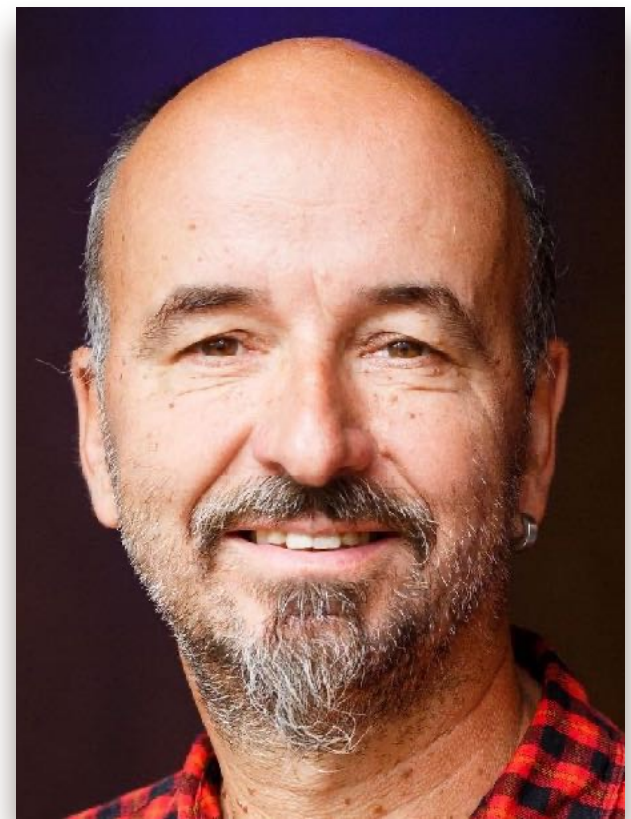


# The Power of Simplicity

## Crafting Durable Software Systems



**Bertrand Delacrétaz**

Principal Scientist, Adobe  
Former Board Member, Apache Software Foundation

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[grep.codeconsult.ch](http://grep.codeconsult.ch)

*images: Adobe Stock & Firefly, unless otherwise mentioned  
revision 2025-03-12*



# 3 chapters

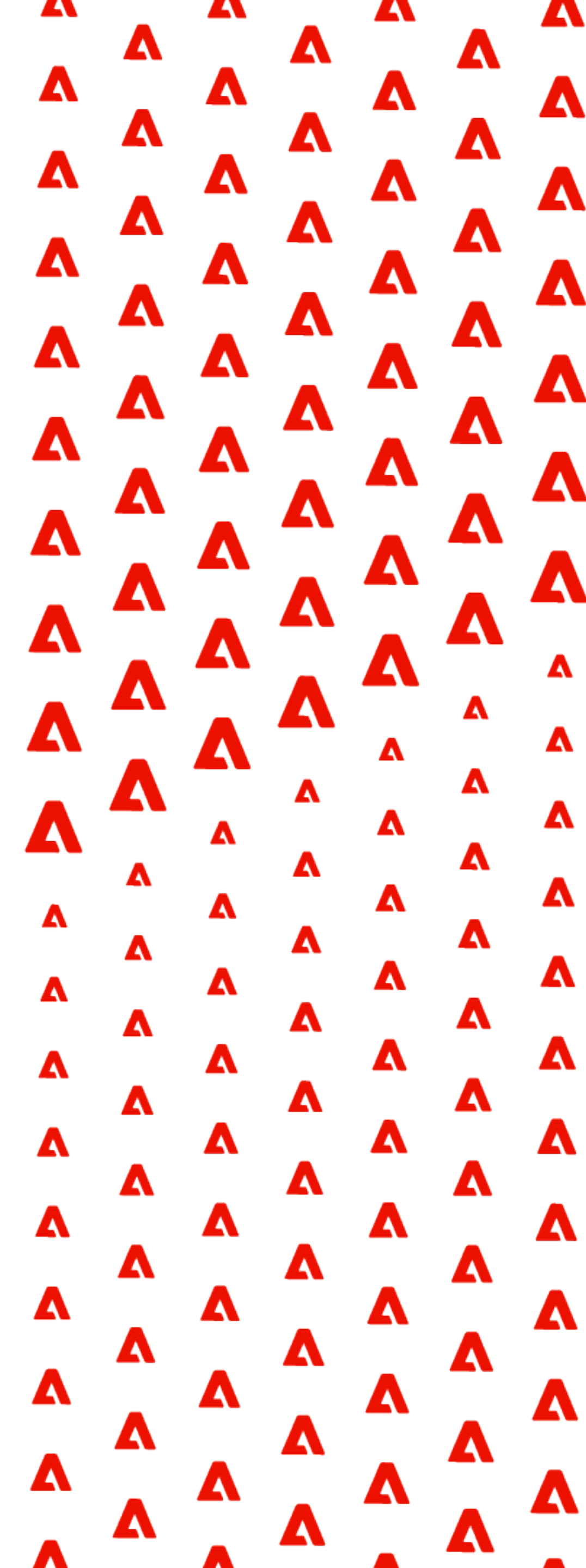
**Beautiful Simplicity**

**Examples**

**But how?**

# 1

## Beautiful Simplicity





# Beautiful & Obvious Simplicity

Nothing  
to remove?



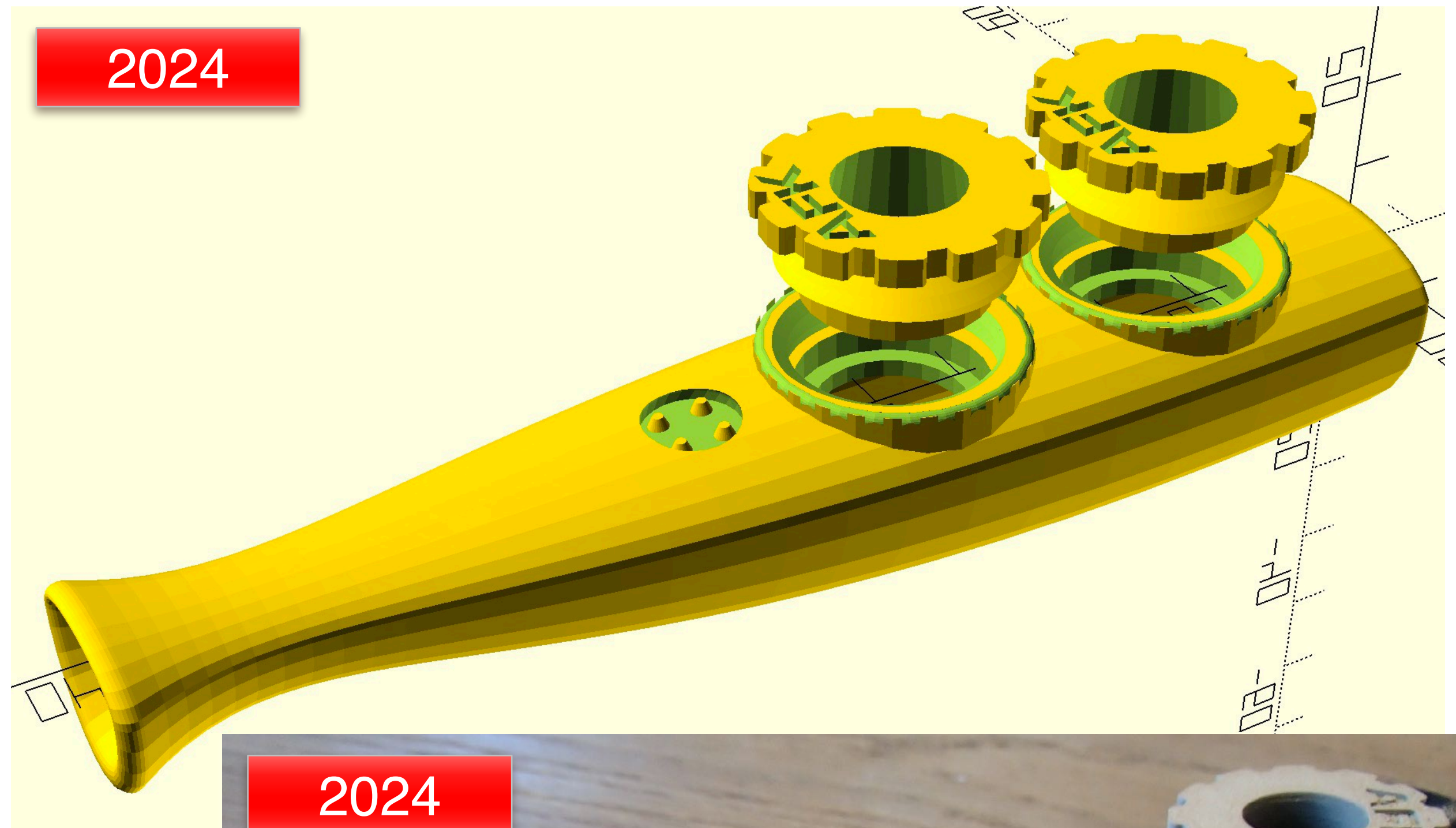


# Kazoo Minimalist Effective

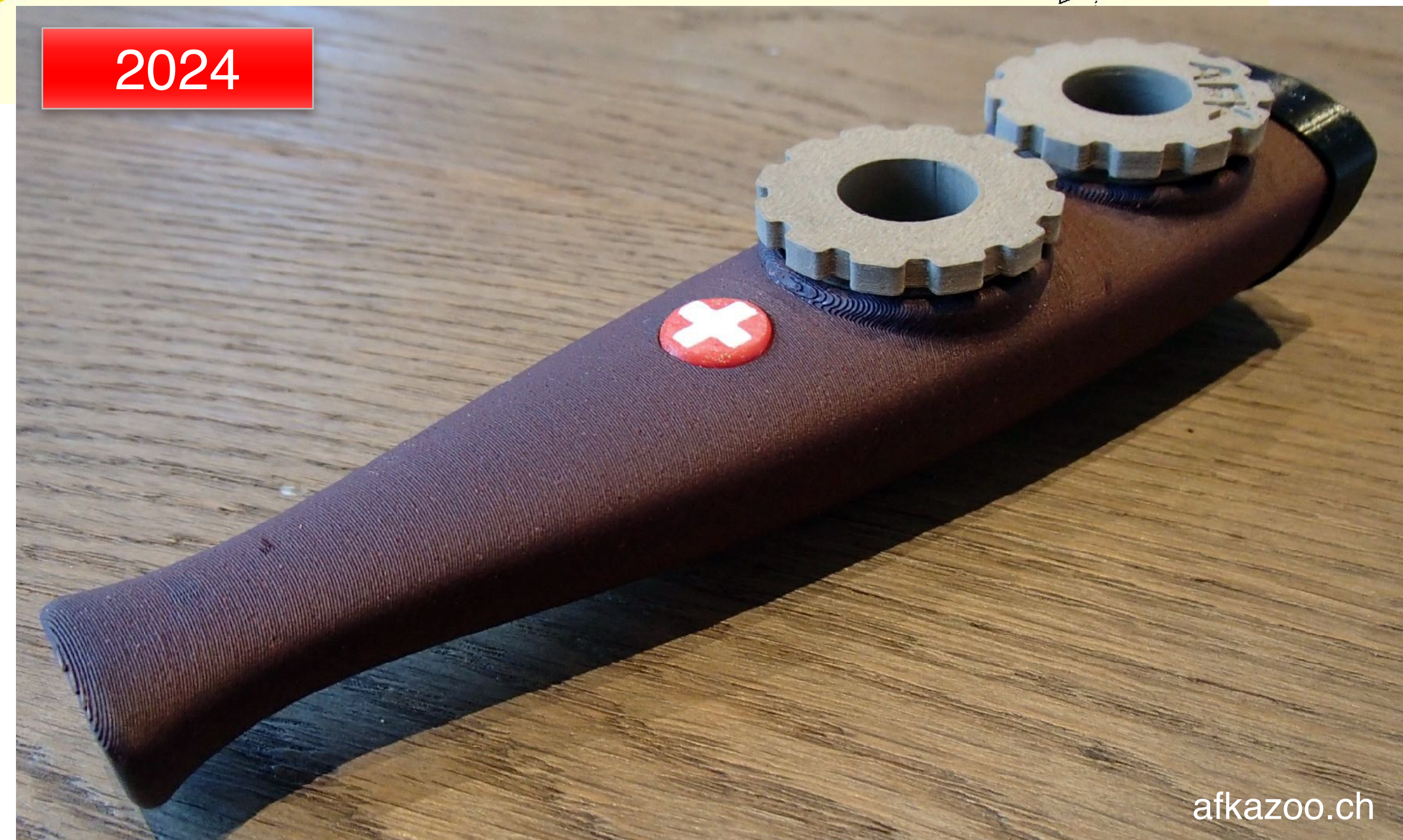
# Simple, but not simplistic..



1930



2024



2024

**Simple, but not simplistic!**

SPACE & PHYSICS

# **Fact or Fiction?: NASA Spent Millions to Develop a Pen that Would Write in Space, whereas the Soviet Cosmonauts Used a Pencil**

---

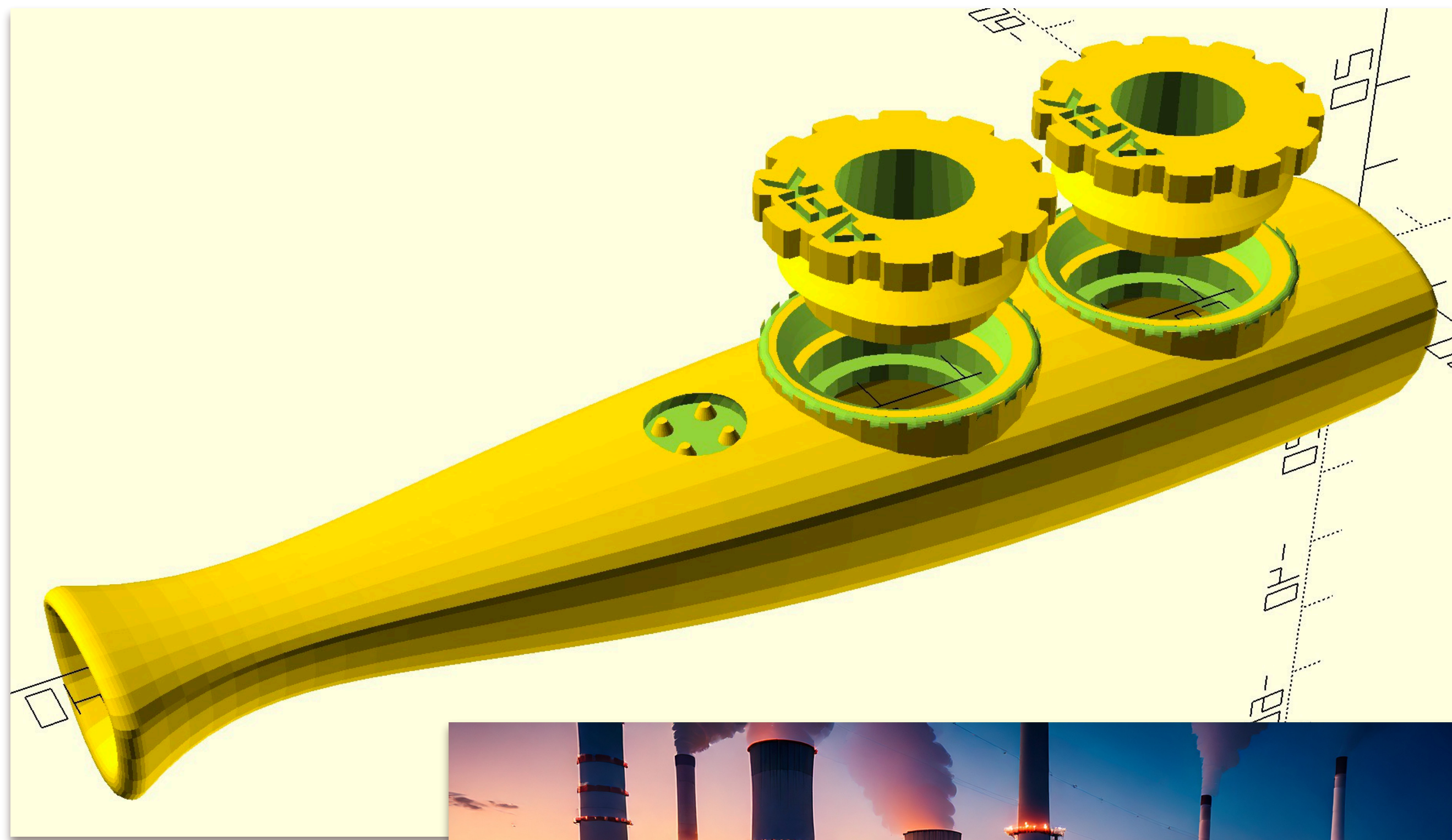
**SCIENTIFIC  
AMERICAN**

---





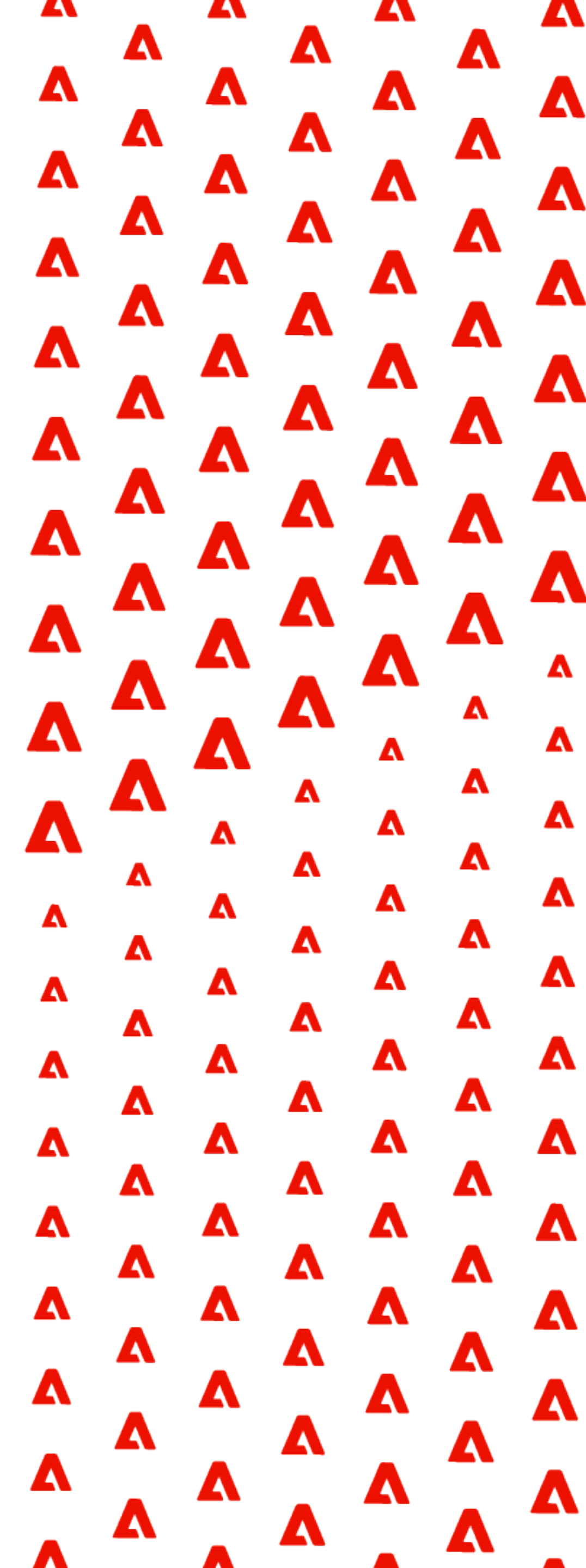
**How much power do you need?**



# Splendid, efficient & appropriate simplicity

# 2

## Examples

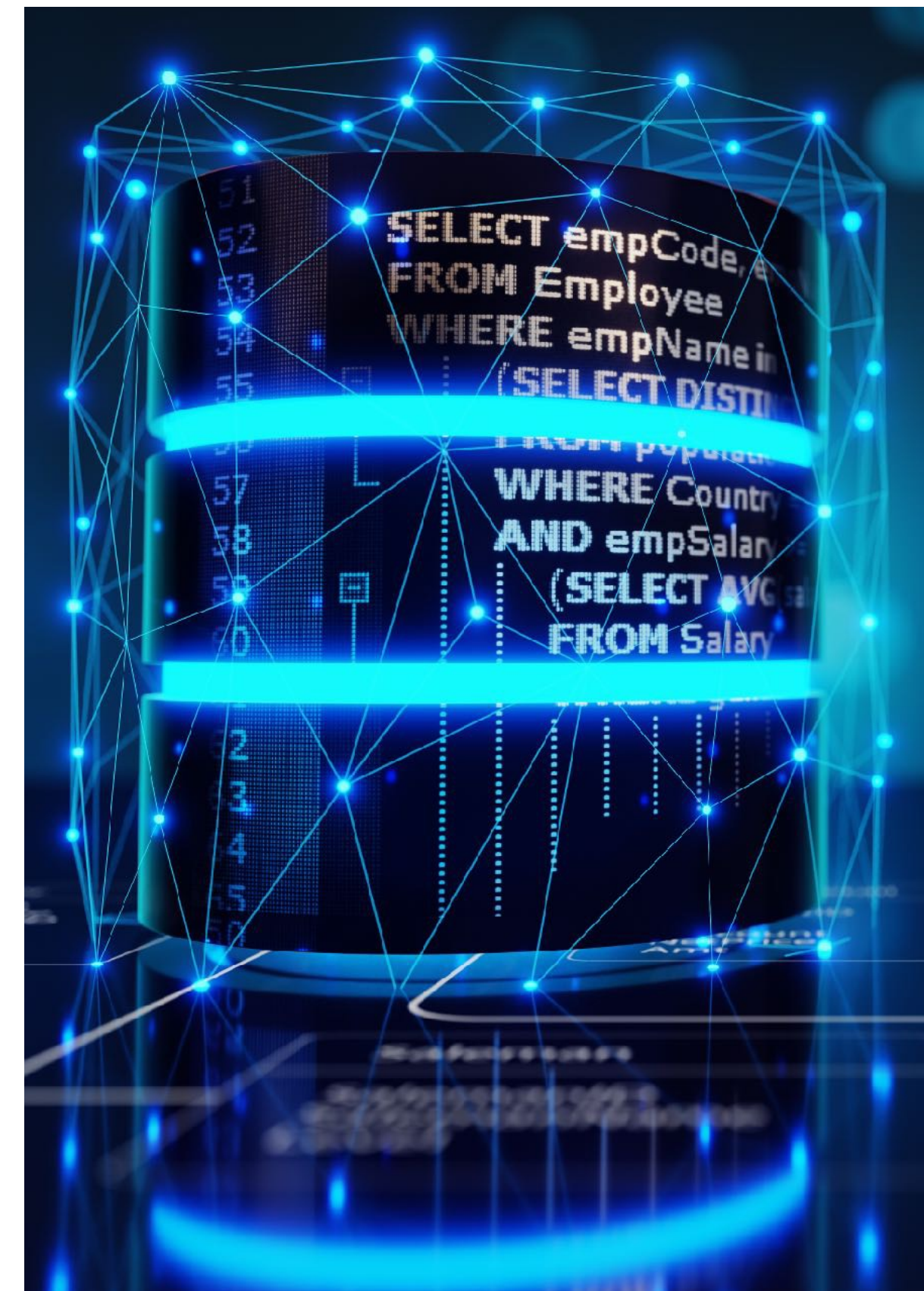


# Continuous weather data acquisition?



A few hundred stations

continuous data



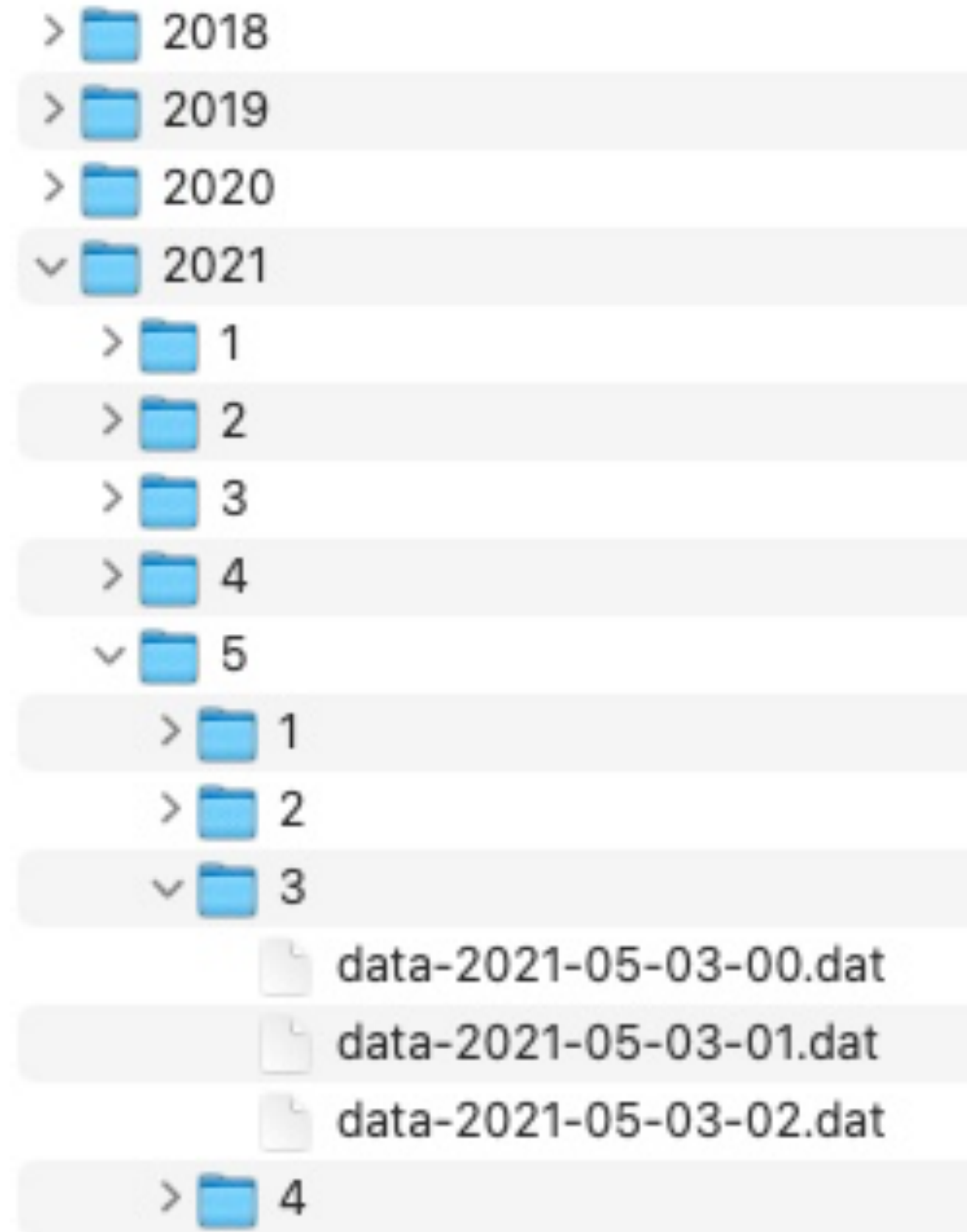
Simple storage & queries?

# Continuous weather data acquisition!



A few hundred stations

continuous data



Simple storage and queries:  
*Chronological folders & files*

# Robust digital audio recording?

Back in 1999..



continuous audio recording  
less than 15 seconds lost, whatever happens

# Robust digital audio recording??

Back in 1999..

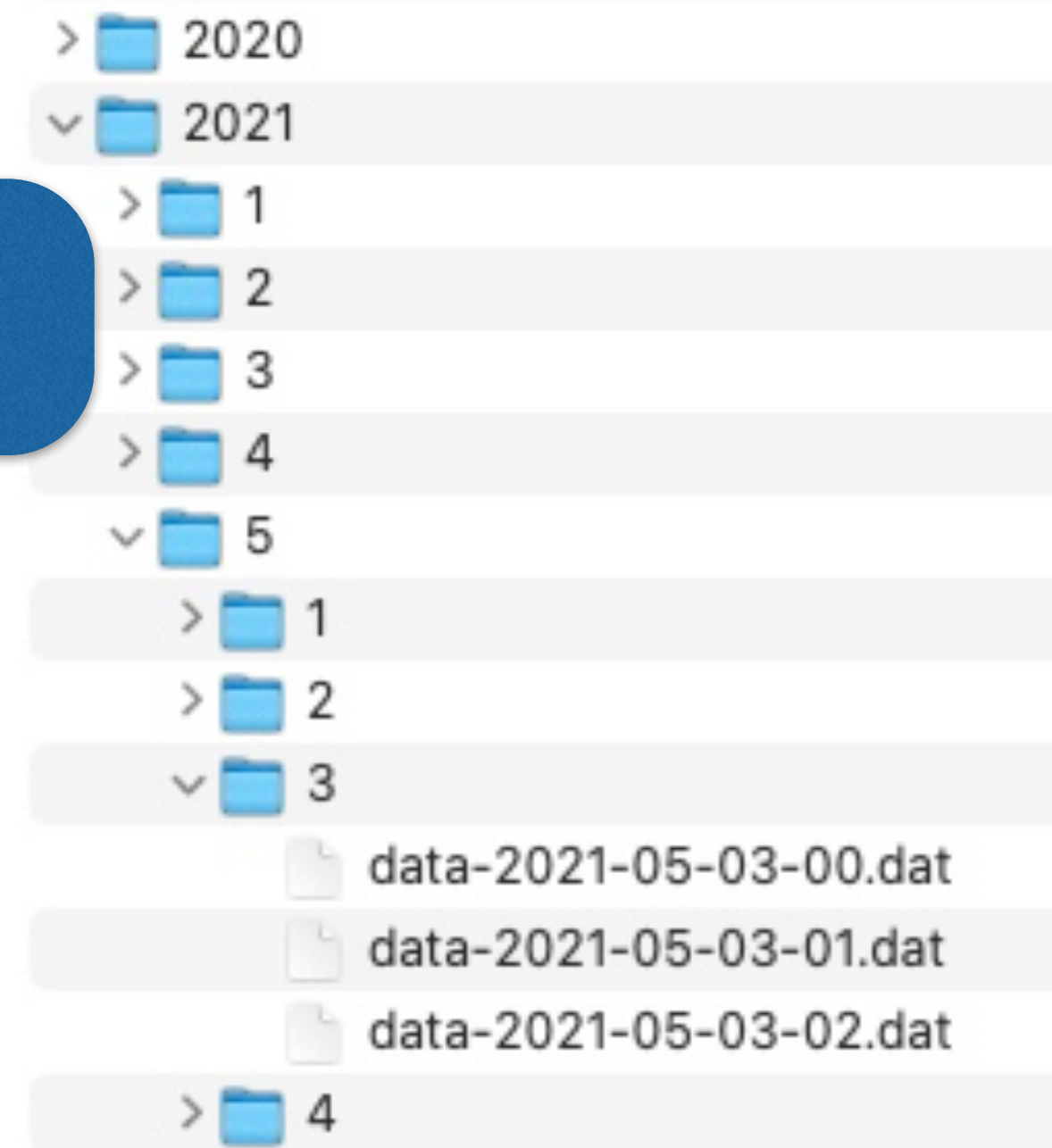
complicated?  
really?

# Robust digital audio recording!

86 lignes of code - 3 months of work!



```
s = UDP socket
While(s is open) {
  Wait for packet
  Packet matches our filter?
  If yes:
    Compute storage path from T
    Append packet to storage file
}
```





# Web Components for a commerce page?

<https://opensource.adobe.com/web-platform-zoo>

Cart: 7 products, 38 items, USD 540 - [Cart contents](#)



**Blue bottle**

+ 3 -

USD 17: 3 in cart → USD 51

*This one is really blue*



**Symmetric knife**

+ 11 -

USD 21: 11 in cart → USD 231

*Not really, it's just marketing*



**Fantastic bottle**

+ 4 -

USD 19: 4 in cart → USD 76

*This bottle is really fantastic*



**Super bread knife**

+ 0 -

USD 8: 0 in cart → USD 0

*Stainless steel, the works!*



**East white**

+ 11 -

USD 5: 11 in cart → USD 55

*Eastern is bestern*



**Soft South Red**

+ 5 -

USD 15: 5 in cart → USD 75

*Soft but not weak!*



**Kitchen knife**

+ 2 -

USD 10: 2 in cart → USD 20

*A must for every kitchen*



**White from the South**









+ 0 -

USD 6: 0 in cart → USD 0

# Web Components for a commerce page?

<https://opensource.adobe.com/web-platform-zoo>

**STATUS** Cart: 7 products, 38 items, USD 540 - [Cart contents](#)

IMAGE	PRODUCT	TITLE	SLIDER	PRICE	TEXT		
				<b>Blue bottle</b>	<b>Symmetric knife</b>	<b>Fantastic bottle</b>	<b>Super bread knife</b>
				+ 3 -	+ 11 -	+ 4 -	+ 0 -
				USD 17: 3 in cart → USD 51	USD 21: 11 in cart → USD 231	USD 19: 4 in cart → USD 76	USD 8: 0 in cart → USD 0
				<i>This one is really blue</i>	<i>Not really, it's just marketing</i>	<i>This bottle is really fantastic</i>	<i>Stainless steel, the works!</i>
				<b>East white</b>	<b>Soft South Red</b>	<b>Kitchen knife</b>	<b>White from the South</b>
				+ 11 -	+ 5 -	+ 2 -	+ 0 -
				USD 5: 11 in cart → USD 55	USD 15: 5 in cart → USD 75	USD 10: 2 in cart → USD 20	USD 6: 0 in cart → USD 0
				<i>Eastern is bestern</i>	<i>Soft but not weak!</i>	<i>A must for every kitchen</i>	

8 components?

# Web Components for a commerce page!

<https://opensource.adobe.com/web-platform-zoo>

STATUS Cart: 7 products, 38 items, USD 540 - [Cart contents](#)

AI 1 Y STATUS  
(INVISIBLE)

simple but not simplistic!

HTML TEMPLATE

INC-DEC



Blue bottle

+ 3 -

USD 17: 3 in cart → USD 51

*This one is really blue*



Symmetric knife

+ 11 -

USD 21: 11 in cart → USD 231

*Not really, it's just marketing*



Fantastic bottle

+ 4 -

USD 19: 4 in cart → USD 76

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Super bread knife

+ 0 -

USD 8: 0 in cart → USD 0

*Stainless steel, the works!*



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+ 11 -

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Soft South Red

+ 5 -

USD 15: 5 in cart → USD 75

*Soft but not weak!*



Kitchen knife

+ 2 -

USD 10: 2 in cart → USD 20

*A must for every kitchen*



White from the South

+ 0 -

USD 6: 0 in cart → USD 0

PRODUCT LIST

4 + 1 components !

# HTTP 0.9, the Original Engine of the Web



Client

GET /index.html

TCP socket



Server

## https://http.dev/0.9

The **HyperText Transfer Protocol (HTTP)** is a data communications protocol and acts as the foundation of the *World Wide Web*. It was released in 1991 and originally did not have a version number associated with it. Later, it was referred to as version 0.9 ([HTTP/0.9](#)) to distinguish it from future revisions.

### Table of Contents

- [1. Request methods and usage](#)
- [2. Responses](#)
- [3. Example](#)
- [4. Takeaway](#)
- [5. See also](#)

### Request methods and usage

The sole HTTP request method available was HTTP **GET**, which only included a path to the resource. Unlike future revisions of the protocol, the full **URL** was not included because the protocol version, server, and port were redundant and therefore unnecessary after a connection was made. There was no support for **HTTP header fields** in the HTTP request.

### Responses

The HTTP response included only the requested resource, which was always a *Hypertext Markup Language (HTML)* file. There were no **HTTP header fields** in the HTTP response, and no **HTTP status codes** existed to indicate success, error, or otherwise. If an error occurred then the server will generate a situation-specific *HTML* file that the client will present to the user to describe the issue.

### Example

In the following example, the client is assumed to have connected to a server and requests an *HTML* file. The server successfully processes the HTTP request and responds with the contents.

#### Request

```
GET /index.html
```

#### Response

```
<html>
Welcome to the example.re homepage!
</html>
```

### Takeaway

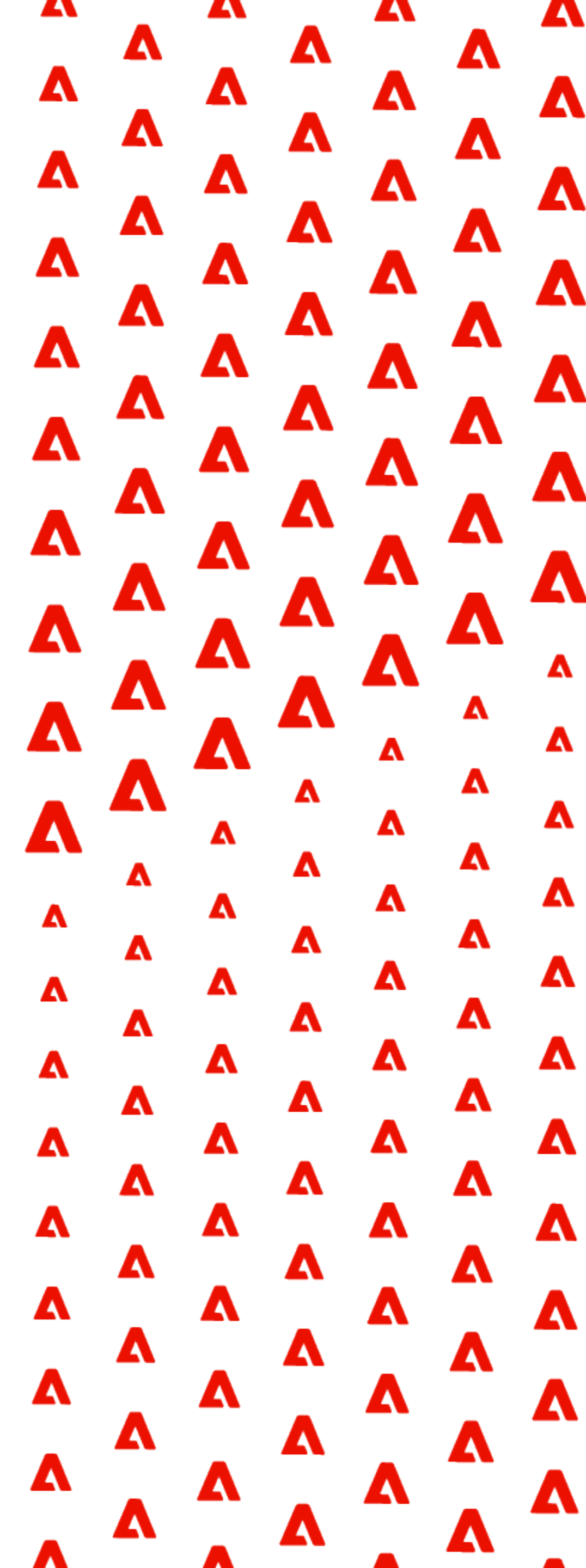
**HTTP/0.9** was the original release and it was extremely simple, supporting only the HTTP **GET** method. Only *HTML* files were included in HTTP responses, there were no **HTTP headers**, and there were no **HTTP status codes**.

### See also

- [HTTP/1.0](#)
- [HTTP/1.1](#)
- [HTTP/2](#)
- [HTTP/3](#)

# 3

But how?





**Simplicity  
front & center**

# The *quest* of simplicity..



**Do not give up. Try again.**





# Measure & Evaluate



*It seems that perfection is achieved not when there is nothing more to add, but when there is nothing more to take away.*

Antoine de Saint-Exupéry

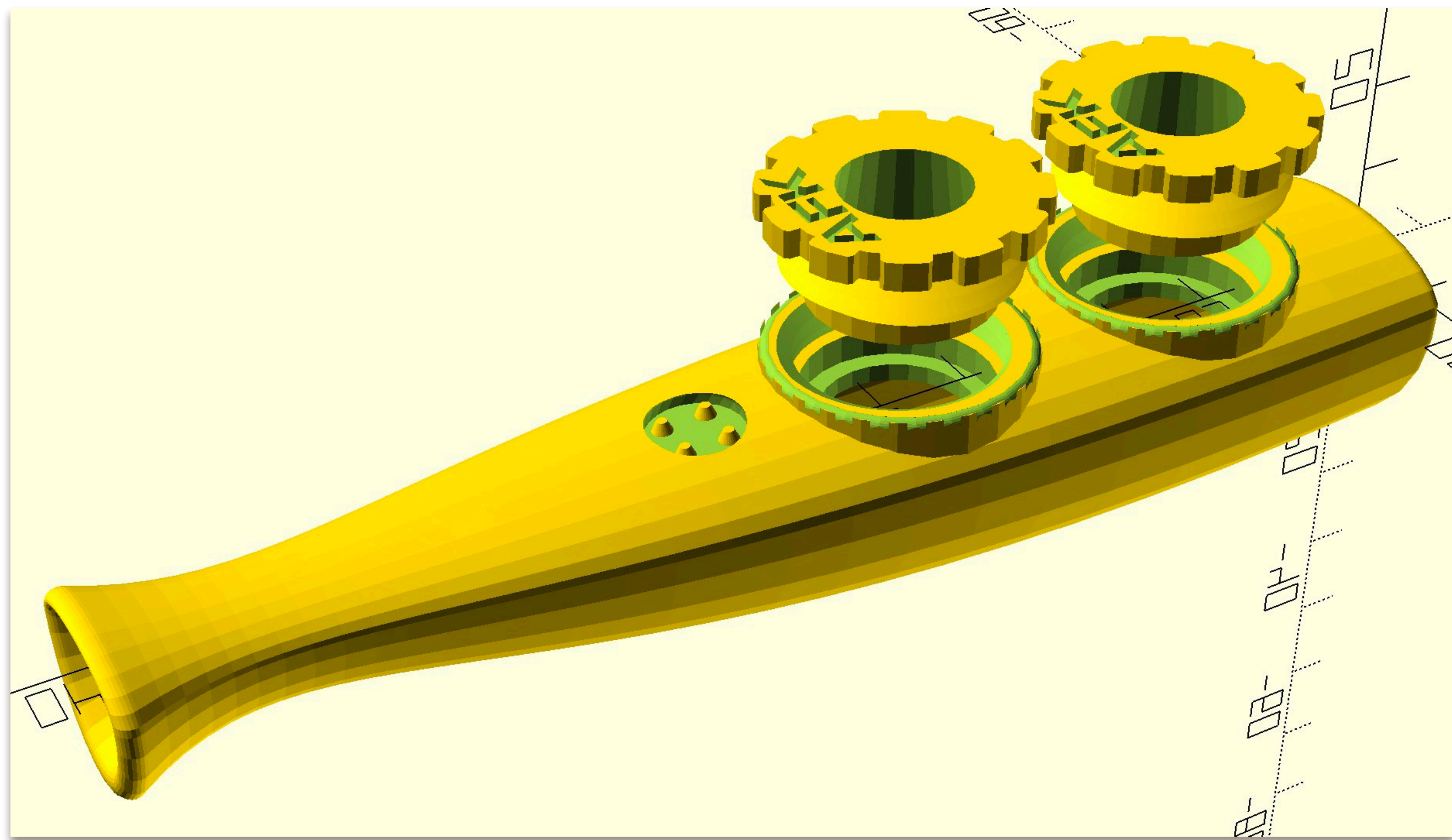
# Definition of Done



Is there anything  
left to remove?



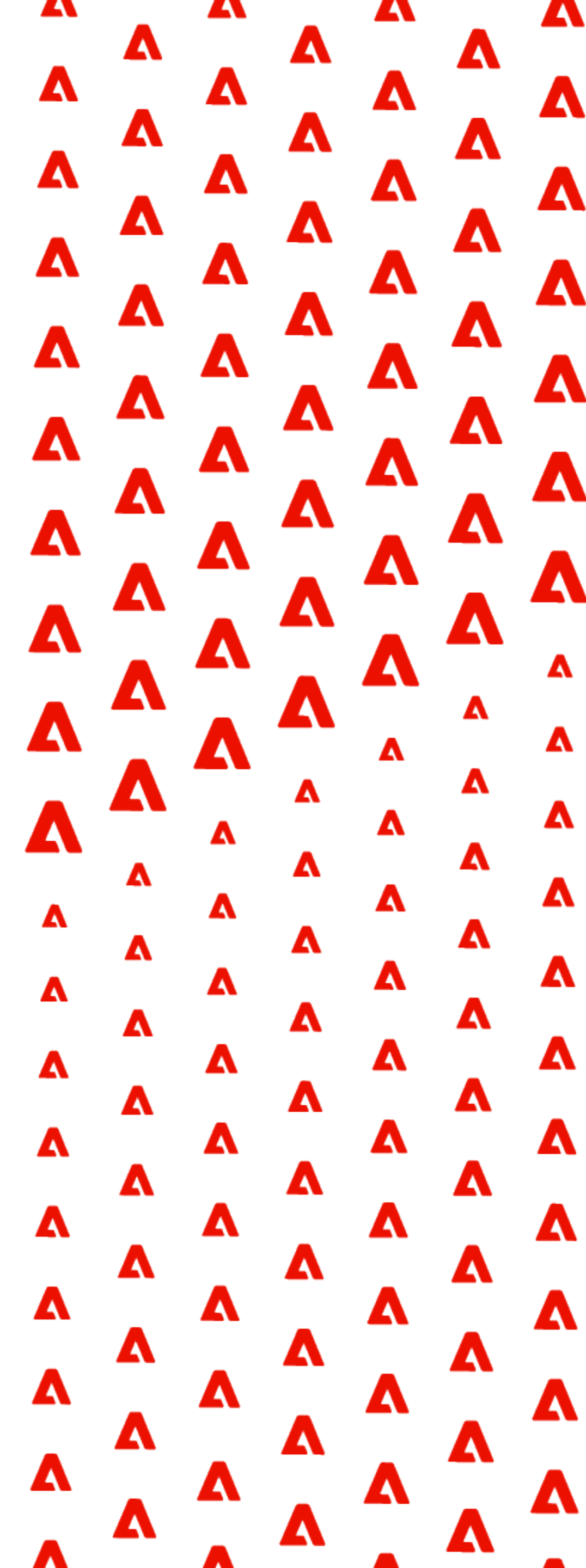
# Beautiful & Obvious Simplicity



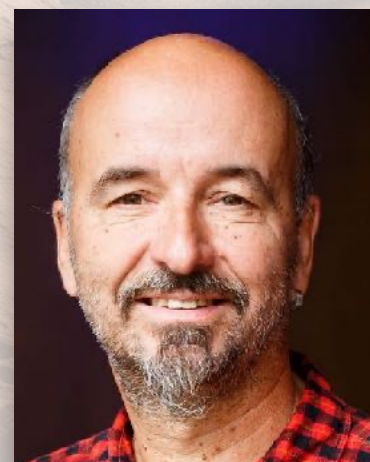
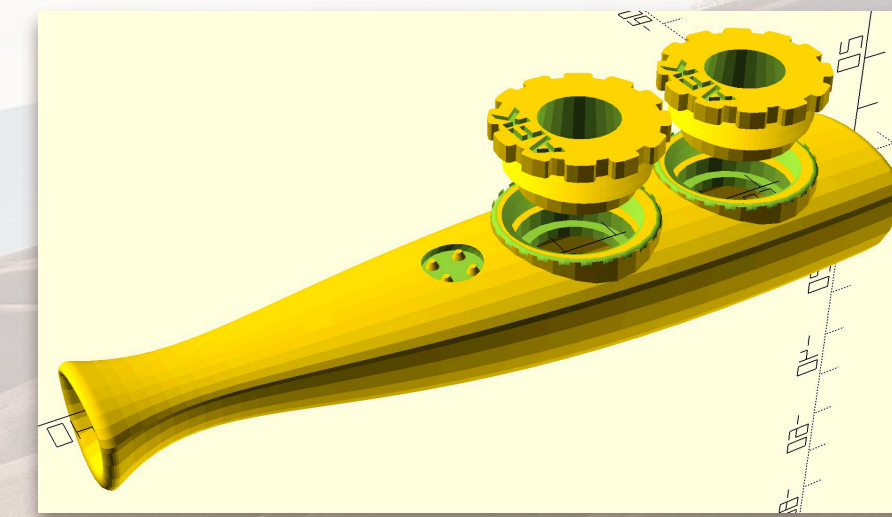
# Simple, but not simplistic

# 4

# Coda



# SIMPLICITY? IMPORTANT, HARD, INTEGRABLE!



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fosstodon.org/@bdelacretaz  
grep.codeconsult.ch/



<https://grep.codeconsult.ch/2025/03/13/zh/>

The Power of Simplicity - devops days Zürich 2025:: Bertrand Delacrétaz

