

# Reinventing the wheel

Nordic Testing Days 2026





# Disclaimer

This is not about bragging

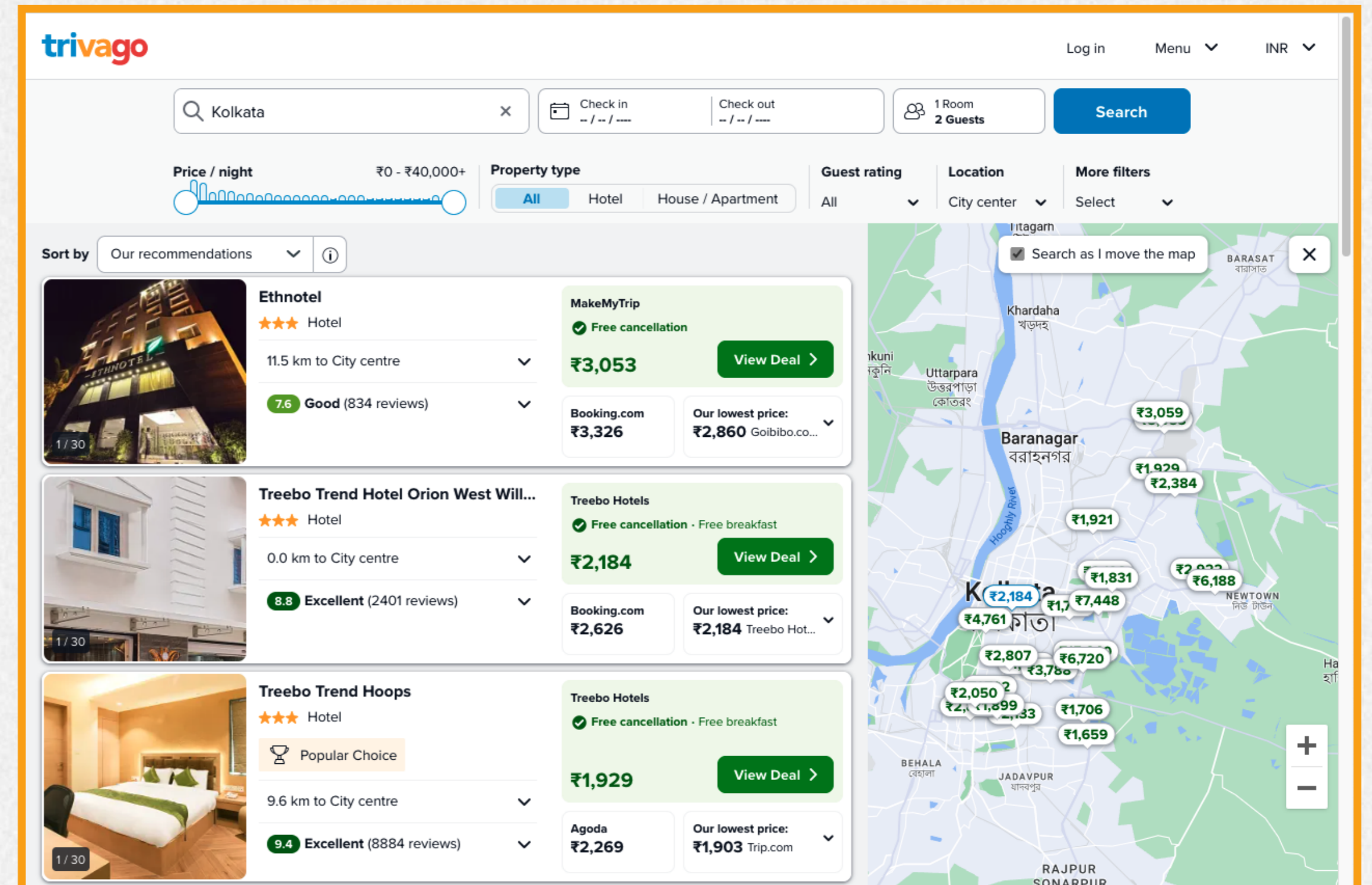
# About me

- Benjamin Bischoff
- Global TAE @ trivago N.V.
- 25 years in IT
- Last 10 years in testing



# trivago in 2016

- Central test automation team
- Align all automated e2e testing
- Start a new test framework



# The framework



# What is Cucumber

- BDD Tool
- Owned by Cucumber OS Project
- Gherkin language
- Step connected to glue code



# Cucumber scenario

Feature: NTD Conference

Scenario: Ticket sales

Given there are 3 tickets left

When I buy 1 ticket

Then there are 2 tickets left



# Why Cucumber?

- Keep tests readable for all
- Easy to implement
- Lots of documentation
- Great community



```
[
  {
    "line": 1,
    "elements": [
      {
        "start_timestamp": "2024-04-12T08:02:13.843Z",
        "before": [
          {
            "result": {
              "duration": 88375000,
              "status": "passed"
            },
            "match": {
              "location": "glue.TrupiSteps.before(io.cucumber.java.Scenario)"
            }
          }
        ],
      },
    ],
    "line": 182,
    "name": "Clickout on the green space in deals area",
  }
]
```

# Why JSON

- It is easy to parse
- It is ready at the end of a run
- Works across frameworks

```
{
  "line": 1,
  "elements": [
    {
      "start_timestamp": "2024-04-12T08:02:13.843Z",
      "before": [
        {
          "result": {
            "duration": 88375000,
            "status": "passed"
          },
          "match": {
            "location": "glue.TrupiSteps.before(io.cucumber.java.Scenario)"
          }
        }
      ],
      "line": 182,
      "name": "Clickout on the green space in deals area",
      "description": "",
      "id": "clickouts;clickout-on-the-green-space-in-deals-area",
      "after": [
        {
          "embeddings": [
            {
              "data": "aHR0cHM6Ly9zdGFnZS5ocy13ZWItYXBwLnRydi5jbG91ZC9lbi1HQi9zcmw/Y3R",
              "mime_type": "text/plain",
              "name": "Logs: browser (Level: WARNING)"
            }
          ]
        }
      ],
      "result": {
        "duration": 131507000,
        "status": "passed"
      },
      "match": {

```

# Reporting in 2016

- cucumber-reporting
- De-facto standard

| Project                        | Number | Date               |
|--------------------------------|--------|--------------------|
| Damian - project with Cucumber | 10     | 11 gru 2016, 00:16 |

|          |             |
|----------|-------------|
| Branch   | release/1.0 |
| Browser  | Firefox     |
| Platform | Windows     |

### Features Statistics

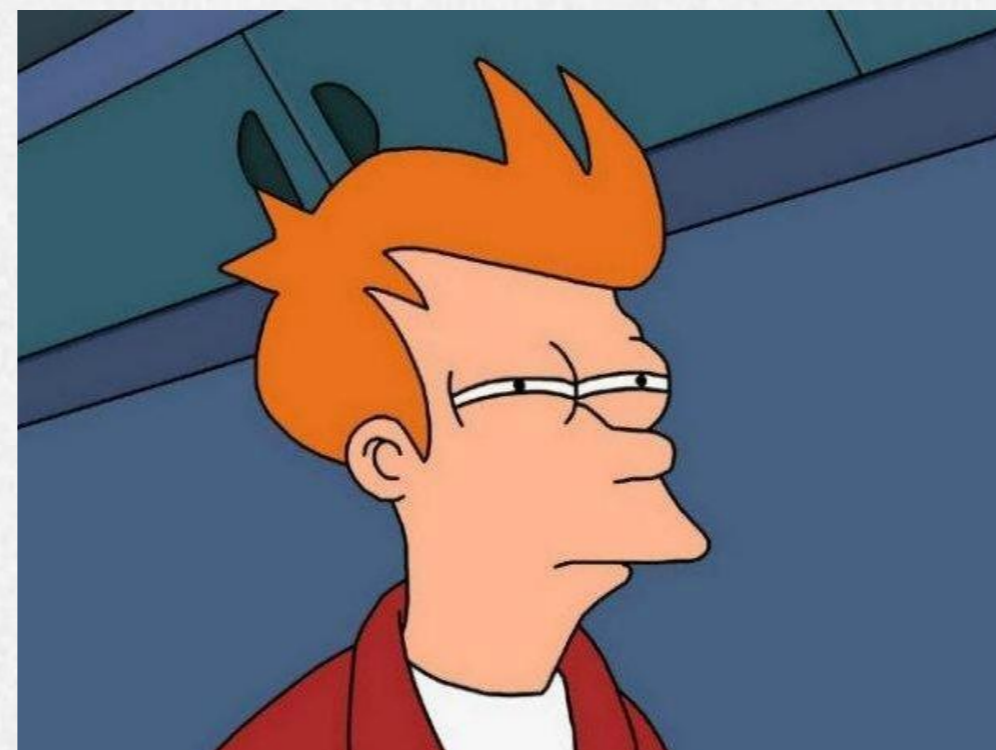
The following graphs show passing and failing statistics for features

**Steps**

| Feature        | Steps     |          |          |          |           | Total     | Scenarios |          |          | Features            |        |
|----------------|-----------|----------|----------|----------|-----------|-----------|-----------|----------|----------|---------------------|--------|
|                | Passed    | Failed   | Skipped  | Pending  | Undefined |           | Passed    | Failed   | Total    | Duration            | Status |
| 1st feature    | 10        | 0        | 0        | 0        | 0         | 10        | 1         | 0        | 1        | 1m 39s 263ms        | Passed |
| Second feature | 5         | 1        | 2        | 1        | 2         | 11        | 1         | 1        | 2        | 092ms               | Failed |
| <b>2</b>       | <b>15</b> | <b>1</b> | <b>2</b> | <b>1</b> | <b>2</b>  | <b>21</b> | <b>2</b>  | <b>1</b> | <b>3</b> | <b>1m 39s 355ms</b> |        |
|                | 71.43%    | 4.76%    | 9.52%    | 4.76%    | 9.52%     |           | 66.67%    | 33.33%   |          |                     | 50.00% |

# Reporting in 2016

| Steps  |        |         |         |           |       | Scenarios |        |       | Features |        |
|--------|--------|---------|---------|-----------|-------|-----------|--------|-------|----------|--------|
| Passed | Failed | Skipped | Pending | Undefined | Total | Passed    | Failed | Total | Duration | Status |
| 10     | 0      | 0       | 0       | 0         | 10    | 1         | 0      | 1     | 1:39.263 | Passed |
| 5      | 1      | 2       | 1       | 3         | 12    | 1         | 2      | 3     | 0.092    | Failed |
| 15     | 1      | 2       | 1       | 3         | 22    | 2         | 2      | 4     | 1:39.355 | 2      |
| 68.18% | 4.55%  | 9.09%   | 4.55%   | 13.64%    |       | 50.00%    | 50.00% |       |          | 50.00% |



„Just because you **have** all the data,  
you don't have to **show** all the data.“

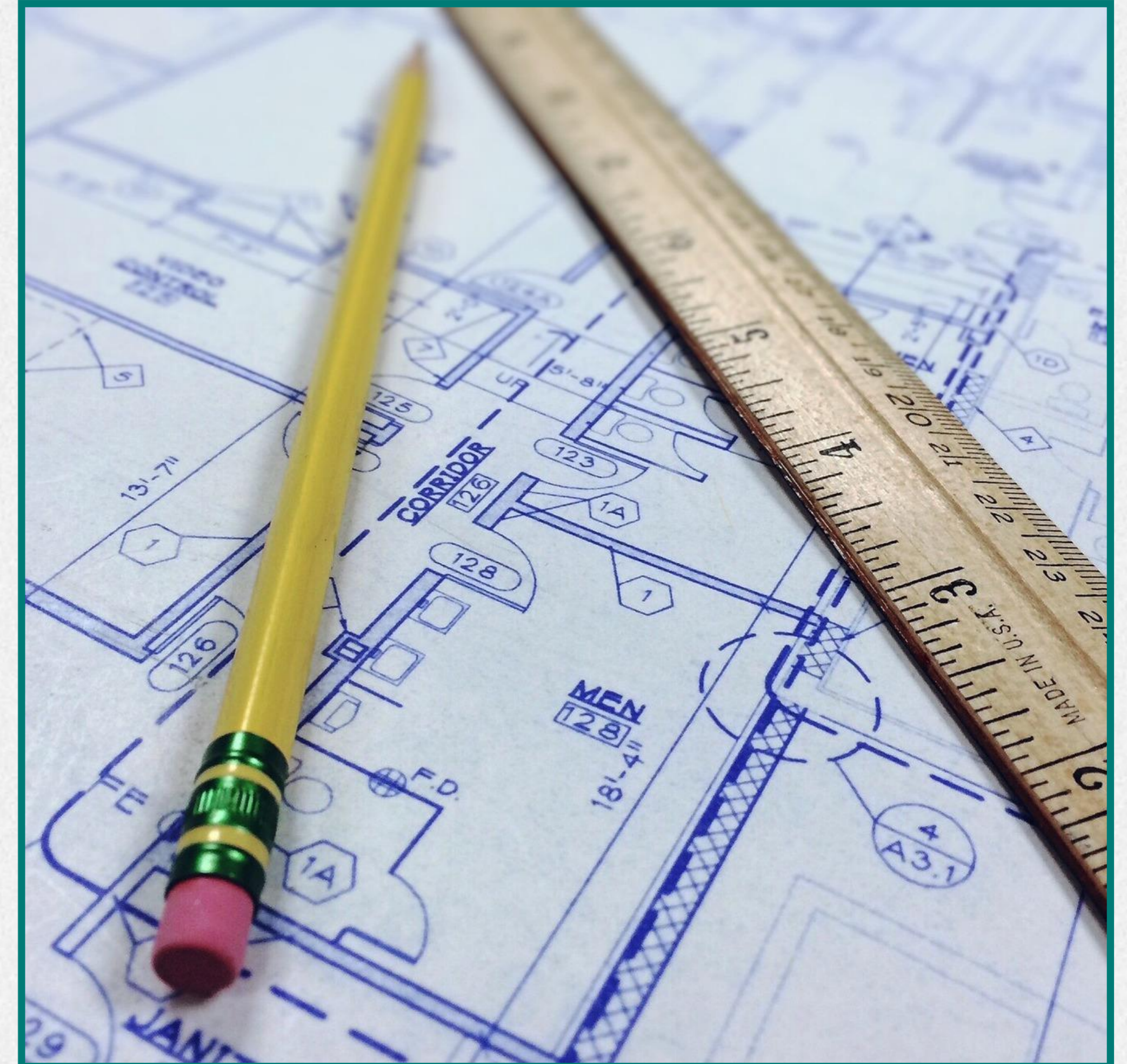


# trivago Hackathon

2017

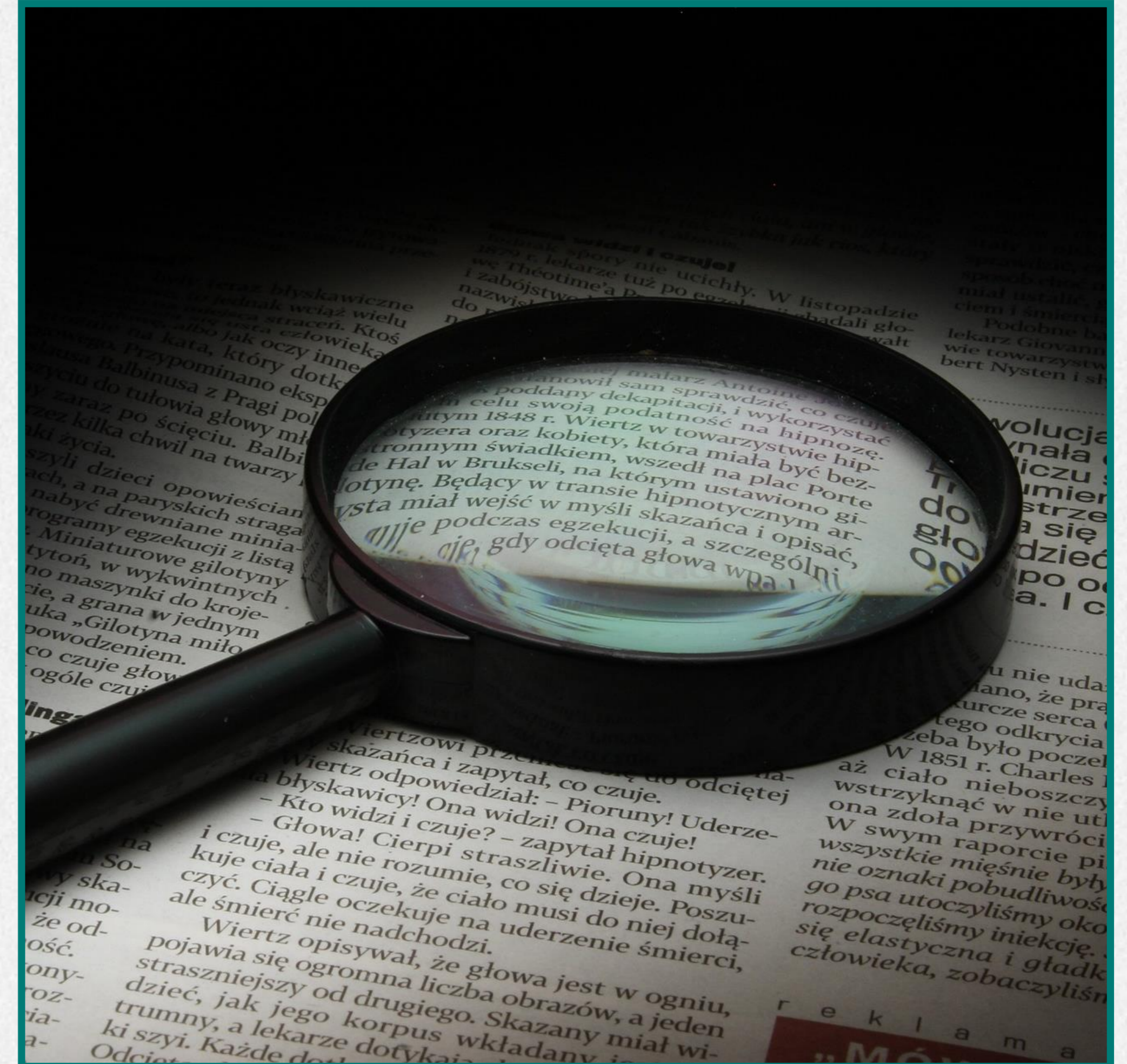
# How it started

- Lots of experience with JSF
- Wanted to try Apache Freemarker
- Maven for the win

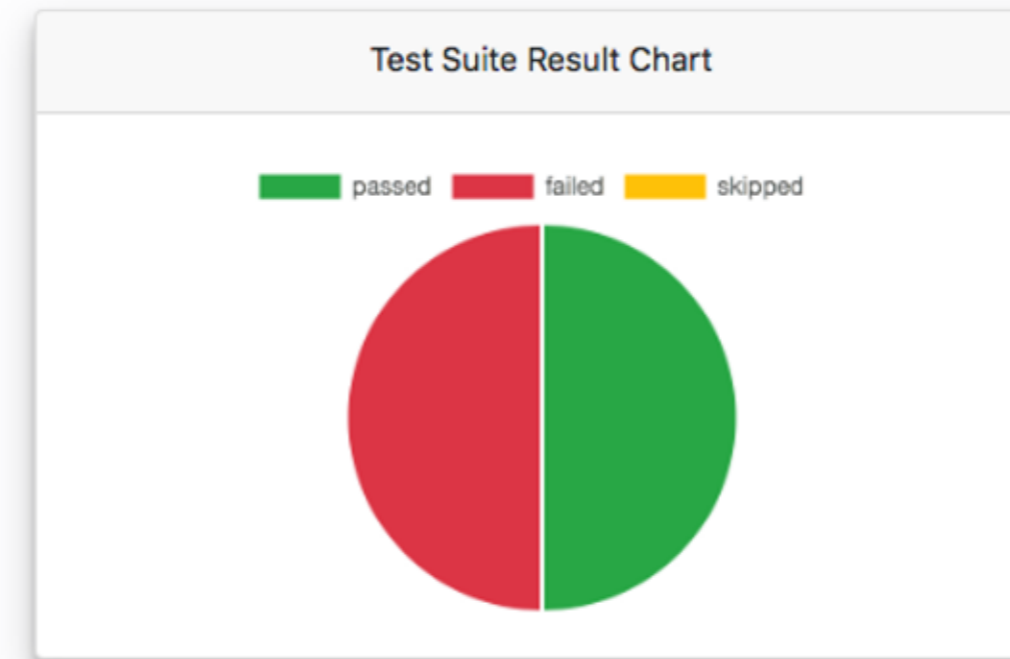


# What is Cluecumber?

- Maven plugin for Cucumber JSON reporting
- Focus on clear and concise information for testers
- First open-source release in November 2017



# Cluecumber in 2017



### Test Suite Summary

4 scenarios in 2 features.

---

2 passed.

---

1 failed.

---

1 skipped.

### Failed Scenarios

Show 10 entries Search:

| Feature        | Scenario   |
|----------------|--|
| Default Search | <a href="#">Default Search Is Executed By Clicking The Search Button On Homepage</a> |

Showing 1 to 1 of 1 entries Previous 1 Next

### Skipped Scenarios

Show 10 entries Search:

| Feature        | Scenario   |
|----------------|--|
| Default Search | <a href="#">Skipped Search Is Executed By Clicking The Search Button On Homepage</a> |

Showing 1 to 1 of 1 entries Previous 1 Next

### Passed Scenarios

# What's inside?

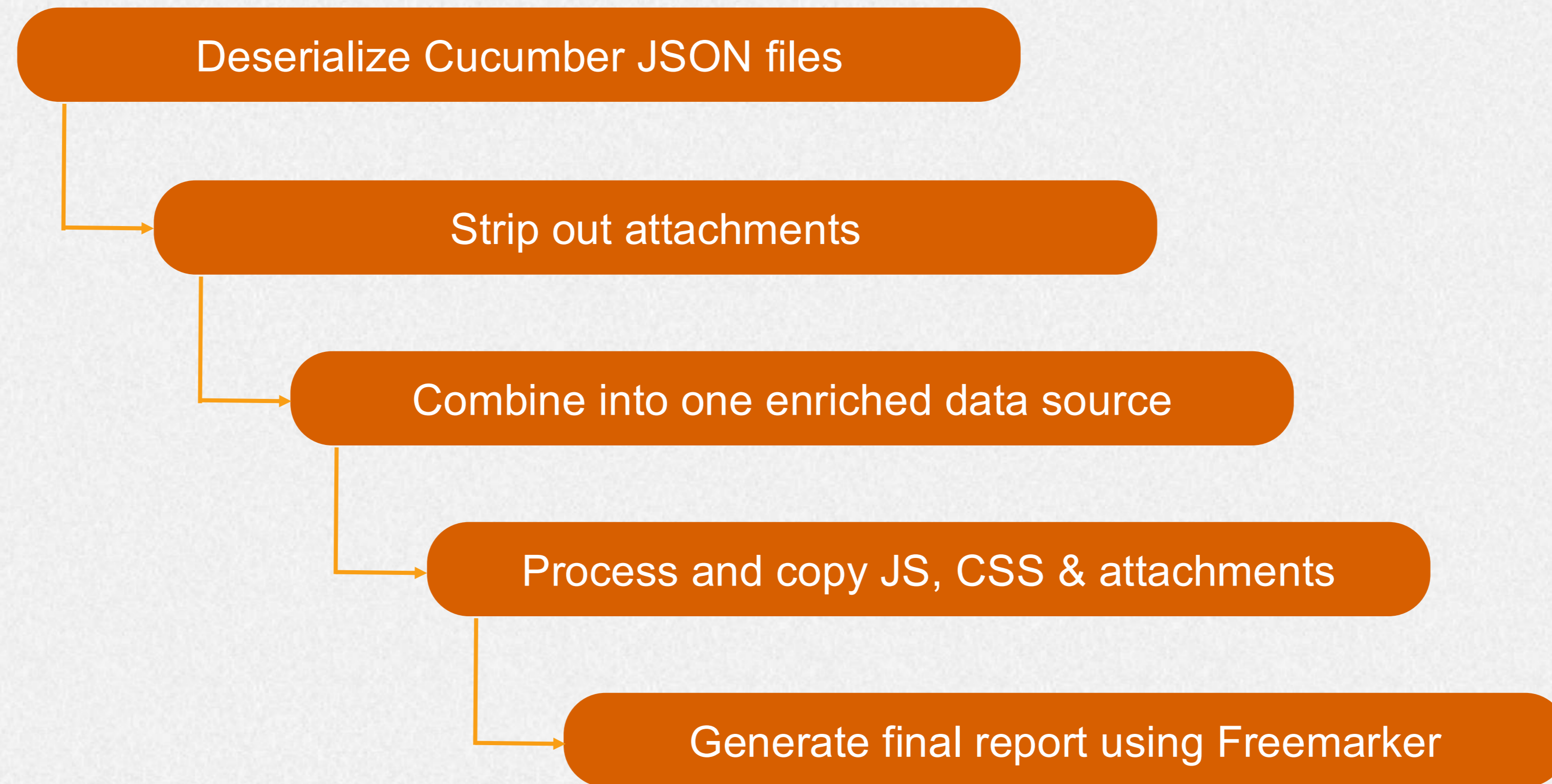
{ Gson }

Parse, aggregate and pre-process Cucumber JSON files and strip out attachments

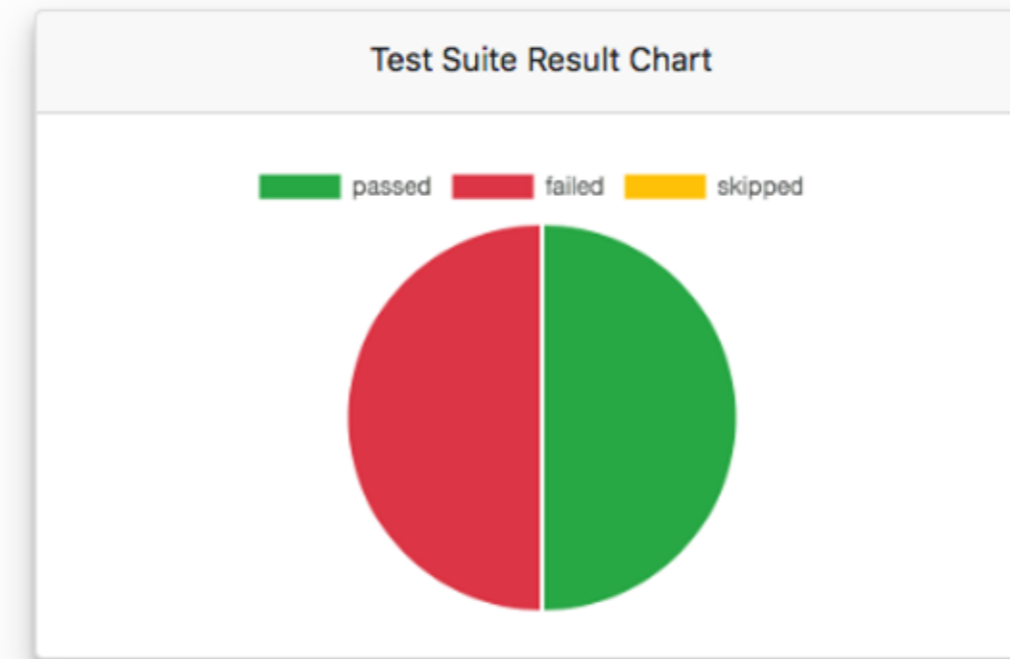
<#FREEMARKER>

Templating engine for Java to generate static documents from the parsed Cucumber JSON

# Flow



# Cluecumber in 2017



### Test Suite Summary

4 scenarios in 2 features.

---

2 passed.

---

1 failed.

---

1 skipped.

### Failed Scenarios

Show 10 entries Search:

| Feature        | Scenario   |
|----------------|--|
| Default Search | <a href="#">Default Search Is Executed By Clicking The Search Button On Homepage</a> |

Showing 1 to 1 of 1 entries Previous 1 Next

### Skipped Scenarios

Show 10 entries Search:

| Feature        | Scenario   |
|----------------|--|
| Default Search | <a href="#">Skipped Search Is Executed By Clicking The Search Button On Homepage</a> |

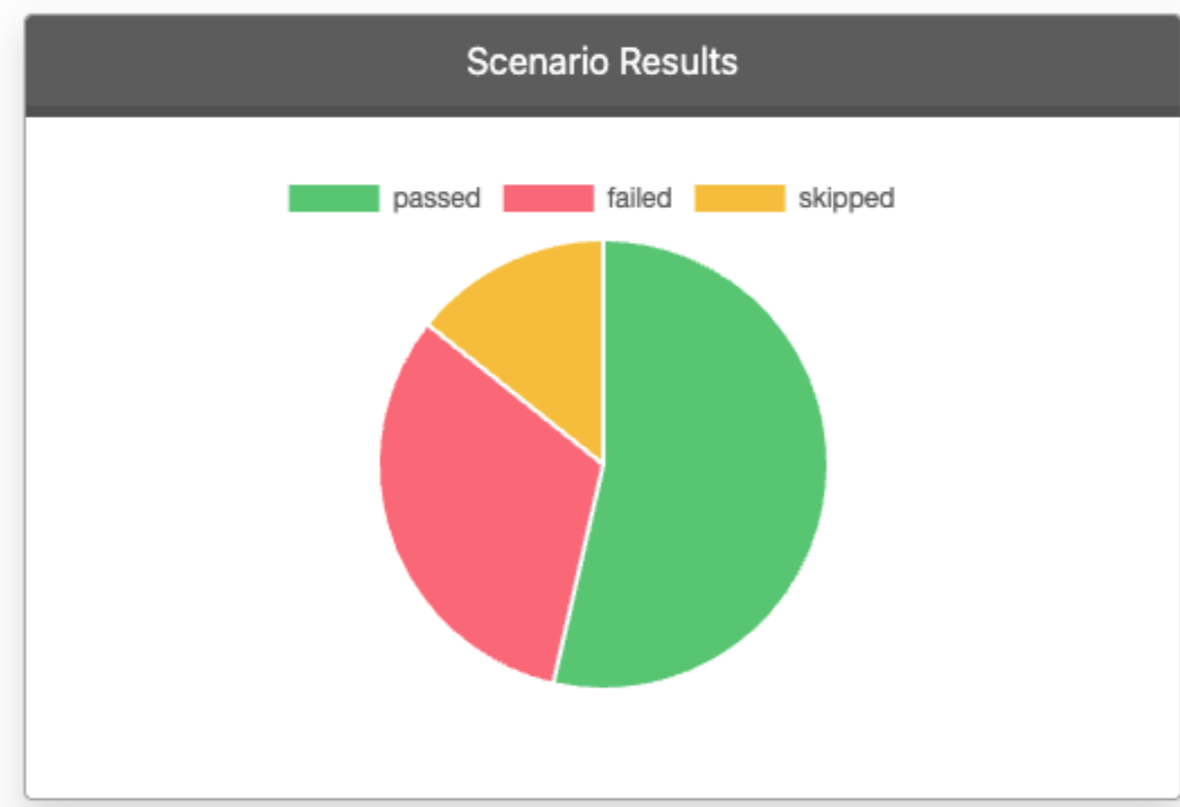
Showing 1 to 1 of 1 entries Previous 1 Next

### Passed Scenarios



### All Scenarios

**Custom Parameter:** This is a test  
**Custom URL:** https://www.google.com  
**Custom Relative URL:** ./css/cluecumber.css  
This is a long text that is displayed without the key. This can be used to display longer texts in the report!



**Scenario Summary**

28 Scenarios

15 passed ✓  
9 failed ✗  
4 skipped ⚡

Toggle 3 Previous Runs

**Test Suite Info**

**Start**  
2025-05-05 14:01:32

**End**  
2025-05-05 14:42:36

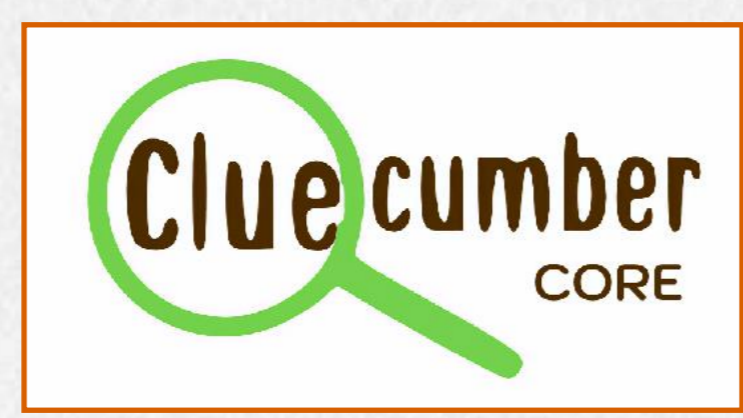
**Total**  
41m 04s 032ms

### 9 failed Scenarios ✗

Show 25 entries Search:

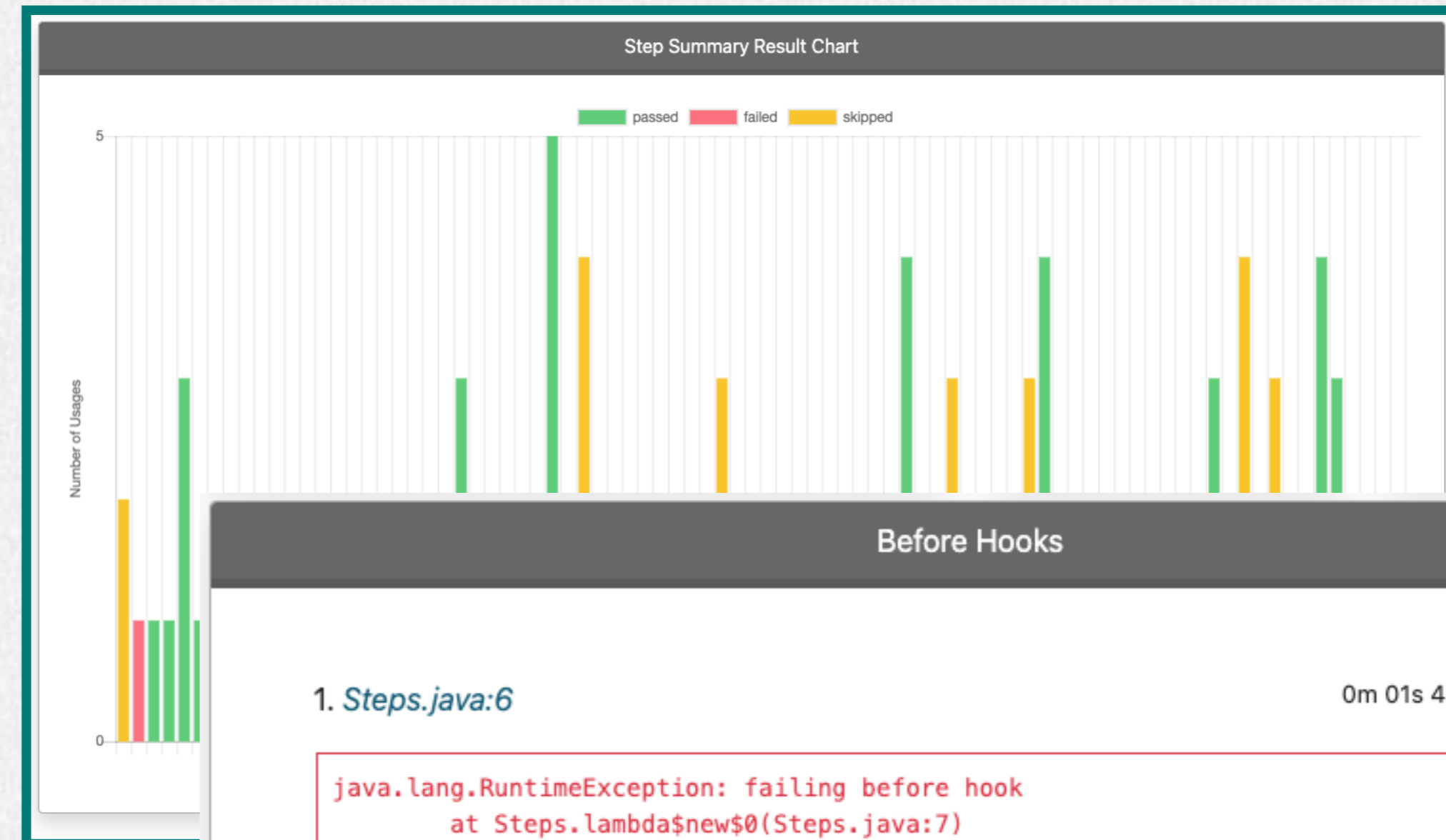
| Feature                    | Scenario  | Started             | Duration     |
|----------------------------|---|---------------------|--------------|
| Affiliates: Check DummyUrl | Check DummyUrl<br><code>org.openqa.selenium.NoSuchElementException: no such element: Unable to locate element: {"method":"id","selector":"desktop_nav_link_logout"} More</code> | 2025-05-05 14:41:48 | 0m 19s 317ms |
| Affiliates: Check DummyUrl | Check DummyUrl<br><code>org.openqa.selenium.NoSuchElementException: no such element: Unable to locate element: {"method":"id","selector":"desktop_nav_link_logout"} More</code> | 2025-05-05 14:41:48 | 0m 19s 317ms |
| Attachments                | Attachment test   | 2025-05-05 14:41:48 | 0m 48s 638ms |

# Cluecumber in 2026



# Features

- Multiple views for in-depth analysis
- Attachments, doc strings, step outputs
- Step and scenario hooks
- Consolidated reruns
- Karate sub scenarios
- Customization options



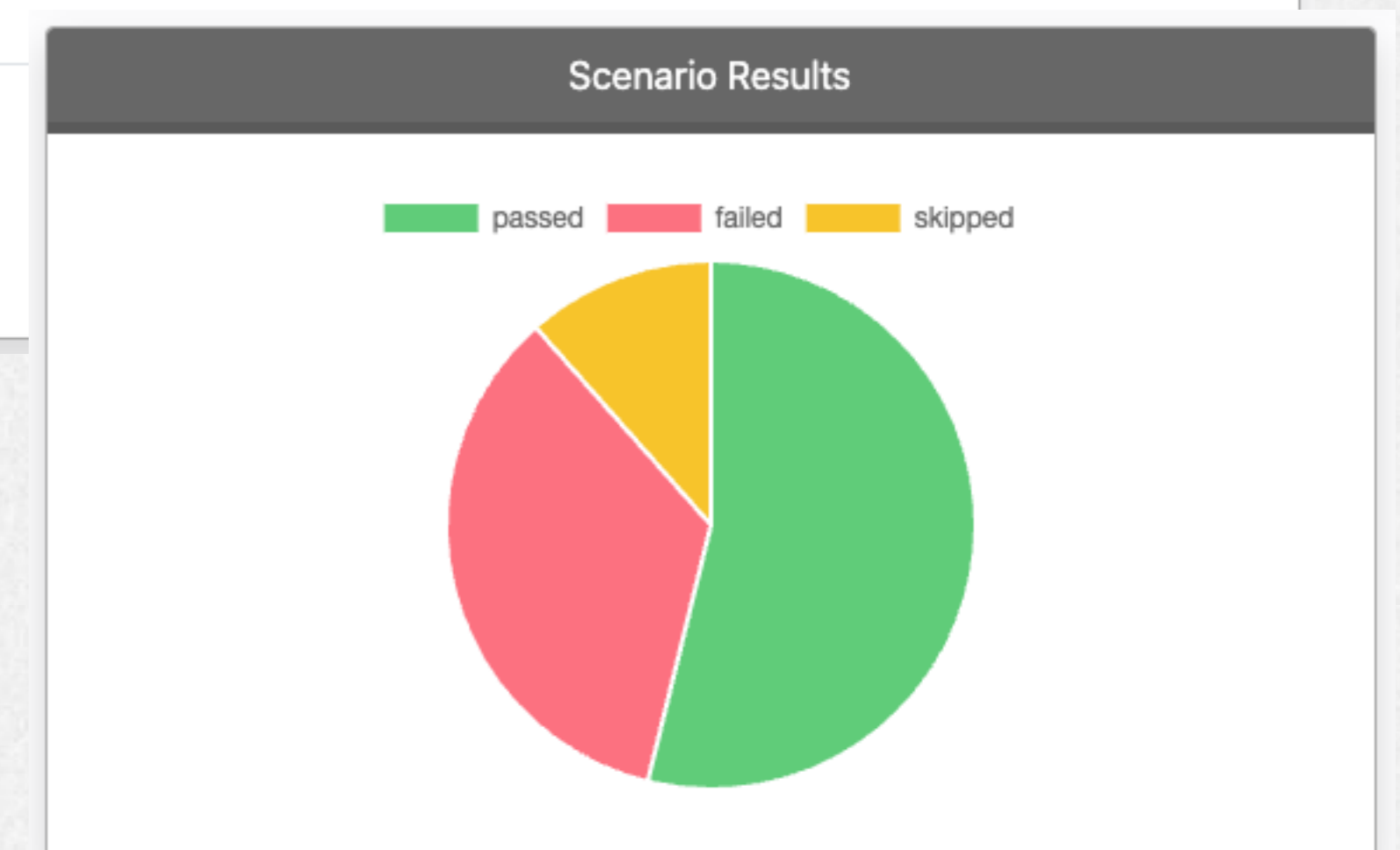
### Before Hooks

1. *Steps.java:6* 0m 01s 452ms ✘

```
java.lang.RuntimeException: failing before hook
    at Steps.lambda$new$0(Steps.java:7)
    at
    cucumber.runtime.java8.Java8HookDefinition.lambda$execute$0(Java8HookDefinition.java:51)
```

[Toggle](#) | Step Output

Output 1  
Output 2



# Current state

- Available on Maven Central
- 92 releases
- 290 stars
- 274 issues closed
- Used and supported by trivago

The screenshot shows a test report interface with a dark header containing navigation links and a timestamp '2022-09-24 11:52:28'. The main title is 'All Scenarios'. Below the title, there is a section for 'Custom Parameter: This is a test' and 'Custom URL: https://www.google.com', followed by a note: 'This is a long text that is displayed without the key. This can be used to display longer texts in the report!'. The report is divided into three columns: 'Scenario Results', 'Test Suite Time', and 'Test Suite Summary'. The 'Test Suite Summary' column shows: '18 Scenarios', '8 passed ✓', '9 failed ✗', and '1 skipped 🚫'. Below this, a dark bar indicates '9 failed Scenarios ✗'. A table follows with columns 'Feature', 'Scenario', 'Started', and 'Duration'. The table lists three failed scenarios: 'Affiliates: Check DummyUri' (org.openqa.selenium.NoSuchElementException, 0m 16s 317ms), 'login page' (org.openqa.selenium.NoSuchWindowException, 0m 27s 548ms), and 'Attachments' (java.lang.AssertionError, 0m 48s 638ms). A fourth feature, 'Vendor Shopping Cart', is listed but has no associated scenarios shown.

| Feature                    | Scenario   | Started | Duration     |
|----------------------------|--|---------|--------------|
| Affiliates: Check DummyUri | Check DummyUri<br>org.openqa.selenium.NoSuchElementException |         | 0m 16s 317ms |
| login page                 | Login<br>org.openqa.selenium.NoSuchWindowException           |         | 0m 27s 548ms |
| Attachments                | Attachment test<br>java.lang.AssertionError                  |         | 0m 48s 638ms |
| Vendor Shopping Cart       |  |         |              |

# Company backing

- Makes it more credible
- Improves branding
- Higher project durability





# Technology and documentation

“Make it **work**, then make it **pretty** did not work for me in an **OSS** context”

# Code quality

- Code craftsmanship
- Clean code
- Design patterns



# Stability

- Test coverage
- Unit and integration tests



# Documentation

- Setup and usage documentation
- Contribution guidelines



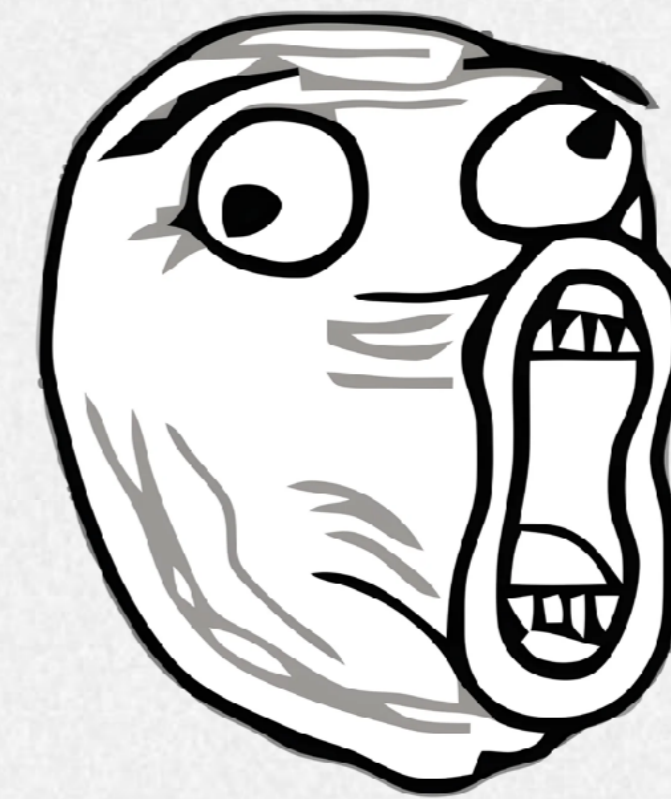


# Dealing with people

# People ignore the scope

„Is there any way to handle historical data of all automation runs in a single dashboard?“

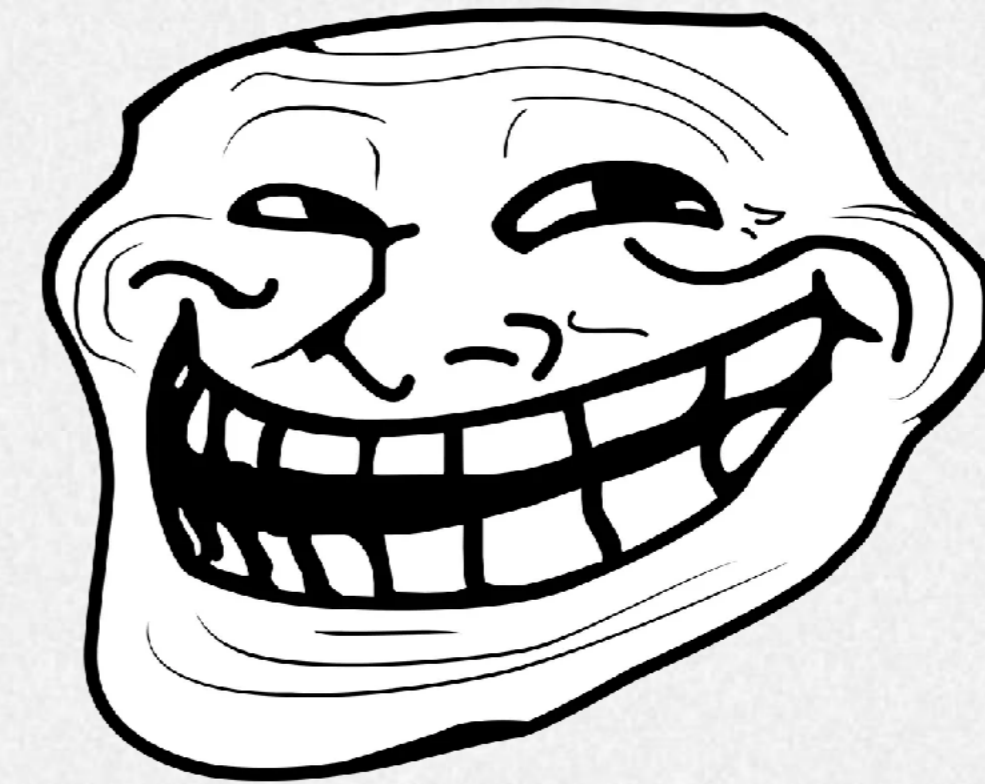
*–GitHub user*



# People ignore project requirements

„I receive an error when running Cluecumber. with Maven 3.0.4.“

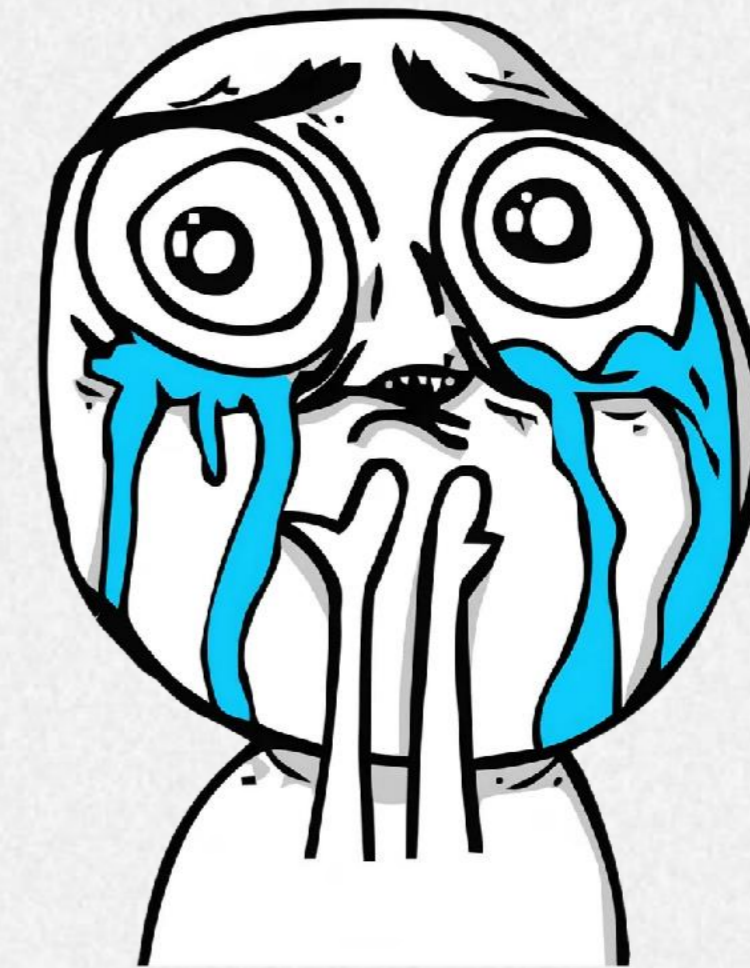
*–GitHub user*



# People ignore what dependencies allow

„In Cluecumber, the displayed error message is lacking information.“

*–GitHub user*

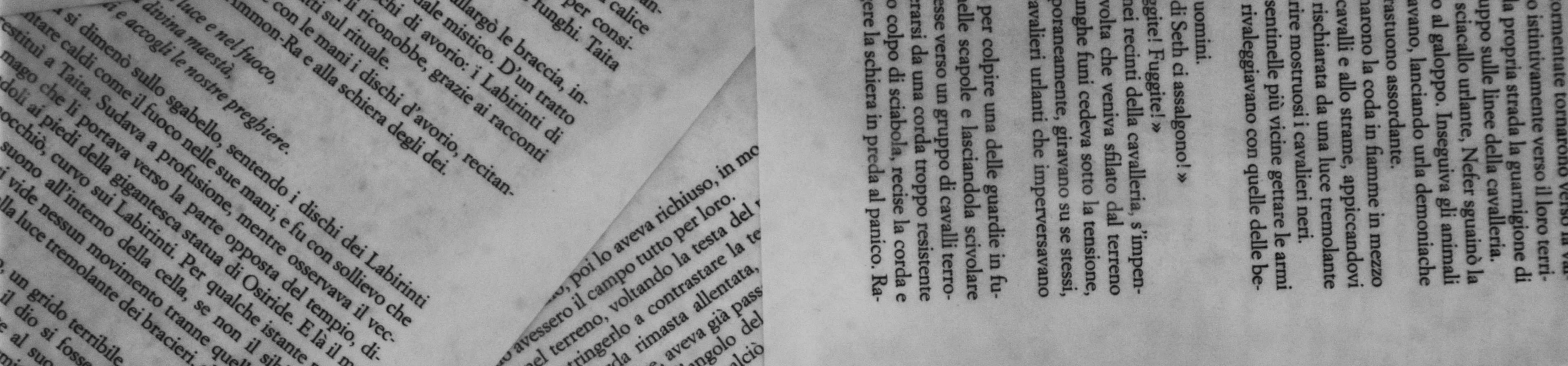


# People are impatient

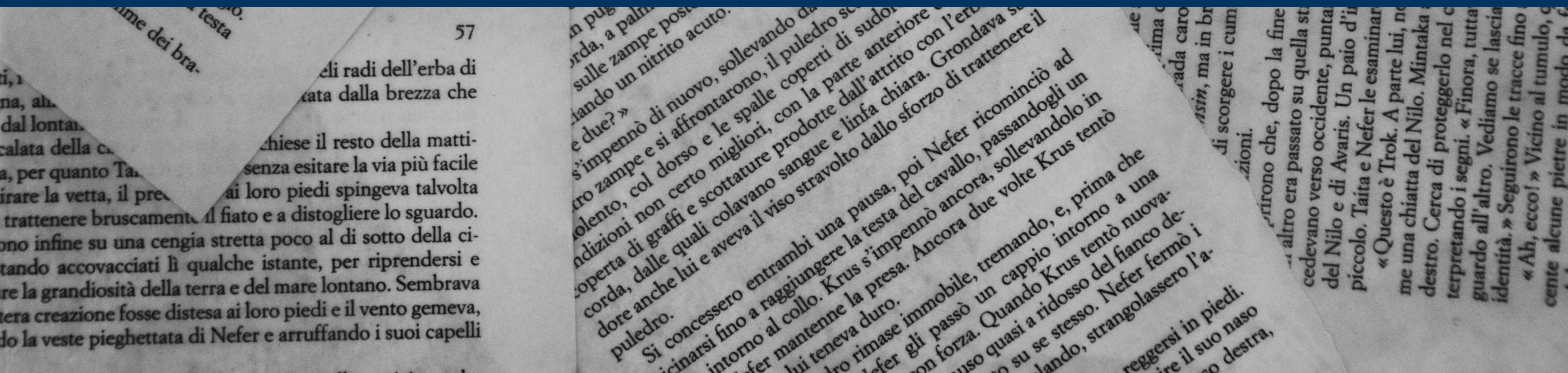
„Friendly reminder...”

*–GitHub user*





# Nobody reads the manual!



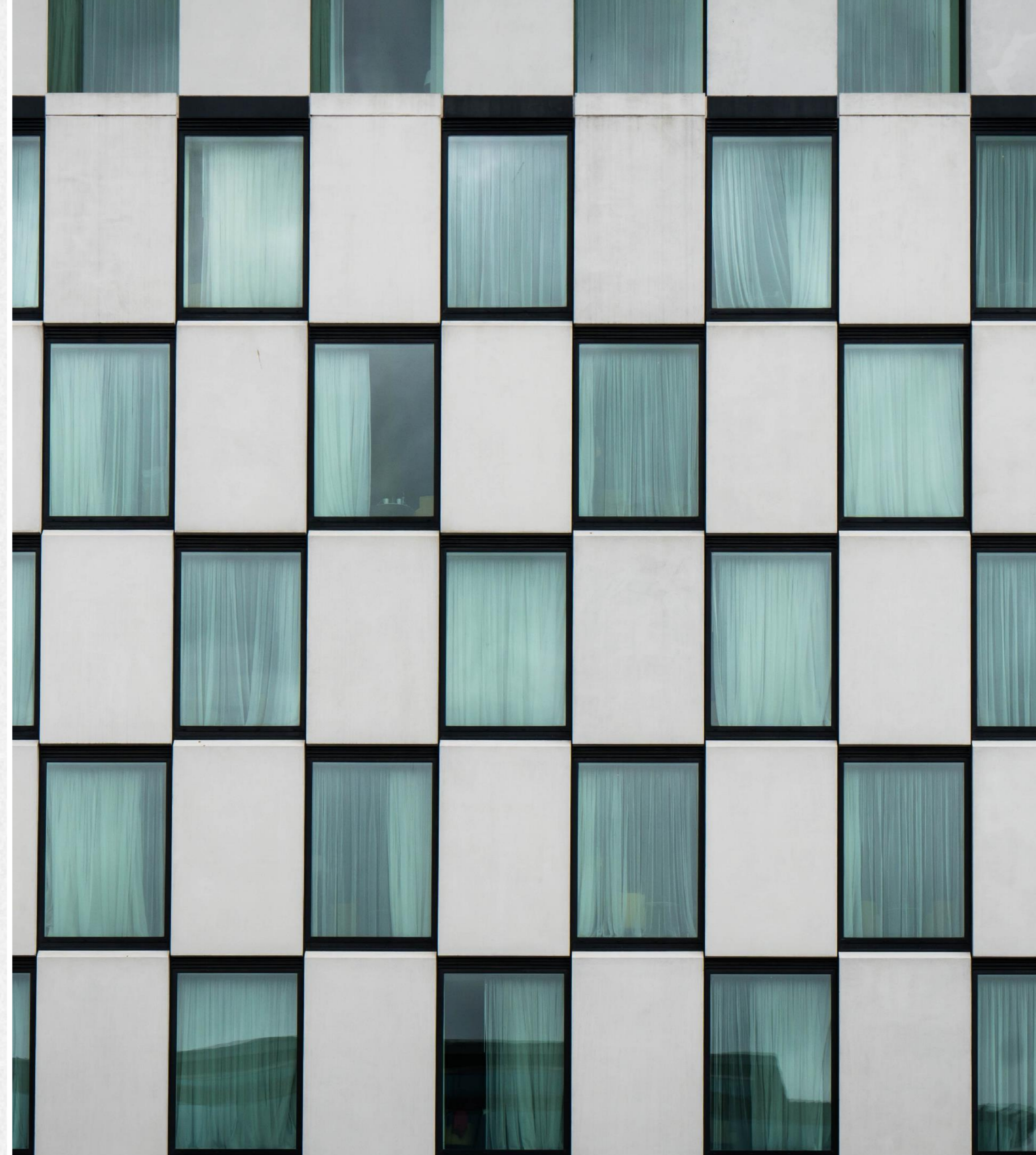


# Time and logistics

# Keeping up to date with dependencies



# Pushing for **useful** **issue reporting**



Answering  
the same question  
over and over



# Checking out similar projects



# Finding time to work on the project



# AI related challenges



**Guilt** if the project  
is on hold





# Key learnings

What I picked up along the way.

# Open source is challenging



# Open source is rewarding



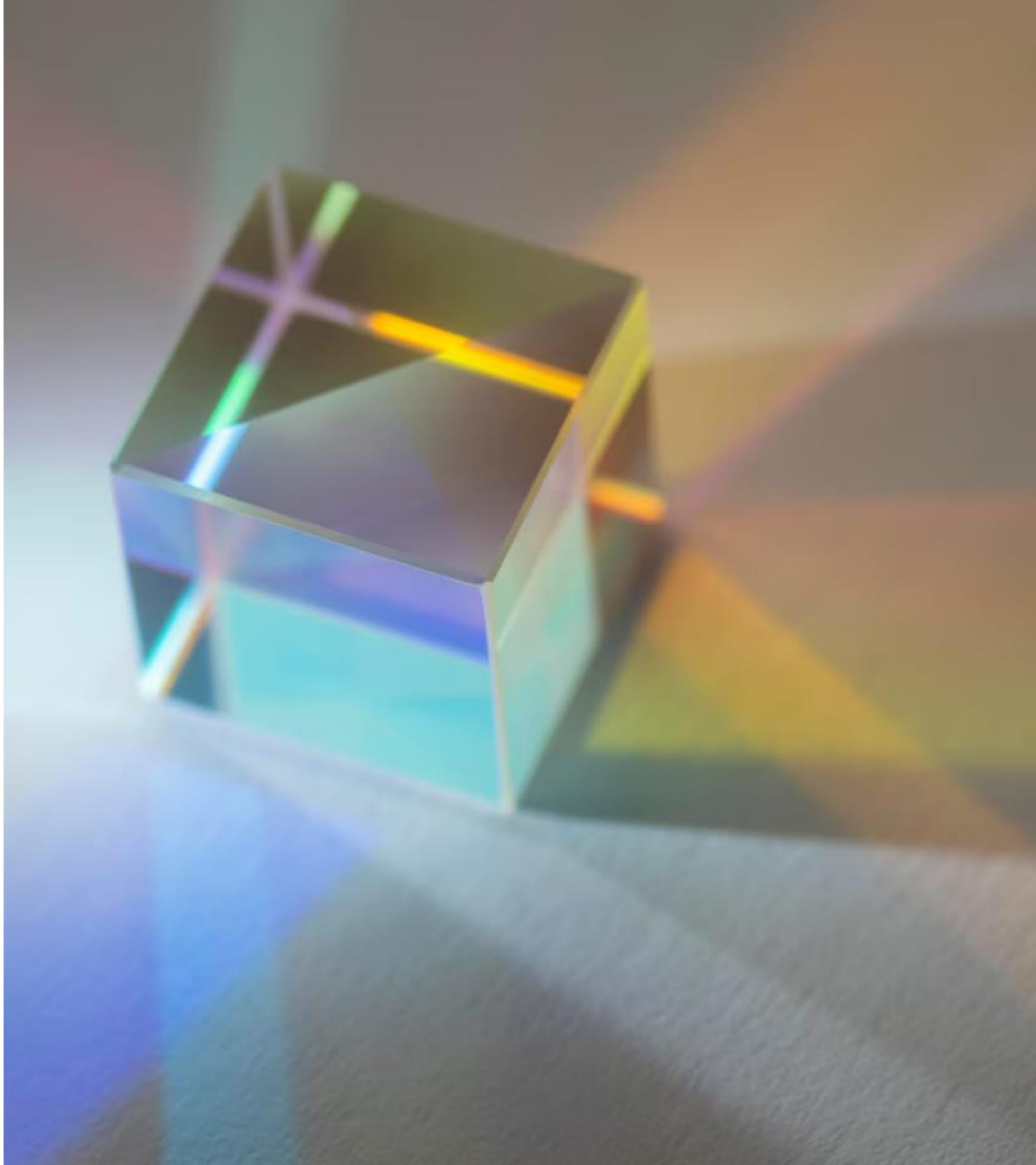
You help and inspire  
people



You get in touch **with**  
**the community**



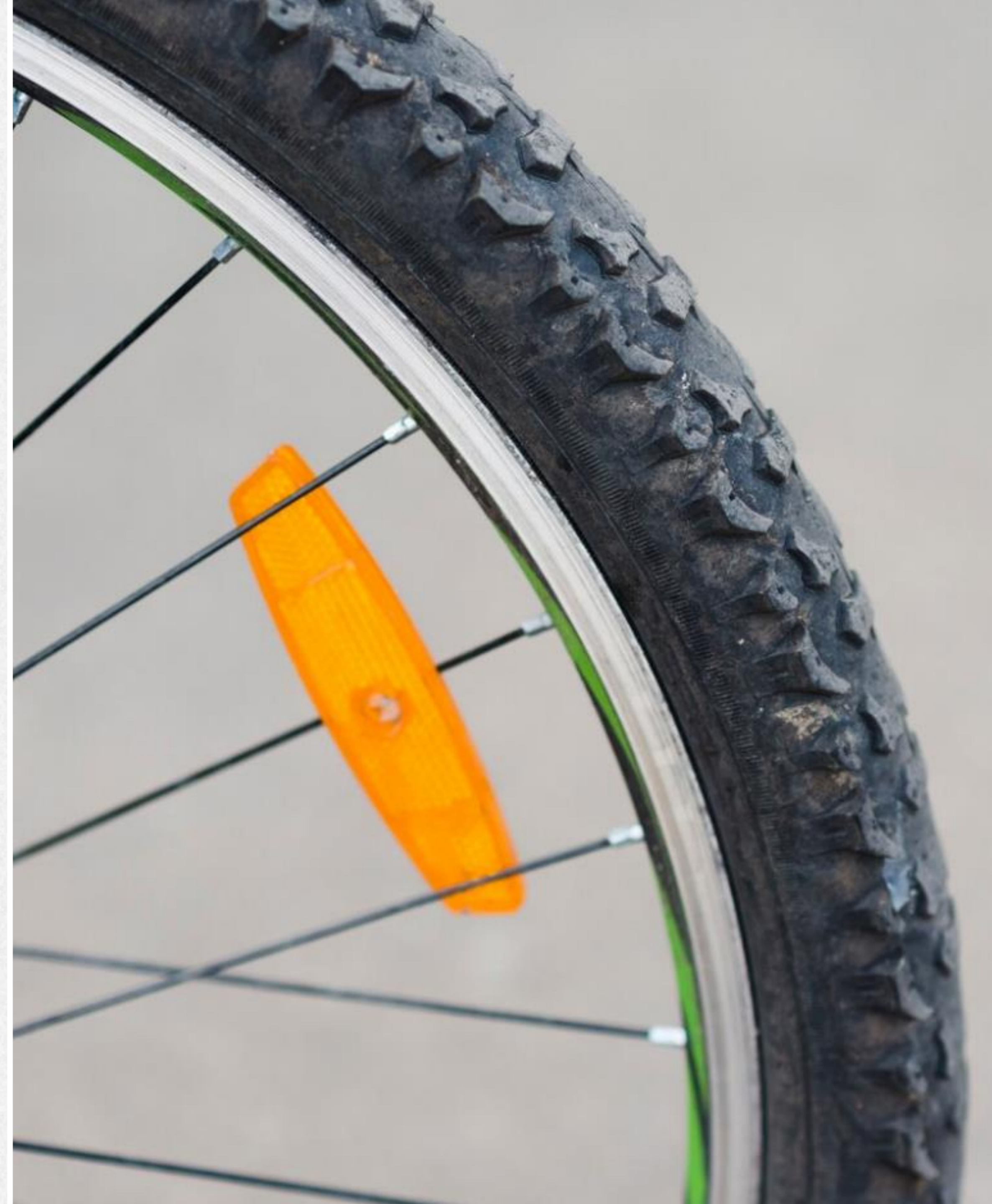
Don't lose **scope**



Dare to **pause**  
or **stop**



# Dare to **reinvent** the wheel





You will learn a lot about wheels!



Benjamin Bischoff  
softwaretester.blog  
Nordic Testing Days 2026

A photograph of colorful letter blocks spelling 'THANK YOU' on a wooden surface. The blocks are arranged in two groups: 'THANK' and 'YOU'. The background is a blurred blue sky.

THANK YOU