

MEMORY

LAW





i	x	y	A = 3
	0		x = 0
		0	y = 0
1			For i = 1 to 10 {
	1		if (i > A) X++;
			if (i < A) Y++;
		0	}
			return X > Y;

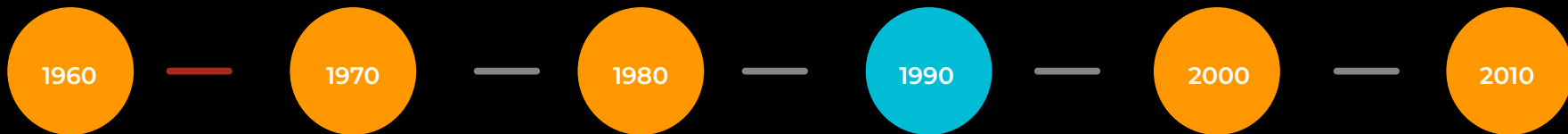
# To Test a Component

Testing **UI Components**  
in 2023



**Tally Barak**





1960

1970

1980

1990

2000

2010

Ad Hoc

Structured

Formal  
Specs

Test  
Automation

Agile  
Testing

Continuous  
Integration



Microsoft

# Office

Professional  
eBook/Street



Office Suite with Integrated  
CD-ROM Library

Microsoft Front  
Microsoft Word  
Microsoft PowerPoint  
Microsoft Internet  
Microsoft Outlook

Requires Windows 95  
and Windows 98  
Installation

Microsoft

# Windows 95

Upgrade

Operating System



Microsoft

# Windows 98

Upgrade

Operating System



Microsoft

# Windows Me

Operating System

Promotional  
Step-By-Step

Compatible with Programs  
for Windows 95 and  
Windows 98



Microsoft

# Windows Home Edition

Operating System



Upgrade

Microsoft  
Plus!

for Windows

Operating System



Microsoft  
Office Standard

Operating System



# GENI

# WATCHDOG

PC Data Security

# Parent Control

# Parent Control

# Parent Control

Welcome to today's online marketplace...

...the market that brings buyers and sellers together in an honest and open environment...

Welcome to eBay's AuctionWeb.

**Welcome to our community.** I'm glad you found us. AuctionWeb is dedicated to bringing together buyers and sellers in an honest and open marketplace. Here, thanks to our [auction format](#), merchandise will always fetch its market value. And there are plenty of great deals to be found!

[Take a look at the listings.](#) There are always several hundred auctions underway, so you're bound to find something interesting.

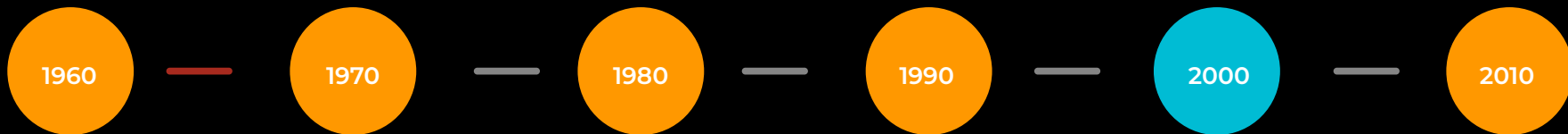
If you don't find what you like, take a look at our **Personal Shopper**. It can help you search all the listings. Or, it can keep an eye on new items as they are posted and let you know when something you want appears. If you want to let everyone know what you want, post something on our [wanted page](#).

If you have something to **sell**, start your auction instantly.

**Join our community.** Become a registered user. Registered users receive [additional benefits](#) such as daily updates and the right to participate in our user feedback forum and the bulletin board.

Please **read on** about the AuctionWeb vision...

---



1960

1970

1980

1990

2000

2010

Ad Hoc

Structured

Formal  
Specs

Test  
Automation

Agile  
Testing

Continuous  
Integration

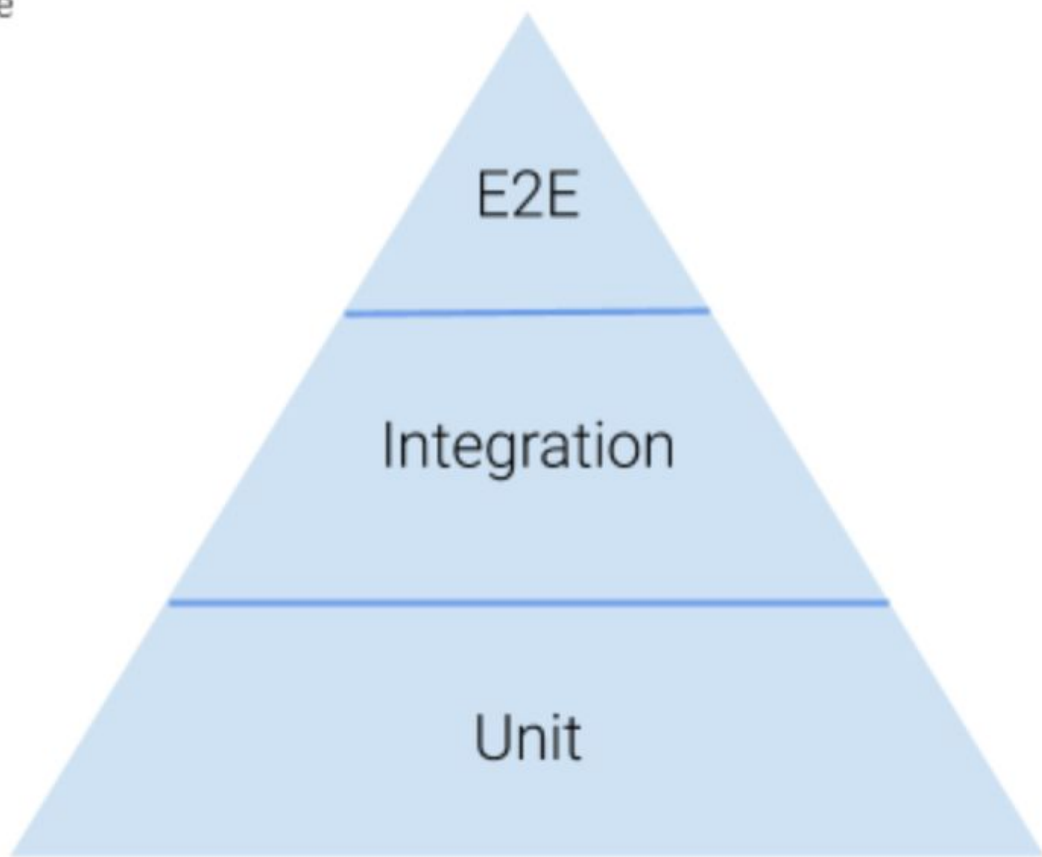
Slower, more  
expensive

E2E

Integration

Unit

Faster,  
cheaper

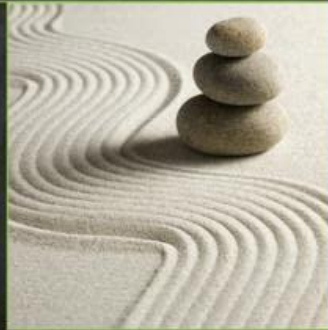


*The Addison-Wesley Signature Series*

# SUCCESSING WITH AGILE

SOFTWARE DEVELOPMENT  
USING SCRUM

MIKE COHN



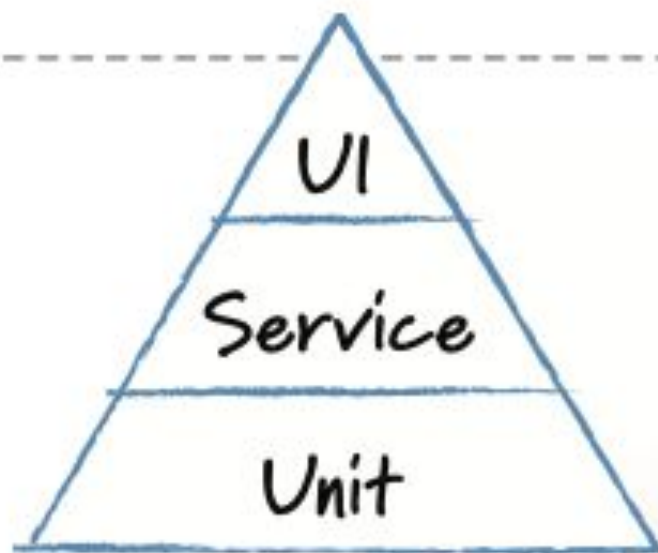
*Foreword by Tim Lister*

BOOK A MIKE COHN SIGNATURE  
Mike Cohn



**FIGURE 16.1**

The test automation pyramid.



Welcome to today's online marketplace...

...the market that brings buyers and sellers together in an honest and open environment...

Welcome to eBay's AuctionWeb.

**Welcome to our community.** I'm glad you found us. AuctionWeb is dedicated to bringing together buyers and sellers in an honest and open marketplace. Here, thanks to our [auction format](#), merchandise will always fetch its market value. And there are plenty of great deals to be found!

**[Take a look at the listings.](#)** There are always several hundred auctions underway, so you're bound to find something interesting.

If you don't find what you like, take a look at our **Personal Shopper**. It can help you search all the listings. Or, it can keep an eye on new items as they are posted and let you know when something you want appears. If you want to let everyone know what you want, post something on our [wanted page](#).

If you have something to **sell**, start your auction instantly.

**Join our community.** Become a registered user. Registered users receive [additional benefits](#) such as daily updates and the right to participate in our user feedback forum and the bulletin board.

Please **read on** about the AuctionWeb vision...

---

v1.5.0 ▾

/ Developer Guide / Components

## Developer Guide

[Introduction](#)[Conceptual Overview](#)[Data Binding](#)[Controllers](#)[Services](#)[Scopes](#)[Dependency Injection](#)[Templates](#)[Expressions](#)[Interpolation](#)[Filters](#)[Forms](#)[Directives](#)

# Understanding Components

[Improve this Doc](#)

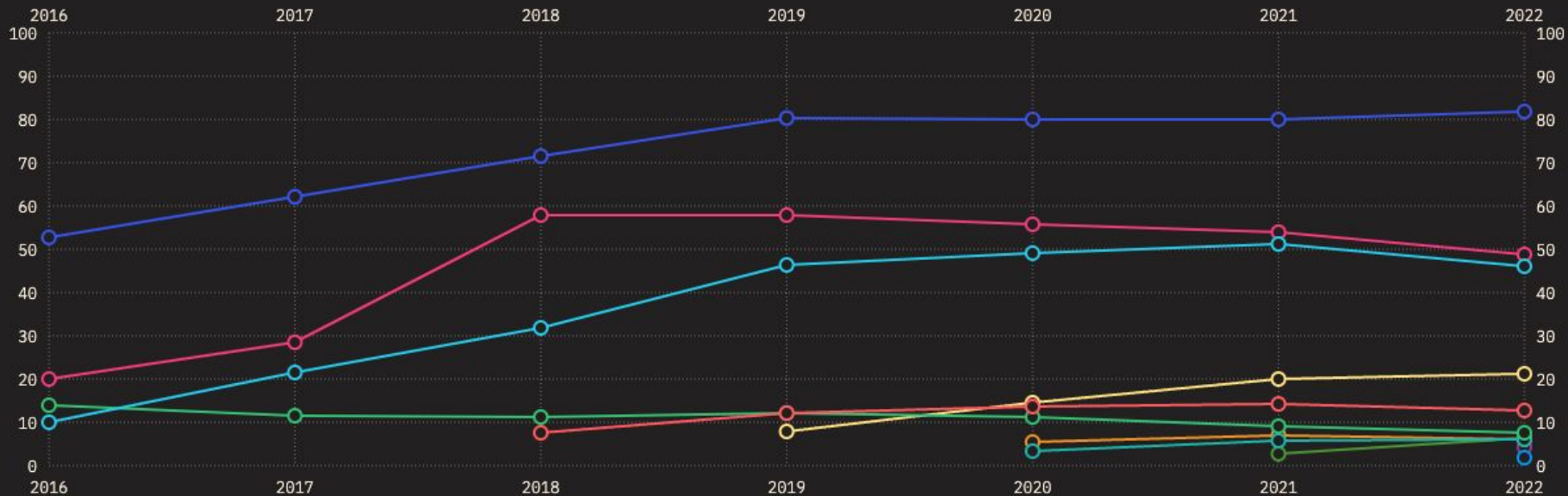
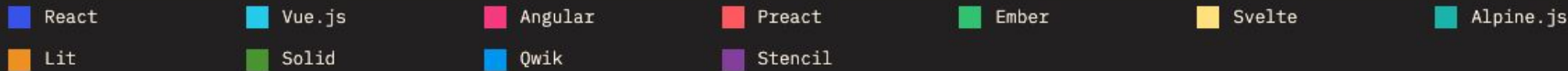
In Angular, a Component is a special kind of [directive](#) that uses a simpler configuration which is suitable for a component-based application structure.

This makes it easier to write an app in a way that's similar to using Web Components or using Angular 2's style of application architecture.

Advantages of Components:

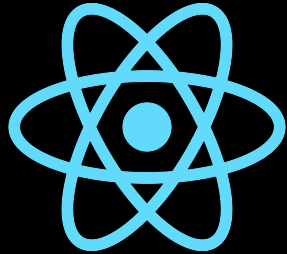
- simpler configuration than plain directives
- promote sane defaults and best practices
- optimized for component-based architecture
- writing component directives will make it easier to upgrade to Angular 2

```
▼ 8 README.md
@@ -2,11 +2,9 @@
2 2
3 3   React is a JavaScript library for building user interfaces.
4 4
5 - * Just the UI: Lots of people use React as the V in MVC. Since React makes no assumptions about the rest of your
   technology stack, it's easy to try it out on a small feature in an existing project.
6 - * Virtual DOM: React abstracts away the DOM from you, giving a simpler programming model and better performance.
   React can also render on the server using Node, and it can power native apps using [React Native]
   (https://facebook.github.io/react-native/).
7 + * Data flow: React implements one-way reactive data flow which reduces boilerplate and is easier to reason about
   than traditional data binding.
8 -
9 - NEW! Check out our newest project [React Native](https://github.com/facebook/react-native), which uses React and
   JavaScript to create native mobile apps.
10 + * Declarative: React makes it painless to create interactive UIs. Design simple views for each state in your
   application, and React will efficiently update and render just the right components when your data changes. Declarative
   views make your code more predictable, simpler to understand, and easier to debug.
11 + * Component-Based: Build encapsulated components that manage their own state, then compose them to make complex
   UIs. Since component logic is written in JavaScript instead of templates, you can easily pass rich data through your app
   and keep state out of the DOM.
12 + * Learn Once, Write Anywhere: We don't make assumptions about the rest of your technology stack, so you can develop
   new features in React without rewriting existing code. React can also render on the server using Node and power mobile
   apps using [React Native](https://facebook.github.io/react-native/).
13 10
14 11   [Learn how to use React in your own project](https://facebook.github.io/react/docs/getting-started.html).
15 12
```



Awareness **Usage** Interest Retention

# Component Based Frameworks



# conduit

A place to share your *Angular* knowledge.

[Your Feed](#) [Global Feed](#)



Anah Benešová

December 9, 2022

♥ 1735

## Try to transmit the HTTP card, maybe it will override the multi-byte hard drive!

Assumenda molestiae laboriosam enim ipsum quaerat enim officia vel quo. Earum odit rem natus totam atque cumque. Sint dolorem facere non.

Read more...

[voluptate](#) [rerum](#) [ducimus](#) [hic](#)



Anah Benešová

December 9, 2022

♥ 1798

## If we quantify the alarm, we can get to the FTP pixel through the online SSL interface!

Omnis perspiciatis qui quia commodi sequi modi. Nostrum quam aut cupiditate est facere omnis possimus. Tenetur similique nemo illo soluta molestias facere quo. Ipsam totam facilis delectus nihil quidem soluta vel est omnis.

Read more...

[rerum](#) [maiores](#) [omnis](#) [quae](#)



Anah Benešová

♥ 483

# conduit

A place to share your knowledge.

[Global Feed](#)



Anah Benešová

December 9, 2022

♥ 1735

## Try to transmit the HTTP card, maybe it will override the multi-byte hard drive!

Assumenda molestiae laboriosam enim ipsum quaerat enim officia vel quo. Earum odit rem natus totam atque cumque. Sint dolorem facere non.

Read more...

[voluptate](#) [rerum](#) [ducimus](#) [hic](#)



Anah Benešová

December 9, 2022

♥ 1798

## If we quantify the alarm, we can get to the FTP pixel through the online SSL interface!

Omnis perspiciatis qui quia commodi sequi modi. Nostrum quam aut cupiditate est facere omnis possimus. Tenetur similique nemo illo soluta molestias facere quo. Ipsam totam facilis delectus nihil quidem soluta vel est omnis.

Read more...

[rerum](#) [maiores](#) [omnis](#) [quae](#)

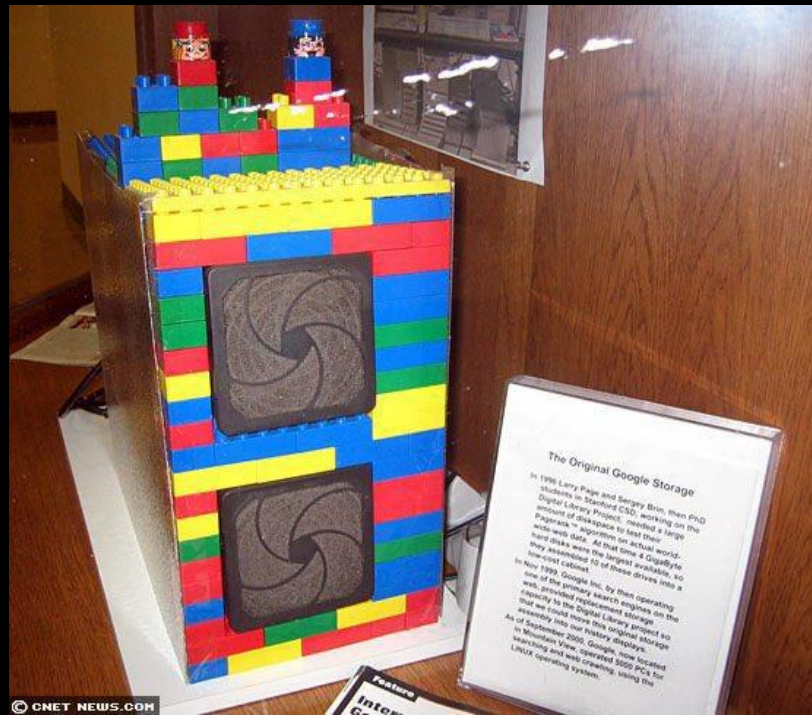


Anah Benešová

♥ 483

**modular and reusable elements**  
that make up the graphical user  
interface (GUI) of a software  
application or a website





© CNET NEWS.COM

#### The Original Google Storage

In 1996 Larry Page and Sergey Brin, then Ph.D. students in Stanford CSD, working on the Digital Library Project, needed a large amount of disk space to test their PageRank™ algorithm to test their web-crawling algorithm. At that time 4 Gigabyte hard disks were the largest available, so they assembled 75 of these drives into a low-cost cabinet.

In May 1999, Google Inc. by then operating web, provided replacement storage that we could move this original storage assembly into our history database.

As of September 2000, Google, now located in Mountain View, operates now located search and web crawling, using the LINUX operating system.

Featured in  
Inter  
C

Components let you split the UI into  
**independent, reusable** pieces, and think about  
each piece in **isolation**.

# conduit

A place to share your *Angular* knowledge.

Your Feed **Global Feed**

 **Anah Benešová**  
December 9, 2022

♥ 1735

## Try to transmit the HTTP card, maybe it will override the multi-byte hard drive!

Assumenda molestiae laboriosam enim ipsum quaerat enim officia vel quo. Earum odit rem natus totam atque cumque. Sint dolorem facere non.

Read more...

voluptate rerum ducimus hic

 **Anah Benešová**  
December 9, 2022

♥ 1798

## If we quantify the alarm, we can get to the FTP pixel through the online SSL interface!

Omnis perspiciatis qui quia commodi sequi modi. Nostrum quam aut cupiditate est facere omnis possimus. Tenetur similique nemo illo soluta molestias facere quo. Ipsum totam facilis delectus nihil quidem soluta vel est omnis.

Read more...

rerum maiores omnis quae

 **Anah Benešová**  
December 9, 2022

♥ 483

## quantifying the microchip wont do anything, we need to index the online SQL hard drive!

Minima soluta sed sed et optio explicabo at distinctio repudiandae. Magnam deleniti a ea. Non velit accusamus veniam qui. Necessitatibus velit ad aut officis in officis quasi. Sunt nulla dolores voluptatem esse magnam ut.

Read more...

possimus voluptatem cupiditate

 **Anah Benešová**  
December 9, 2022

♥ 308

## Try to generate the TCP bus, maybe it will override the neural bandwidth!

Pariatur ut dolor repellendus dolores ut debitis. Est iusto neque dicta voluptatibus quia nulla consequatur. Omnis aut sed dolores qui laborum a amet.

Read more...

dicta rerum omnis blanditiis

### Popular Tags

welcome implementations  
introduction codebaseShow  
ipsum qui cupiditate et quia  
deserunt



me777

Edit Profile Settings

**My Posts**

Favorited Posts

 me777  
September 3, 2023

♥ 0

## Software testing limerick

Chat GPT

Read more...



Anah Benešová

December 9, 2022

♥ 1735

## Try to transmit the HTTP card, maybe it will override the multi-byte hard drive!

Assumenda molestiae laboriosam enim ipsum quaerat enim officia vel quo. Earum odit rem natus totam atque cumque. Sint dolorem facere non.

Read more...

voluptate

rerum

ducimus

hic



**Trek Glowacki**

@trek



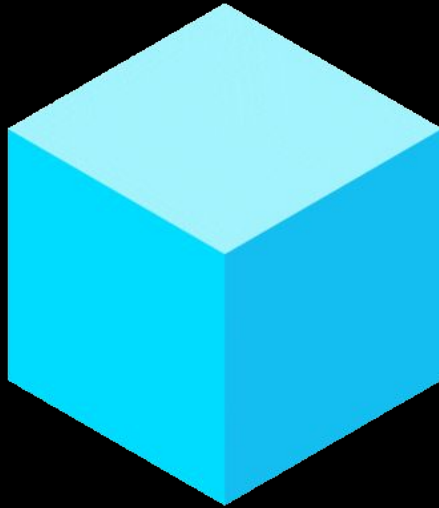
Your daily reminders that components aren't about reuse, they're about isolation.

Reuse is a useful emergent property of isolation.

5:55 PM · Aug 10, 2016 from [West Town, Chicago](#) · [Tweetbot for Mac](#)

---

**222** Retweets   **362** Likes



Data

User Interactions

Rendered Layout

Raised events



Anah Benešová

December 9, 2022

♥ 1735

## Try to transmit the HTTP card, maybe it will override the multi-byte hard drive!

Assumenda molestiae laboriosam enim ipsum quaerat enim officia vel quo. Earum odit rem natus totam atque cumque. Sint dolorem facere non.

Read more...

voluptate

rerum

ducimus

hic

Inputs: article data, click on read more, get Image

Outputs: display, go to another url



**Storybook**

# conduit

A place to share your knowledge.

## Global Feed



NoL

September 20, 2023

♥ (0)

### Test.Bash2k23

Testing UK components in isolation

[Read more...](#)



Naga

September 20, 2023

♥ (1)

### Test component

Exploring

[Read more...](#)

[#UIComponent](#)

## Popular Tags

implementation backend

frontend lorem #Test

test fff tset 123

fafafa fuck speak

hhh dfg article

afa2938 fiaksdosakd

sdadsa 2131 asd

Science tag ret ter

cek nisi ullam

pariatur impedit

quibusdam consequatur

delectus fuga

reprehenderit quaerat

eveniet rerum soluta

Find components

EXAMPLE

- EditorComponent
- ArticlePreviewComponent
- Docs
- Primary**



200

## TEST BASH

Showing a story for a component

Read more...

Controls 1 Actions Interactions

Name Control

article

```

- article: {
  slug: "testBash"
  title: "TEST BASH"
  description: "Showing a story for a component"
  body: ""
  tagList: [...] 0 items
  createdAt: 2023-09-21T07:27:46.692Z
  updatedAt: 2023-09-21T07:27:46.692Z
  author: [...] 4 keys
  favorited: false
  favoritesCount: 200
}
    
```

RAW



Article Title

Layout is correct

What's this article about?

Type in any field

Write your article (in markdown)

Exceed length in tags field

Enter tags

Publish button enabled

Publish Article

# conduit

A place to share your *Angular* knowledge.

Your Feed **Global Feed**



Anah Benešová

December 9, 2022

♥ 1735

## Try to transmit the HTTP card, maybe it will override the multi-byte hard drive!

Assumenda molestiae laboriosam enim ipsum quaerat enim officia vel quo. Earum odit rem natus totam atque cumque. Sint dolorem facere non.

Read more...

voluptate rerum ducimus hic



Anah Benešová

December 9, 2022

♥ 1798

## If we quantify the alarm, we can get to the FTP pixel through the online SSL interface!

Omnis perspiciatis qui quia commodi sequi modi. Nostrum quam aut cupiditate est facere omnis possimus. Tenetur similique nemo illo soluta molestias facere quo. Ipsam totam facilis delectus nihil quidem soluta vel est omnis.

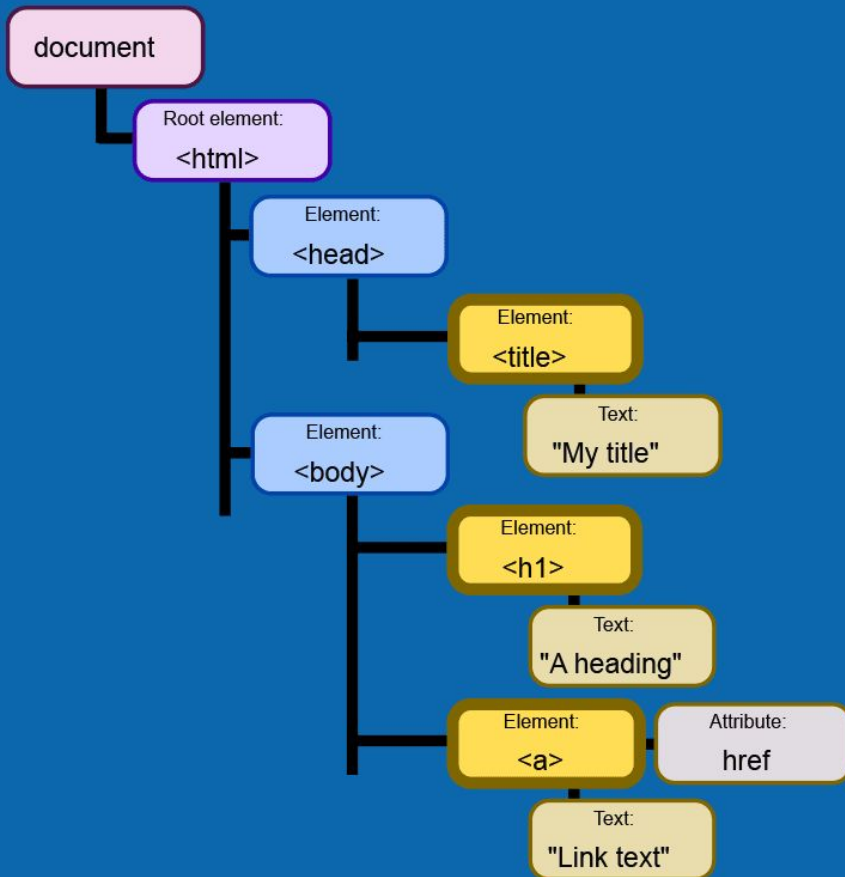
Read more...

rerum maiores omnis quae



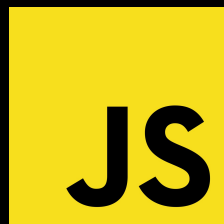
Anah Benešová

♥ 483



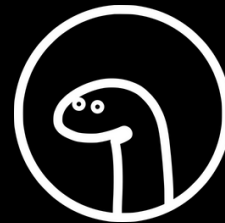
## DOM APIs

- ▶ `document.querySelector()`
- ▶ `document.querySelectorAll()`
- ▶ `document.createElement()`
- ▶ `element.innerHTML`.
- ▶ `element.setAttribute()`
- ▶ `element.getAttribute()`
- ▶ `eventTarget.addEventListener()`



Browser

Server





jsdom

HAPPY  
DOM

A yellow, hand-drawn flourish or signature mark, resembling a stylized 'D' or a decorative flourish, positioned to the right of the word 'DOM'.

# Fake Browser Tests

- ▶ Fast
- ▶ Fast
- ▶ Fast
- ▶ Good debug tools
- ▶ Stable (single process)
- ▶ Fast





**YOU ARE FAKE!**

**Step 1.** Type text that you want to tag on the image:

**Step 2.** Click on the image to set the location of the tag.



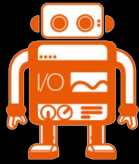
# Real Browser Test

- Real rendering & CSS
- Real network calls
- Real interactions
- Real APIs
- Proper timing
- Side effects
- Screenshots

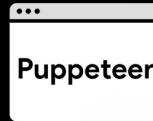




2004



2008

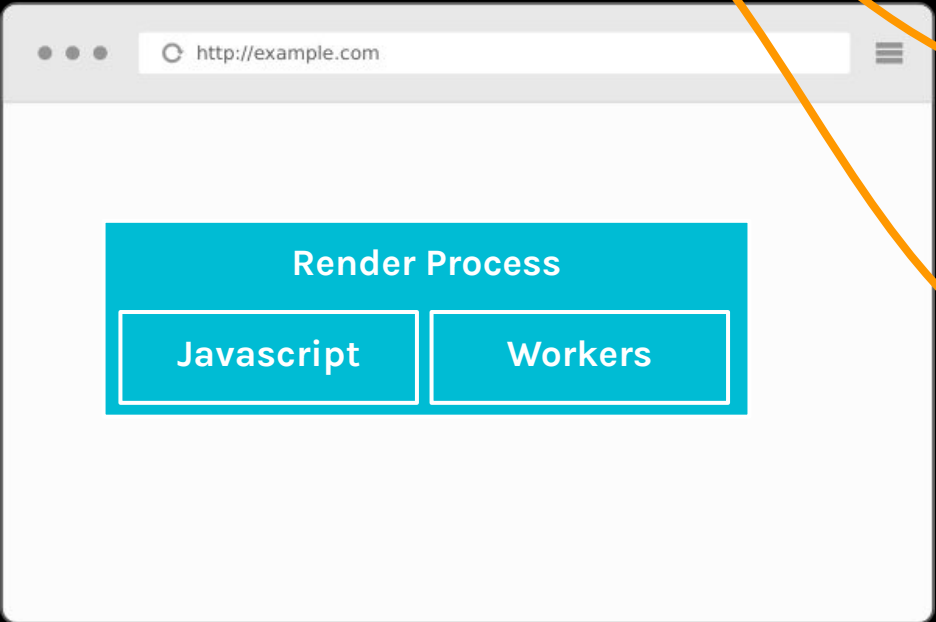


2017



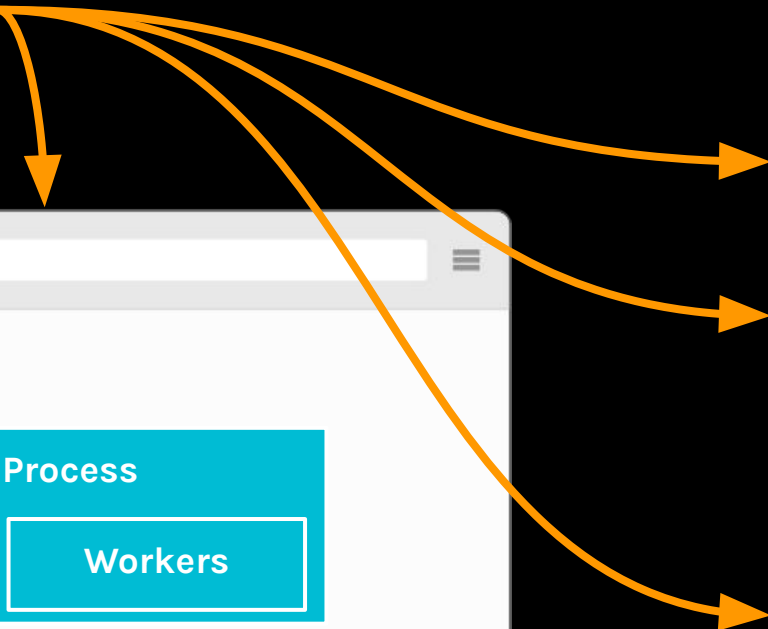
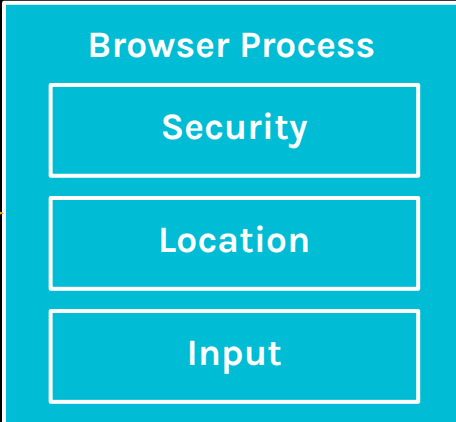
2020

**Automation  
(out of Process)**



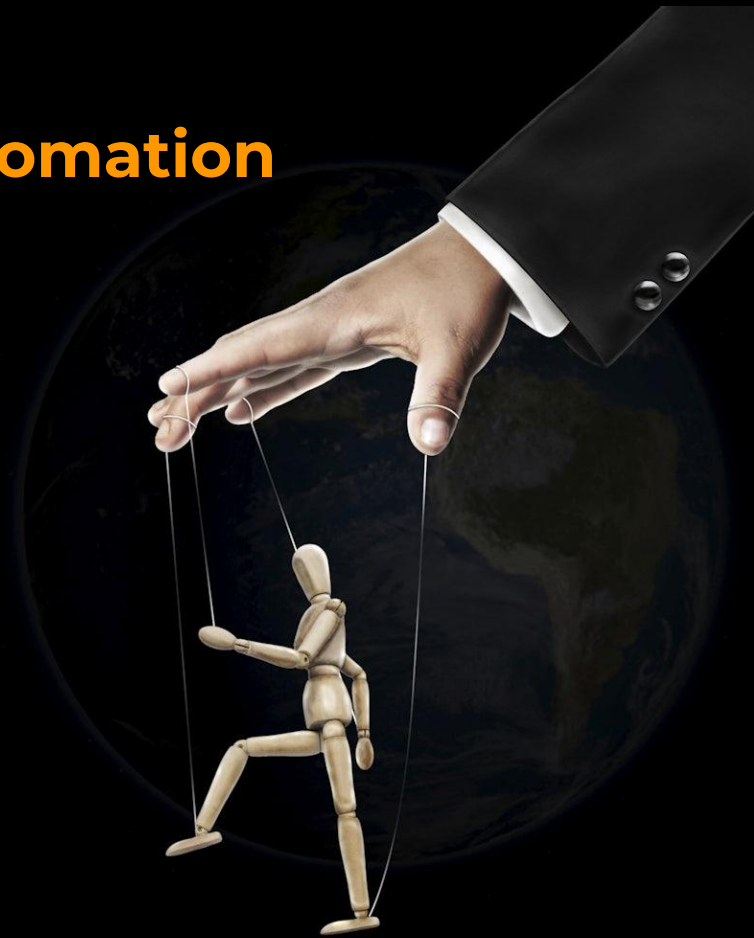
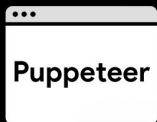
**Service Worker Process**

**Network Process**



# Out of Process Browser Automation

- FS access
- Parallelization
- Cross language
- Real interactions
- Multi windows / tabs



Agile Testing

Components Driven

Browser Automation



# Playwright + Storybook



Build  
Component



Render  
Component



Run Test



Browser  
Automation

## The Good Parts

- ▶ Real components rendering
- ▶ Stable tests
- ▶ Efficient execution (parallel, headless)
- ▶ Reuse stories
- ▶ Advanced debugging & tracing
- ▶ Screenshots & visual Tests

# The State of Components Testing



Storybook Play / Run



Playwright Component Testing



Cypress Component Testing

## E2E Tests

- ▶ Real browser
- ▶ Real server
- ▶ User Flows
- ▶ Happy paths
- ▶ (Visual Regression)

## Component Tests

- ▶ Real Browser
- ▶ Mocked Server
- ▶ Variations
- ▶ Edge Cases
- ▶ Visual Regression

End to End

Code  
Agnostic

UI Component  
Tests

API Tests

Code  
Aware

Unit Tests

Unit Tests

Frontend

Backend

In the world of code, it's confessed,  
Testing's crucial, we're truly impressed.  
Bugs it does uncover,  
Ensuring things run smoother,  
In software, it's a vital quest!

C.H.AtGPT





**@tallybarak**



**@tallyb**



**tally-b.medium.com**