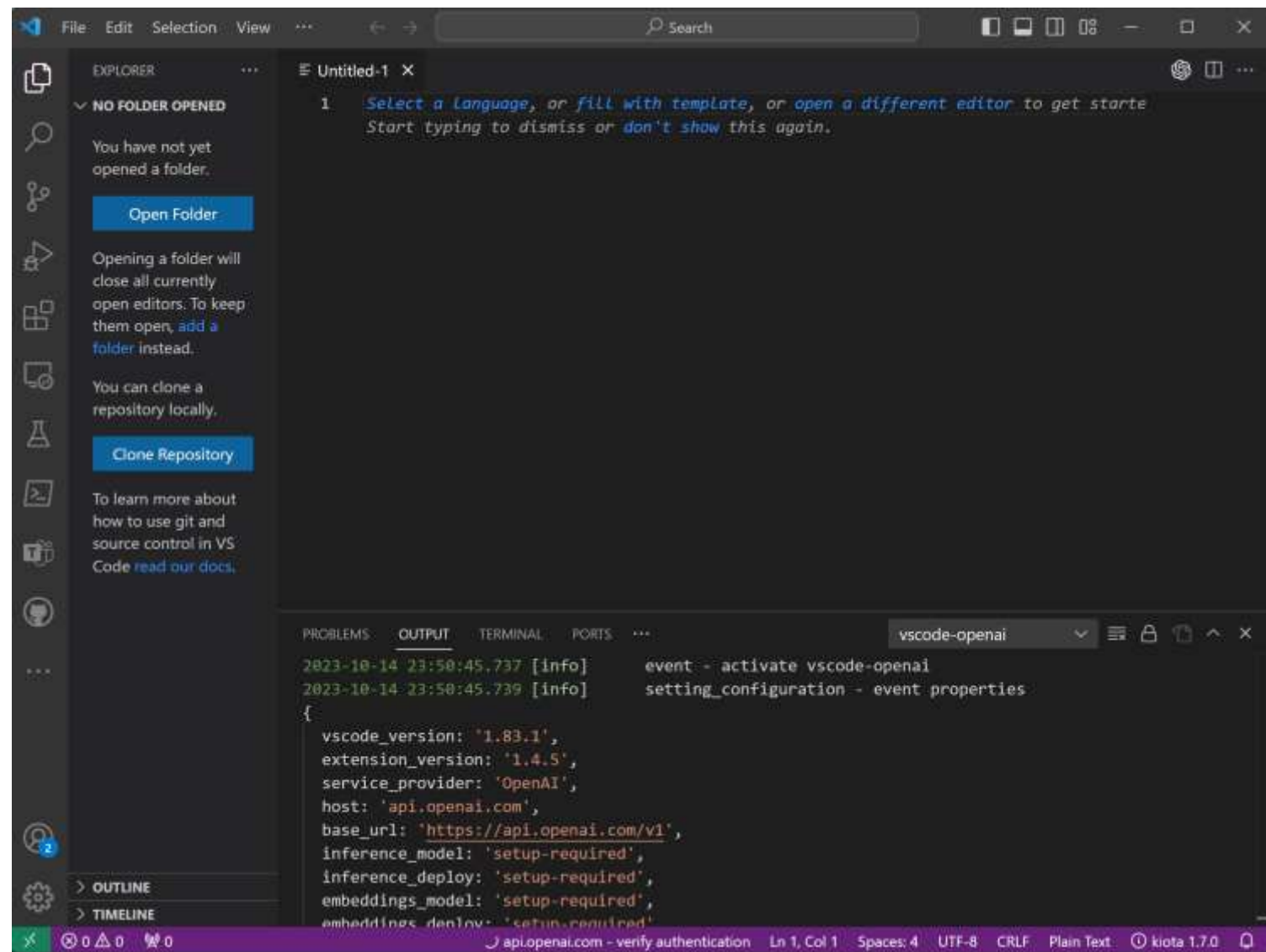




Adapted and inspired from the [API hierarchy of needs](#) Bruno Pedro, as inspired by the work of [Abraham Maslow](#), a psychologist who created a theory that explains how human needs are fulfilled — [the Maslow's hierarchy of needs](#).

# 3. Endowed Progress

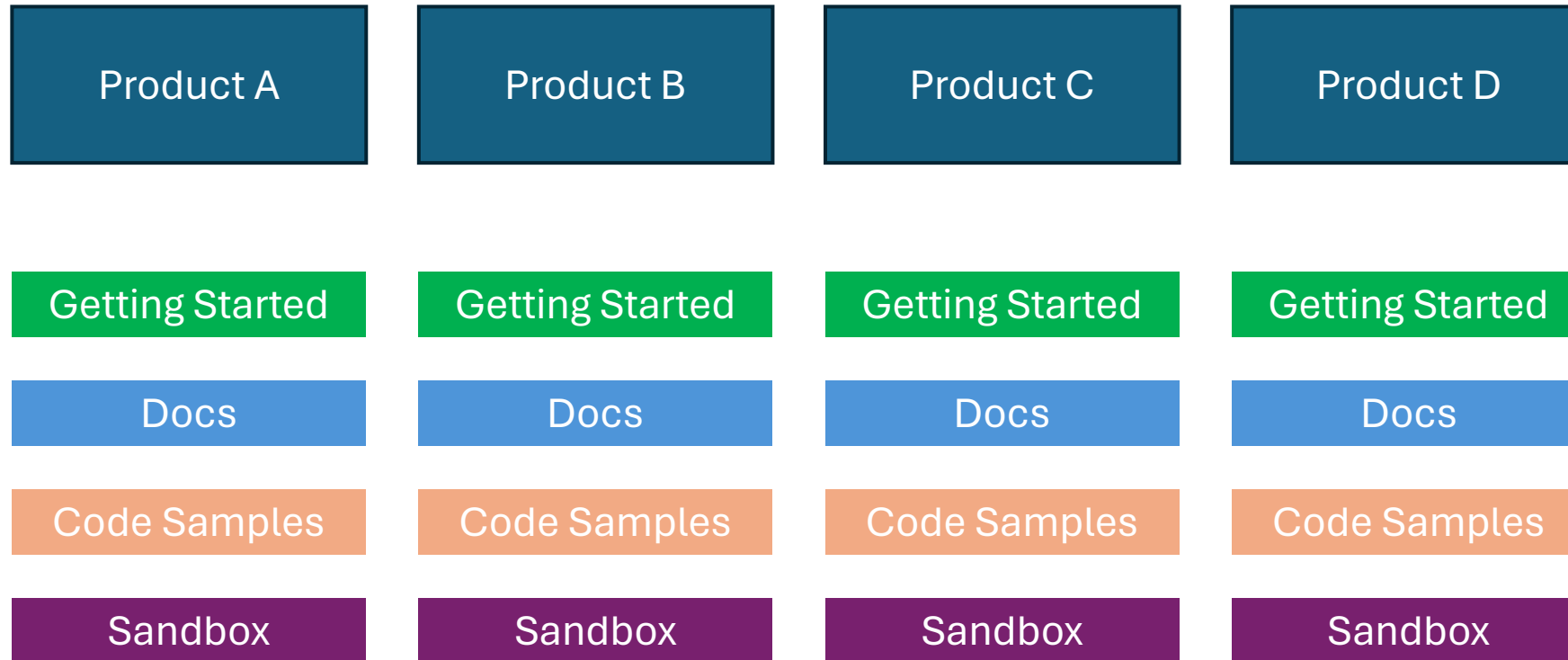
Applying psychology to drive motivation and behaviors with your API



# 4. Consistency

For clarity, efficiency, and extensibility

# Familiar Hallways (Consistency)



# Consistency

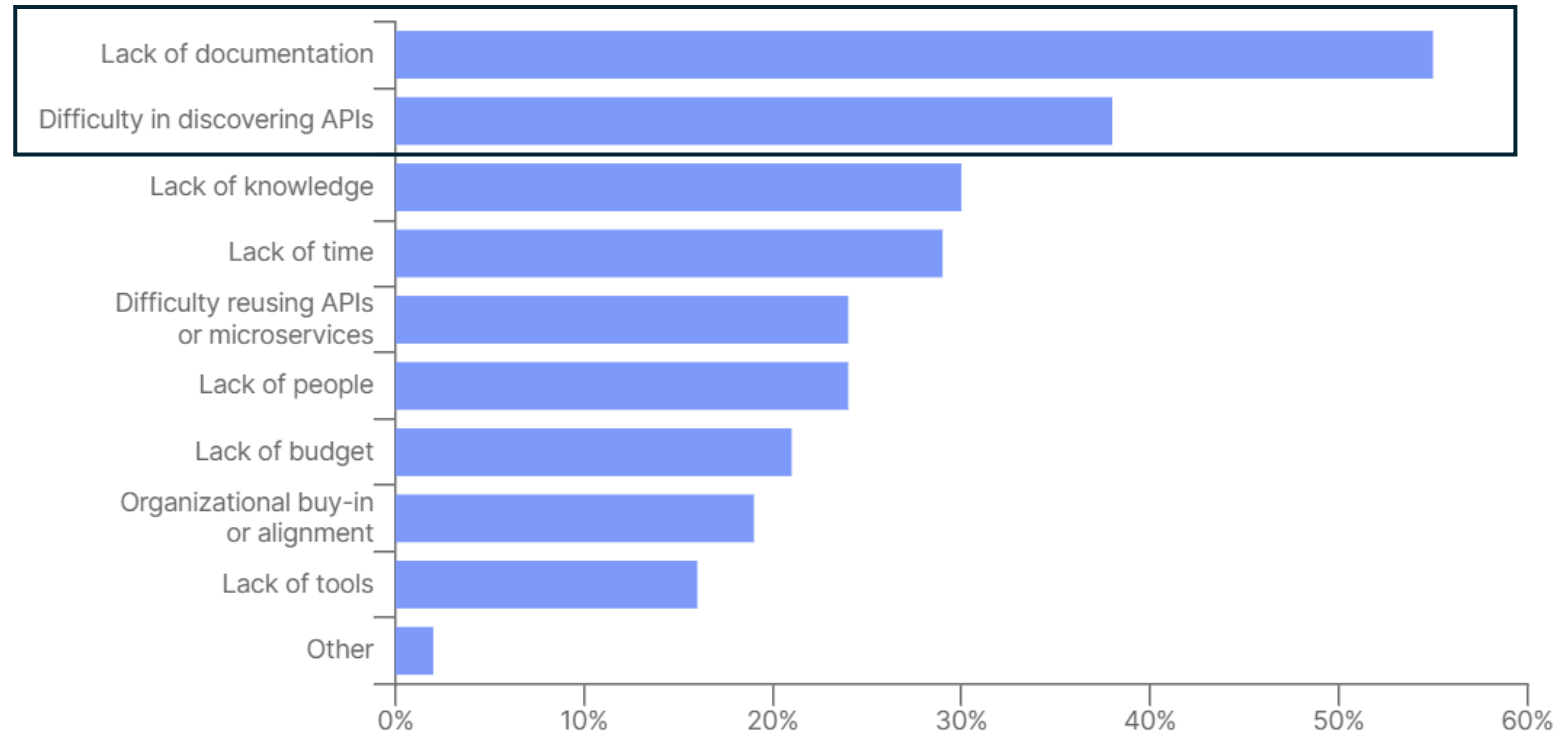




# Consistency



# Obstacles in consuming APIs



Source: "2022 State of the API Report," Postman

# Docs are for consumers

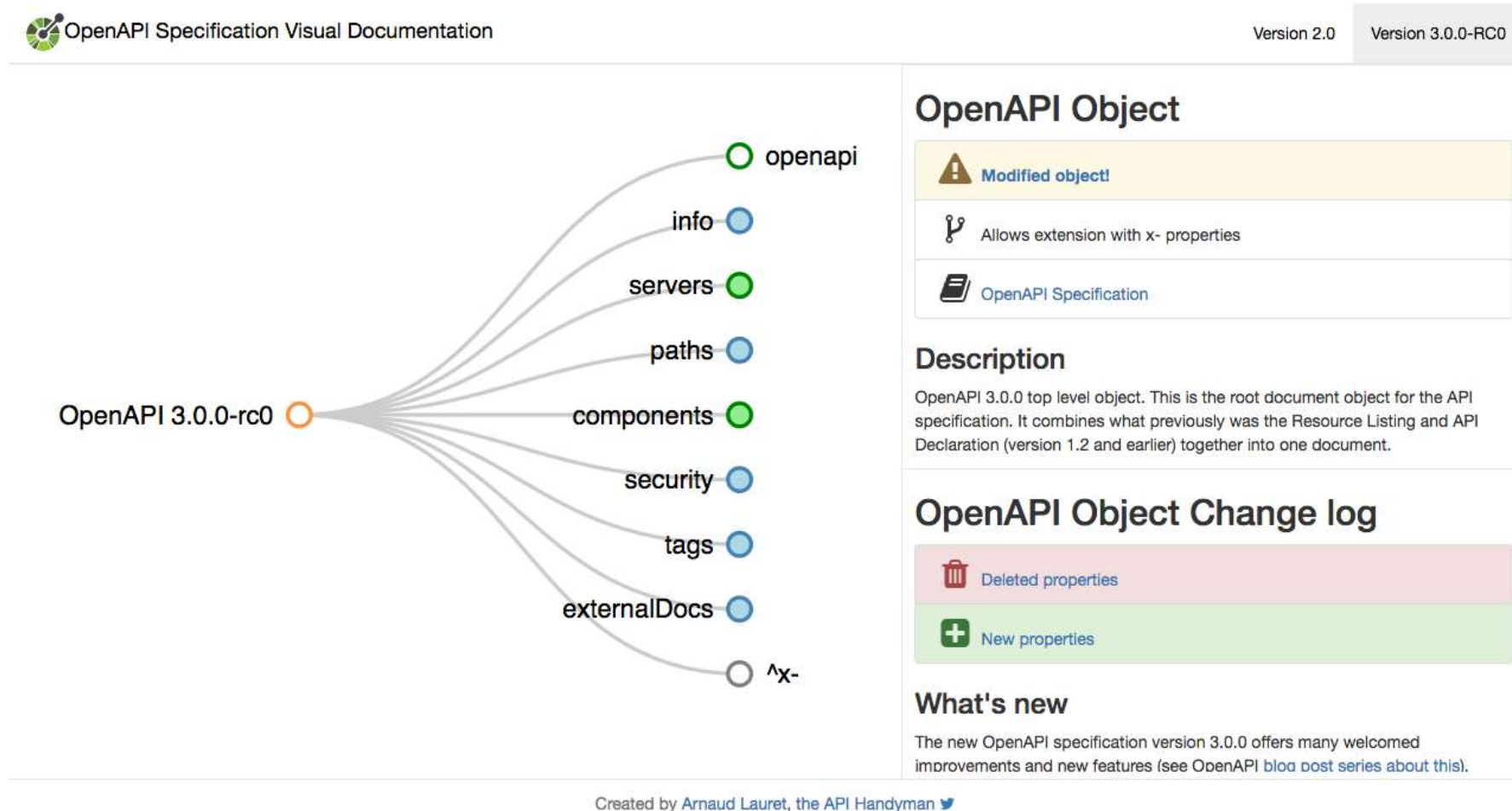
## **Human-readable**

- Business decision maker
- Developer
- Tester
- Support

## **Machine-readable**

- Optimize for search engines
- Optimize for LLM Orchestrators
- Tooling integrations using standards (HTTP, OpenAPI, etc.)
- Allows your API to be built into other experiences

# Scale using a standard specification



# Benefits of using an SDK

- **Standardization:** SDKs ensure consistent practices across different platforms
- **Save time from writing repetitive code** for common tasks like authentication, data validation, serialization, retry handling, rate limits, error handling, etc.
- **Cost savings** by reducing the time and people needed for coding from scratch.
- **More easily discover functionality** and user experience by enabling developers to access features and resources that suit their needs.
- **Easy integration and compatibility** with other applications and platforms.
- **Improved security**

# Challenges with SDKs

## API Consumers

I don't need an SDK, I know how to make HTTP calls

- *I don't want to learn yet another SDK*

I don't want the dependency

- *The SDK has out of date dependencies, or I need to call 5 APIs, I don't want to pull in 5 different SDKs*

I didn't know there was an SDK

- *I couldn't find it after looking for a few minutes*

I need high performance, low latency, low footprint

- *Your package is huge!*

I don't know why I need it?

- *I may not have handled rate limiting, and expiring tokens*

It is poor quality

- *I could build it better myself*



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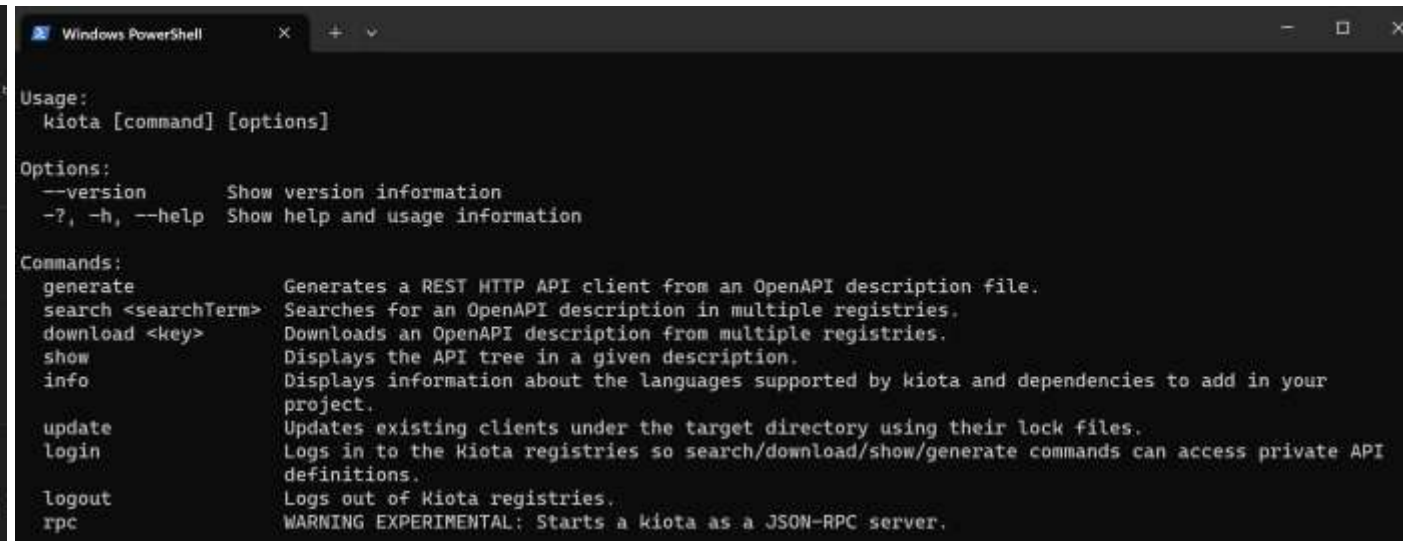
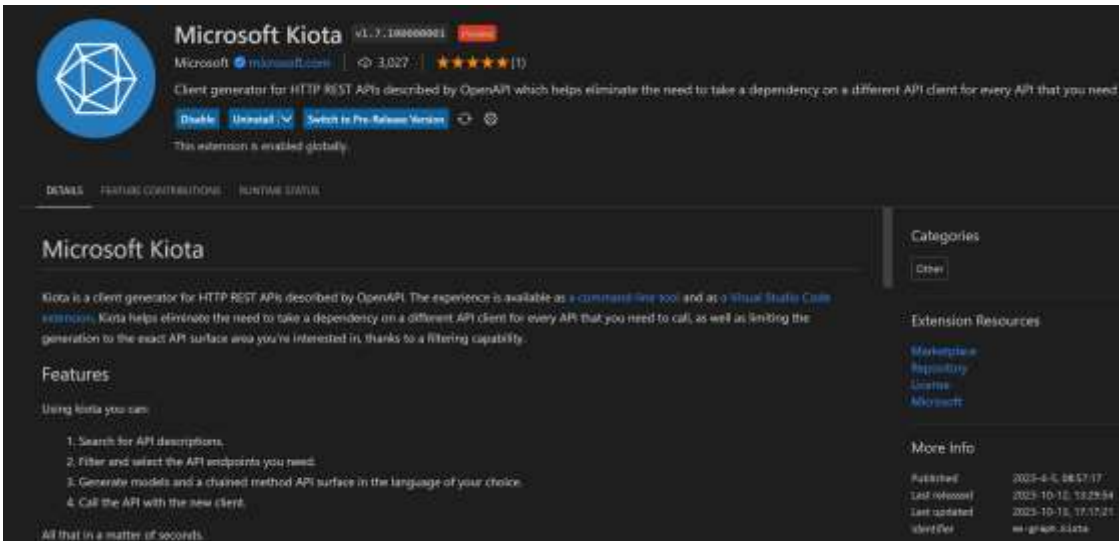
## API Producers

- Multi-language development is expensive
- SDKs must be idiomatic by language
- Hand-crafting SDKs is expensive and labor-intensive



# Kiota, for consumers!

- Supports API discovery > selection > generation
- OpenAPI support
- Microsoft-funded with a dedicated team, open source



<https://aka.ms/get/kiota>

# 5. Strategic Writing for UX

Clarity and creativity

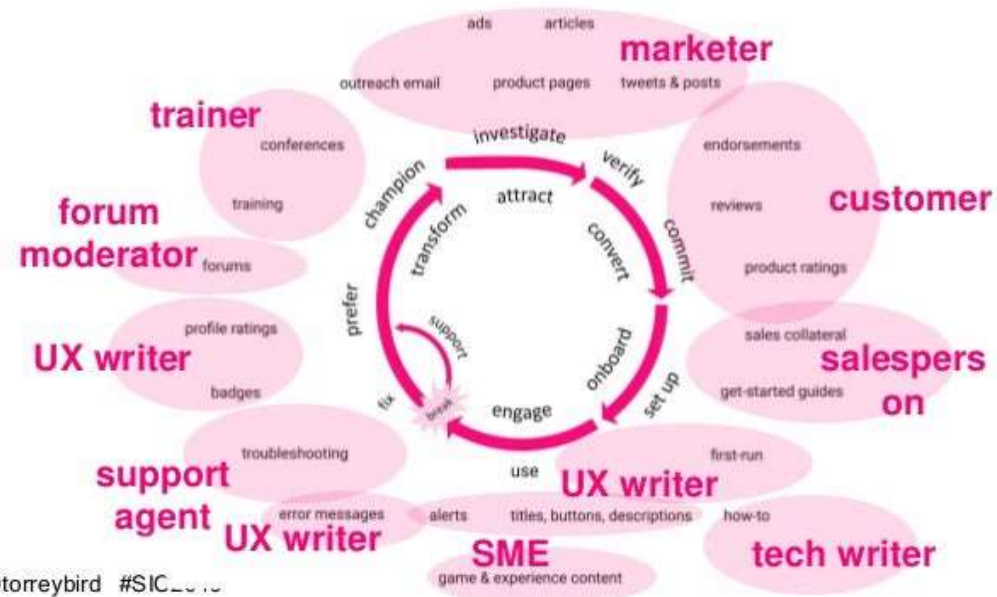
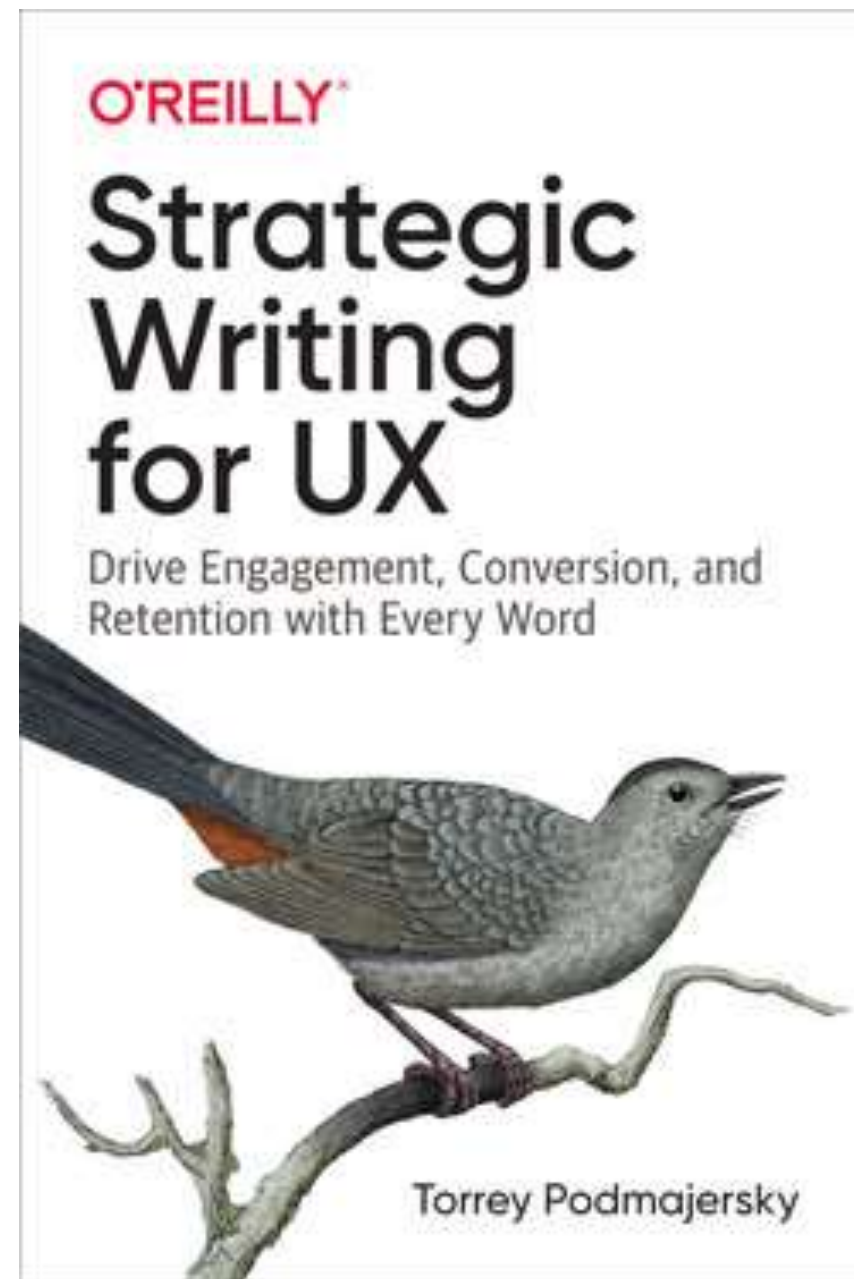


TABLE 2-22. The complete voice chart for TAPP

	EFFICIENT	TRUSTWORTHY	ACCESSIBLE
Concepts	Waste no resource	Every ride on time	Rides for every rider
Vocabulary	Fast, save time, save money	regular, on time	available, easy, ready
Verbosity	No adjectives or adverbs except to ensure rider success	Enough words to have accurate information	Enough words to have unambiguous information
Grammar	Simple sentences or phrases	Complete sentences	Simple sentences or phrases
Punctuation	Use periods, commas. Avoid question marks. Avoid terminal punctuation for instructions	Use periods, commas. Avoid question marks. Avoid terminal punctuation for instructions	Avoid semicolons, dashes, parenthetical remarks
Capitalization	Title-case titles, headings, buttons	Title-case titles, headings, buttons	Title-case titles, headings, buttons



## Graph Explorer

Tenant  
Microsoft

Sample queries

Resources

History

Search sample queries

See more queries in the [Microsoft Graph API Reference \(docs\)](#)

GET all Planner tasks for user

GET get Planner task by id

POST create a Planner task

PATCH update a Planner task

GET details for Planner task

Search (28)

POST search messages

POST (beta) search Teams message

POST search events

POST search driveitems

POST (beta) search driveitems with fields

POST (beta) search people

POST search lists

POST search listItems

POST

v1.0

<https://graph.microsoft.com/v1.0/search/query>

Run query



Request body

Request headers

Modify permissions

Access token

```
{
  "requests": [
    {
      "entityTypes": [
        "event"
      ],
      "query": {
        "queryString": "contoso"
      }
    }
  ]
}
```

Tip - enable Calendars.Read

Response preview

Response headers

Code snippets

Toolkit component

Adaptive cards

Expand

C#

Cli

Go

Java

JavaScript

PHP

PowerShell

Python

```
// Leverage the power of our client libraries. Download the go client library here https://aka.ms/graphgorsdk
// To read more about our SDKs, go to the documentation page at https://aka.ms/sdk-doc
```

```
import (
    "context"
    msgraphsdk "github.com/microsoftgraph/msgraph-sdk-go"
    graphsearch "github.com/microsoftgraph/msgraph-sdk-go/search"
    graphmodels "github.com/microsoftgraph/msgraph-sdk-go/models"
    //other-imports
)

graphClient := msgraphsdk.NewGraphServiceClientWithCredentials(cred, scopes)

requestBody := graphsearch.NewQueryPostRequestBody()
```



# Microsoft Graph is the unified API for modern work

Use the data and intelligence in Microsoft 365 to build apps that reach millions of users.

[Get started](#)[Read documentation >](#)

## What can I do with Microsoft Graph?

Use the Microsoft Graph REST API to build apps that access, analyze, and augment data from Microsoft 365.

[Explore the Microsoft Graph REST API >](#)



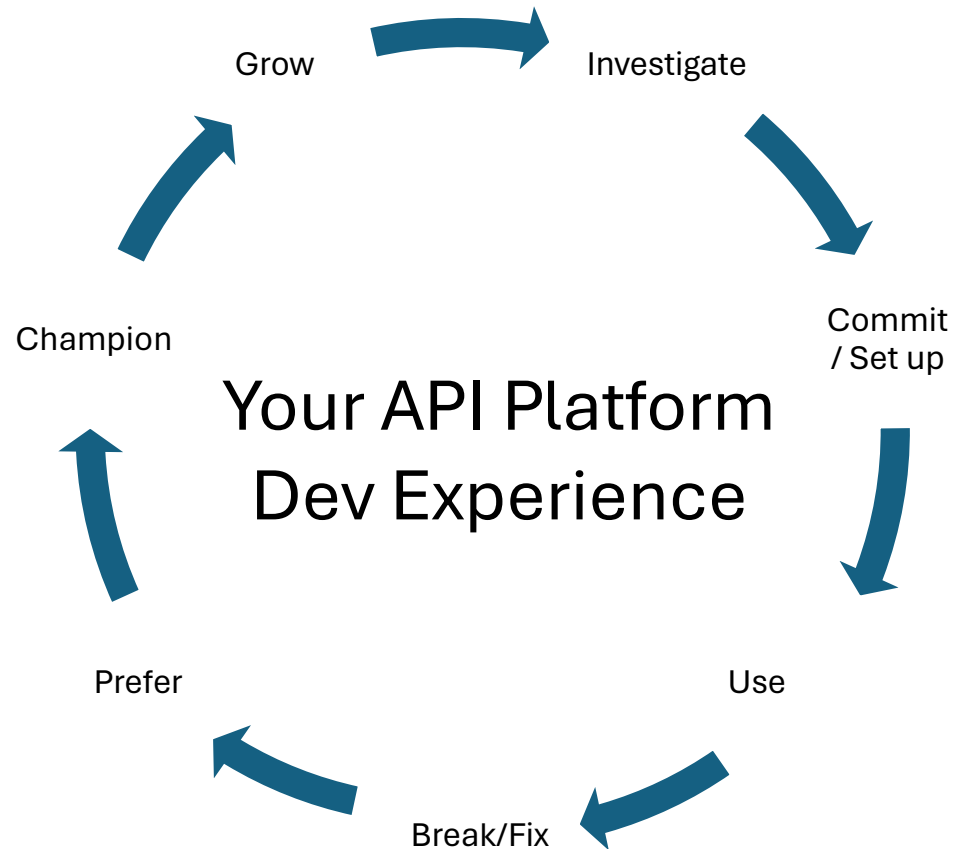
# 5 Concepts for DX (use more than one!)

1. Moments, for extraordinary impact
2. API Hierarchy of Needs
3. Endowed Progress
4. Consistency
5. Strategic Writing for UX

## API Hierarchy of Needs

## Create the journey with Moments

## Consistency Principals



✦ Your API ✦

Standards for co-operability

```
# A function that checks if the dev experience is amazing
def validate_dev_experience():
    criteria = ["fast", "easy", "fun", "creative",
               "productive", "collaborative"]
    # Loop through sample criteria and check if they are met
    for criterion in sample_criteria:

        if response.status_code == 200:
            print(meme)
```



**I KNOW EXACTLY  
WHAT I'M DOING**



# Thank you!

<https://www.linkedin.com/in/kristenwomack/>

# Sources and Resources

- Book: [Strategic Writing for UX \[Book\] \(oreilly.com\)](#)
- Book: [Order The Power of Moments: Why Certain Experiences Have Extraordinary Impact](#) Heath Brothers
- Book: [Emotional Design: Why We Love \(or Hate\) Everyday Things](#) - Kindle edition by Norman, Donald A.. Arts & Photography Kindle eBooks @ Amazon.com.
- API Platform Conference 2022 - Darrel Miller - Finding the path to scaling API success | [https://youtu.be/9Fvt3QzMI34?si=z3\\_8isUDmUsCvGSg](https://youtu.be/9Fvt3QzMI34?si=z3_8isUDmUsCvGSg)
- <https://openapi-map.apihandyman.io/?version=3.0>
- [postman-state-of-the-api-2022.pdf](#)
- More on Psychology for the Web: [Nathalie Nahai - Speaking: Videos and Topics](#)
- [API hierarchy of needs](#) Bruno Pedro
- [Maslow's hierarchy of needs](#)