



Postmodern Testing

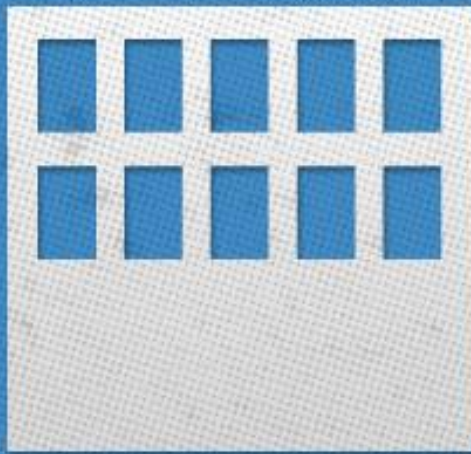
Jason
Arbon

POSTMODERN ARCHITECTURE

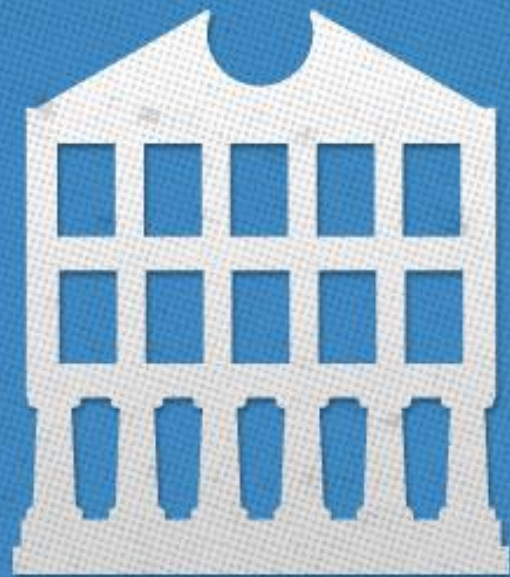


CLASSICAL

OnPostmodernism.com



MODERN



POSTMODERN

Postmodern Art...

“

“...collage, simplification, appropriation, performance art, the recycling of past styles and themes in a modern-day context, as well as the break-up of the barrier between fine and high arts and low art and popular culture.”

”

[Wikipedia](#)

Software Engineering Today

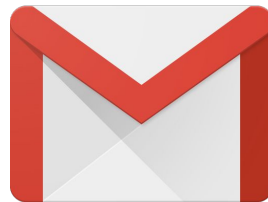
Platform



**Data, AI &
Microservices**



**Complex
Client Apps**



IGNORE DOGMAS





Mix and Match



Do's and Don'ts



Brave and Creative

Test Organization

Testers Report to “Development Leaders”

No Central Organization

No Shared Labs / Resources

Ad-hoc collaboration





Test vs Verification

Testing vs Verification Ratio

$$\text{TvV Ratio} = \text{Average} \left(\begin{array}{l} \text{Complexity,} \\ \text{Danger,} \\ \text{Speed} \end{array} \right)$$

Complexity

1: Windows OS

100: Hello World

Danger

1: Can Hurt People

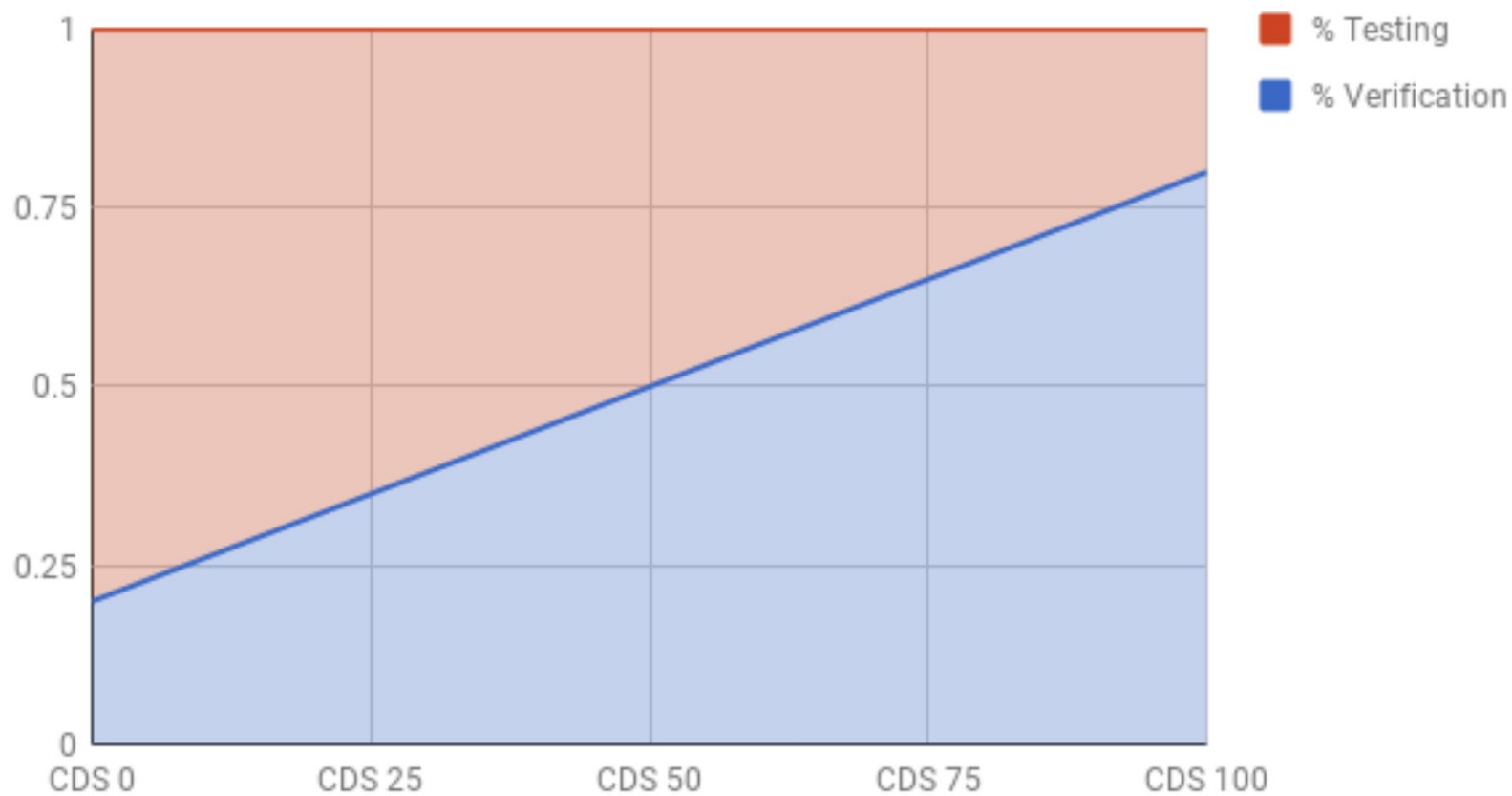
100: Flappy Bird

Speed

1: Ships Yearly

100: Ships
Continuously

Testing vs. Verification Effort Ratio

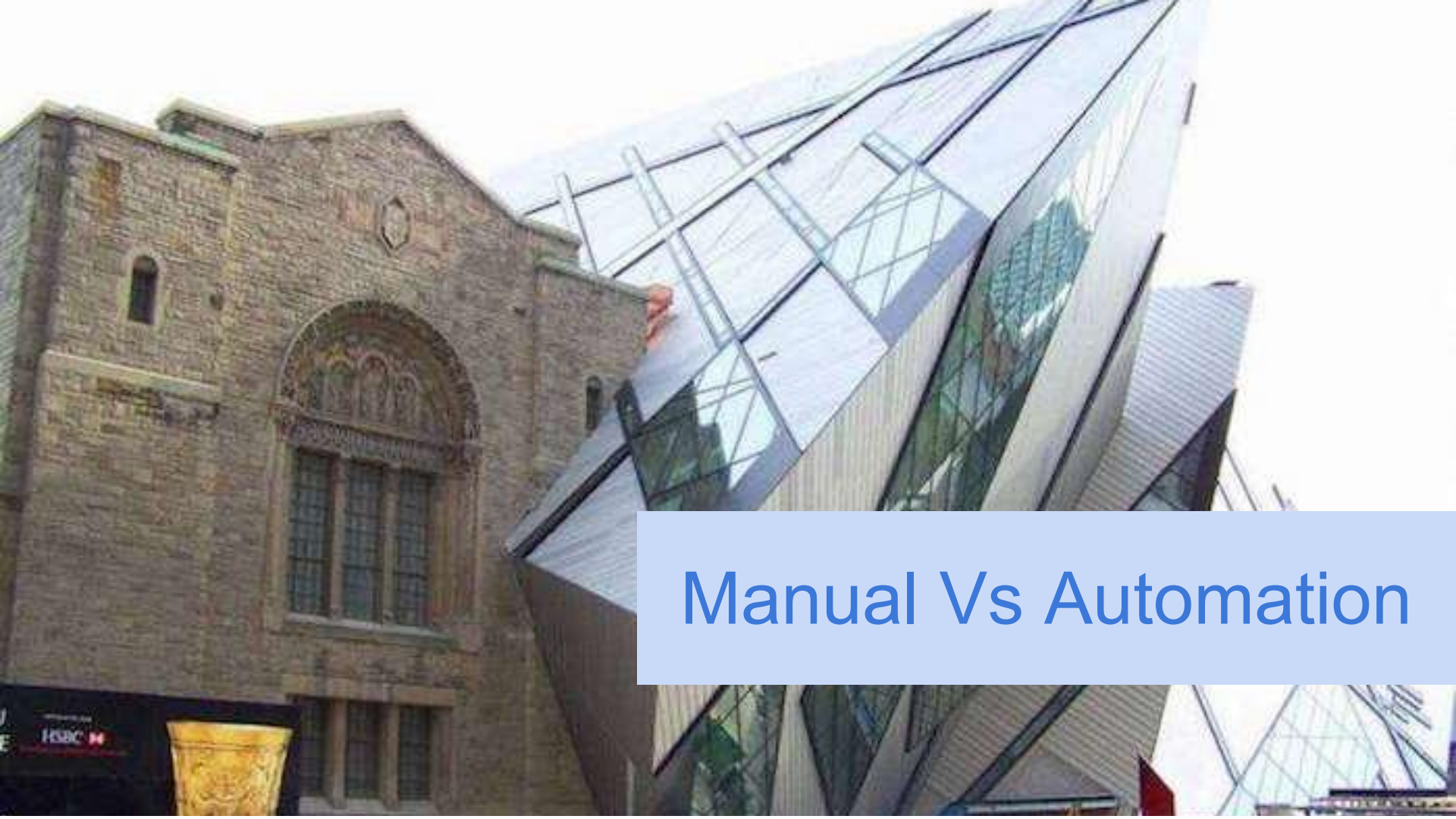


Agile/Chaos?

Testers operate
outside of
agile/lean flow

Continuous Risk
Analysis and
Mitigation





Manual Vs Automation

Manual

Regular Sanity Checks: 20%

Regression Testing: 20%

Exploratory Testing: 30%

Thinking/Learning: 30%

Only report to team on Risk and Blocking issues.



Testing

Automation



Only by 'real' programmers.

Never BDD, Cucumber,
Model-based, Image-based,
Record/Replay.

Few Regression Tests

“Automation is not Testing”: FALSE

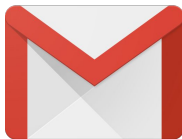
Generative

No New Frameworks

No Testability APIs

Inside Out

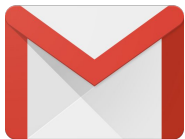
Inside-Out Testing



 https://mail.google.com/mail/u/0/#inbox?test=mark_as_unread

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta http-equiv="Content-Type" content="text/html; charset=UTF-8">
    <title>Gmail</title>
    <script src="mark_as_unread_tests.js"></script>
```

Inside-Out Testing



 https://mail.google.com/mail/u/0/#inbox?test=mark_as_unread

Full Access to Entire DOM

No Framework Needed

Secure Access Server
APIs/Data

Can run almost anywhere

Easy to Execute / Distribute /
Debug

Any Dev can debug

Instrumentation



Add simple instrumentation to all code.

`#times executed`

Check counts after tests and monitor production

“Back button click rates went up..something wrong!”

Microservices / APIs



Consumers of MS/APIs add tests for their dependencies

Best if all in same 'source control'

Continuous Monitoring

Unsupervised Learning to Look for Problems en masse

Best if called from client machine (not test machines)

[Issues](#) [Search](#)[Open Issues](#) | [Closed Issues](#) | [All Issues](#) | [Sign in](#) with your [Google Account](#) to create issues and add commentsIssue [3643002](#): Implemnts the commands in webdriver to preform searching of elements on a page. (Closed)**Created:**8 years, 3 months ago by [Joe](#)**Modified:**

7 years, 8 months ago

Reviewers:[Peter Kasting](#), [mal](#), [John Grabowski](#), [AmolKher](#),
[shs](#), [anantha](#), [Pawel Hajdan Jr](#)**CC:**

chromium-reviews, Pawel Hajdan Jr.

Base URL:<http://src.chromium.org/git/chromium.git>**Visibility:**

Public.

▼ **Description**

Implemnts the commands in webdriver to preform searching of elements on a page.

```
/session/:sessionId/timeouts/implicit_wait  
/session/:sessionId/element  
/session/:sessionId/elements  
/session/:sessionId/element/:id/element  
/session/:sessionId/element/:id/elements
```

BUG=none

TEST=webdriver_remote_tests.py

Committed: <http://src.chromium.org/viewvc/chrome?view=rev&revision=70107>► **Patch Set 1**► **Patch Set 2 : update**

Total comments: 7

► **Patch Set 3 : update**

Total comments: 11

► **Patch Set 4 : fixed some code review issues**► **Patch Set 5 : update**▼ **Patch Set 6 : fix for windows build**

Created: 8 years, 1 month ago

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	Unified diffs	Side-by-side diffs	Delta from patch set	Stats (+362 lines, -18 lines)			Patch
► M	chrome/chrome_tests.gypi	View	1 2 3 4 5	1 chunk	+4 lines, -0 lines	0 comments	Download
A	chrome/test/webdriver/commands/find_element_commands.h	View	1 2 3	1 chunk	+74 lines, -0 lines	0 comments	Download
A	chrome/test/webdriver/commands/find_element_commands.cc	View	1 2 3 4	1 chunk	+111 lines, -0 lines	0 comments	Download
A	chrome/test/webdriver/commands/implicit_wait_command.h	View	1 2 3 4 5	1 chunk	+42 lines, -0 lines	0 comments	Download
A	chrome/test/webdriver/commands/implicit_wait_command.cc	View	1 2 3 4 5	1 chunk	+45 lines, -0 lines	0 comments	Download
M	chrome/test/webdriver/server.cc	View	1 2 3 4 5	4 chunks	+13 lines, -4 lines	0 comments	Download
M	chrome/test/webdriver/webdriver_remote_tests.py	View	1 2 3 4	4 chunks	+60 lines, -14 lines	0 comments	Download
M	third_party/webdriver/py/selenium/remote/webdriver/WebDriver.py	View	1 2 3 4	1 chunk	+11 lines, -0 lines	0 comments	Download
M	third_party/webdriver/py/selenium/remote/webdriver/command.py	View	1 2 3 4	1 chunk	+1 line, -0 lines	0 comments	Download
M	third_party/webdriver/py/selenium/remote/webdriver/remote_connection.py	View	1 2 3 4	1 chunk	+1 line, -0 lines	0 comments	Download

Reporting



No Elaborate Dashboards

As little data as possible

Always ready to assess readiness

Test Counts / % Pass Meaningless

“Any reason we shouldn’t release?”

Quantify Quality



Acceptable Crash Rate

Data Quality

Relevance Measures

Quantify Qualitative Measures

Don't Optimize for Business
Outcome

AI



Drives, Plays DOTA, Paints,
Designs Furniture and Cities,
Makes Phone Calls, etc.

All of Google: AI-First

Can Test Itself (Auto-ML)

Yes, it will soon do most Software
Testing

Most testing will soon be
centralized, and better.

Vendor



Vendor out everything you can

If Vendor can do it, low-value

Vendor can do it at scale

90% of Testing is a Cost Center

10% is more difficult than
engineering and design--focus on
that.

Only 10% is valued / Strategic





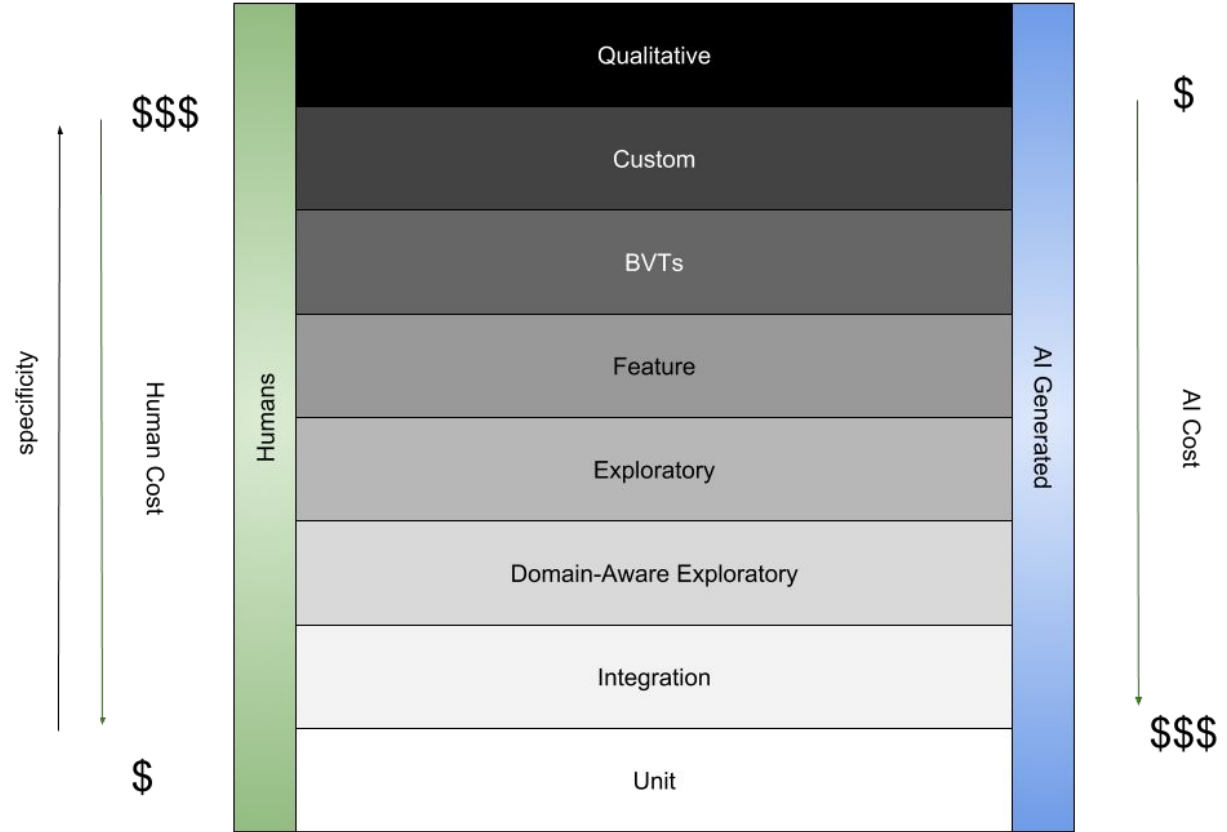
AI Test Cake

Pyramid -> Cake

Reuse and Scale have dramatic impact

Inverts cost gradient as more abstract things are more easily automated.

Postmodern Testing Cake



Other Don'ts



Code Coverage

Static Analysis

Test Selection

Call Testers 'Developers'

Hire "Good" Testers.

Leave the Profession

Layoff all your Testers

Google Still Hiring Manual Testers!

Post-postmodernism

From Wikipedia, the free encyclopedia

Find a Mobile App

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wal

Most Popular Mobile Apps



Products

Test Apps
Compare Apps

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AI
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Test Automation

Company


About Us
Careers
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Connect



Let's Connect!



 jason@test.ai

 Jason Arbon

 @jarbon



 test.ai

 @testdotai

Architectural Photos from:

http://www.archiecho.com/item/54989_70-breathtakingly-beautiful-examples-of-postmodern-architecture

Hand: <https://www.designspiration.net/save/28063818931/>

Head and Computer:

<https://www.gettyimages.co.nz/detail/photo/post-modern-landscape-high-res-stock-photography/521753650>

Residence, Stairway:

<https://www.houzz.com.au/photo/175622-overmyer-residence-modern-exterior-san-francisco>

Medussa:

<http://reynoldahouse.org/exhibitions/detail/off-the-wall-postmodern-art-at-reynolda-0>

Workers: <http://www.hatjecantz.de/postmodernism-5051-1.html>