

# Testing Less, Achieving More: How we mastered the Art of Strategic Testing

Daniela Aquilina



“

**Quality is never an accident;  
it is always the result of  
intelligent effort.**

John Ruskin

**Sharing my story...**

# My First Task - Problem Identification

- Too many tests
- Not enough resources to keep up with test maintenance
- Flaky automated tests
- Too much manual testing due to flaky tests
- Slow release cycle
- Persistent bugs on production despite passing regression

Pass  
 Fail



# Problem Breakdown

## Too many tests

Not enough resources to keep up with test maintenance



## Flaky tests

Too much manual testing due to flaky tests



Slow release cycle

Persistent bugs on production



??

# The Solution

1

Identify a new list  
of test cases  
(simplified &  
relevant)

2

Automate the  
new test cases in  
a robust  
framework

3

Transition to a  
faster and more  
reliable release  
cycle

**A Closer Look into the  
Finer Details ...**

# Development Teams Structure

## Team 1

FE Engineers  
BE Engineers

1 Test Engineer

## Team 2

FE Engineers  
BE Engineers

1 Test Analyst

## Team 3

FE Engineers  
BE Engineers

1 Test Engineer

## Team 4

FE Engineers  
BE Engineers

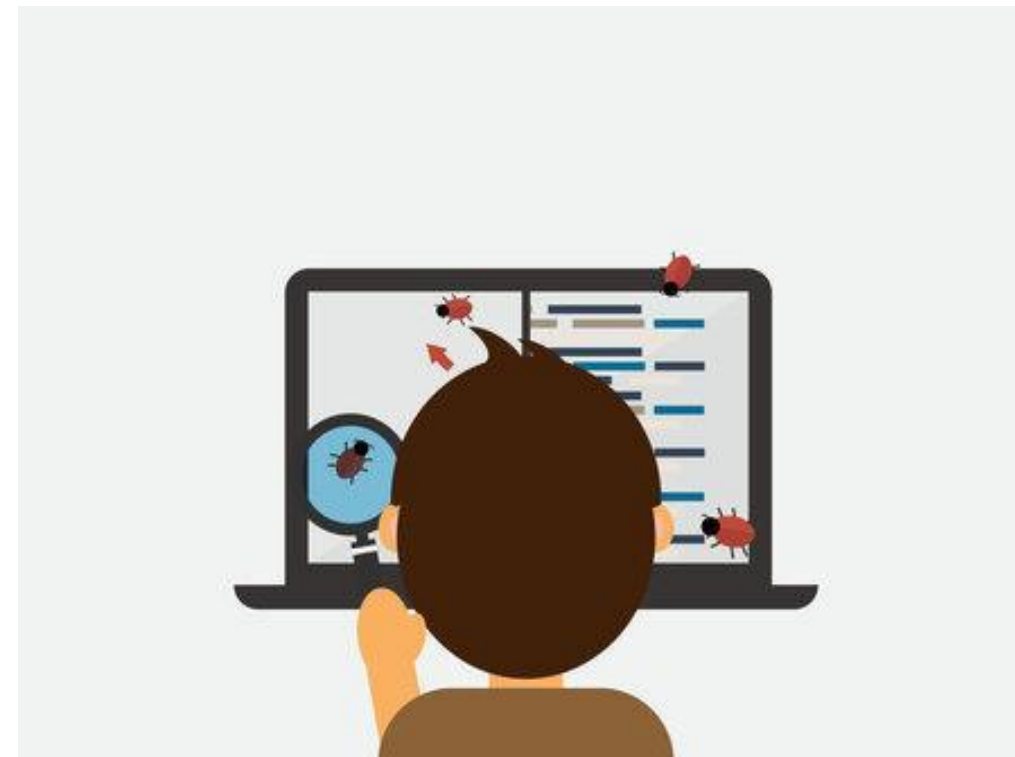
1 Test Analyst



# Testing Responsibilities



**Release Testing  
Ticket Testing + Regression**  
(Test Analysts & Test Engineers)



**Manual Testing  
of all Sprint Tickets**  
(Test Analysts & Test Engineers)

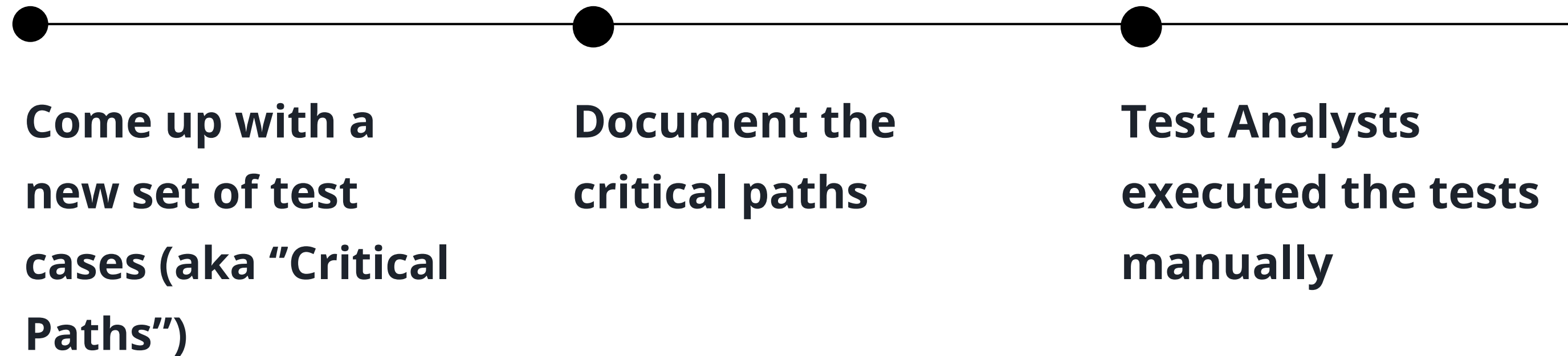


**Automation  
Development &  
Maintenance**  
(Test Engineers)

**The Interesting Part!**

**Implementation  
Details**

# Implementation - Phase 1



# What makes a test a critical path?

1

If this test fails, it is considered as a blocker

2

A regulatory requirement

3

Functionality that is crucial for your business

# Examples of a Critical Path



**Login**



**Cookie Policy**



**Payments**

# Types of Critical Paths



**Smoke Tests**

+



**Sanity Tests**

**Regression Suite**

# How to come up with your own list of Critical Paths

**01**

Pair up with someone who has deep product knowledge

**02**

Identify problematic areas which currently are not being covered

**03**

Identify areas which are crucial for the business - regulatory / fundamental requirements / features which generate most revenue

**04**

Structure these tests in an E2E fashion to keep them to a minimum

# Document the Critical Paths

OVERVIEW TODO MILESTONES TEST RUNS & RESULTS TEST CASES REPORTS ADMINISTRATION

**R8 Release 1.0: Run 2 (new features)** Reports Rerun Edit

**57% passed**  
55 / 191 untested (29%).

109 Passed  
57% set to Passed

8 Blocked  
4% set to Blocked

14 Retest  
7% set to Retest

5 Failed  
3% set to Failed

Sort: [Section](#) | Filter: [None](#) + Add Results Assign To Columns

**Prerequisites** 5

ID	Title	Assigned To	Status
<input type="checkbox"/> T1786	Change text alignment in an inline table		Untested
<input type="checkbox"/> T1787	Format table with built-in style	Erick M.	Passed
<input type="checkbox"/> T1788	Add new review data point (including note)		Passed
<input type="checkbox"/> T1789	Verify CSV import with enclosed test data files		Passed
<input type="checkbox"/> T1790	Change page color and verify print output	Joseph A.	Passed

**Software & Versions** 6

ID	Title	Assigned To	Status
<input type="checkbox"/> T1791	Add new review data point (including note)		Passed
<input type="checkbox"/> T1792	Change text alignment in an inline table	Joseph A.	Passed

Created by Jacob Scott. Belongs to milestone [Release 1.0](#).  
References

**Tests & Results**

Activity

Progress

Defects

- All
- Prerequisites
  - Software & Versions
  - Hardware
- Installation
- Updates
- Tutorial
  - Goals
  - Metrics
- Login & Account
  - Reset Password
- Feature 1
- Feature 2
- Feature 3
- Feature 4
- Feature 5
- Administration
  - Projects
  - Settings
  - Users & Roles
    - Permissions
    - Groups
- Search
- Help & Documentation



# Releases (Phase 1)



Weekly Releases

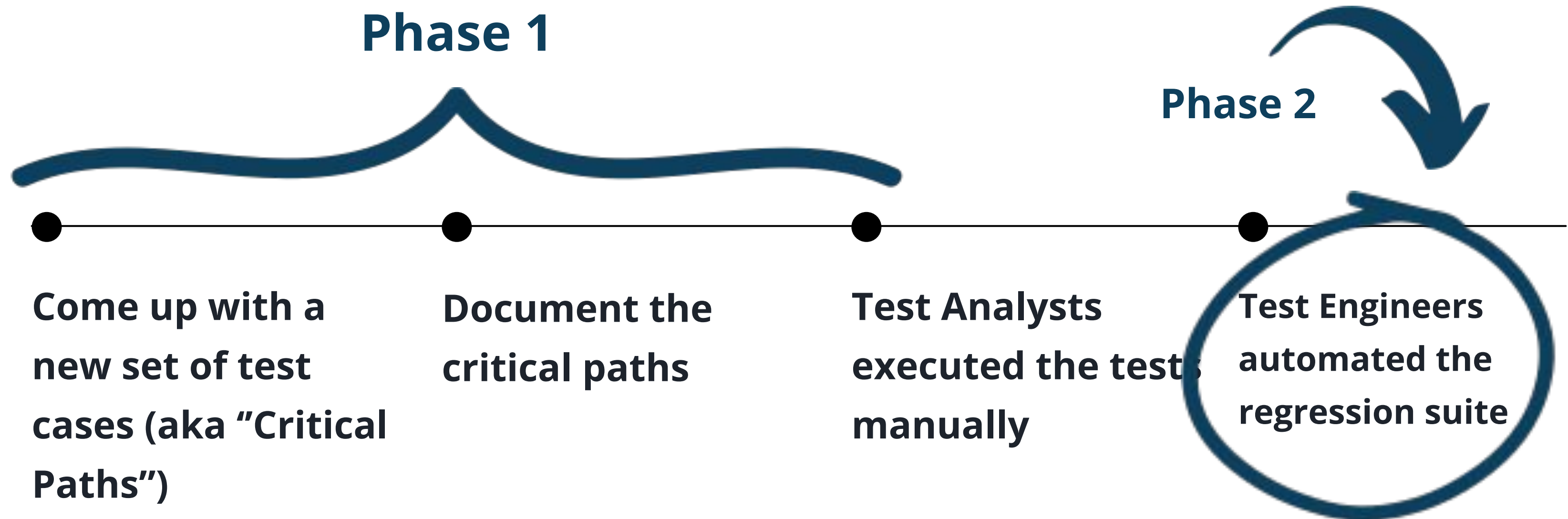


Test Analysts executed the regression tests all manually



Regression time took approximately 1 day

# Implementation - Phase 2



# Test Automation Implementation





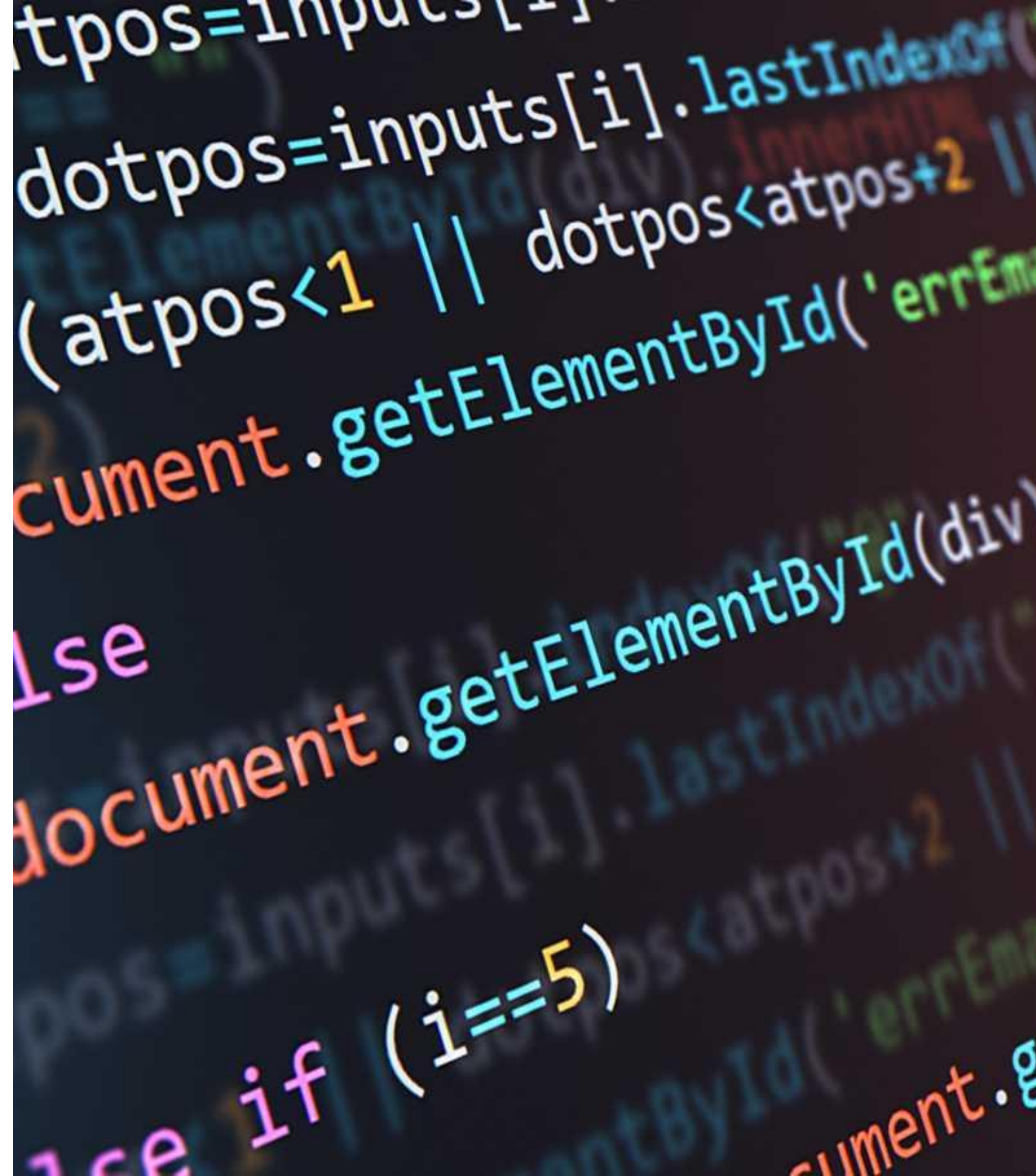
# Test Automation Implementation - Challenges

The main challenge was **managing time constraints**. Hence, we implemented the following measures:

- Quality Assistance Model
- Empowered Test Engineers to push back
- 70/30 Rule

# Test Automation Implementation - Tips & Tricks

- Test setup & teardown via API where possible
- Avoid code duplication
- Avoid static waits
- Maintainable locators (IDs are ideal)



# Test Automation Implementation - Test Execution

- Automated Nightly Jobs
- Manual trigger before release

The screenshot displays the Cypress test runner interface. On the left is a dark sidebar with the following menu items: ACME Org (John Florence), acmeorg.io (View all projects), Latest runs, Branches, Analytics, Run status, Run duration, Test suite size, Top failures, Slowest tests, Most common errors, Flaky tests, and Project settings. The main area shows a test run titled "Fix the authentication flow specs" with a status of "4 Flaky", 8 skipped, 19 pending, 2100 passed, and 6 failed. A "Run duration" chart shows a series of green bars for successful runs and a few red bars for failed runs, with a prominent red bar at 32:32. Below the chart is a "Tests for review" section for the file "general\_settings\_spec.ts", showing 6 failed tests, 58 passed, and 0 pending. A tooltip for a failed test provides details: "Upgrade the input components to the latest version" by John Florence, 1h 43m ago, with 130 specs and 2326 tests. The tooltip also lists features like "Spec Prioritization" (Not Applied), "Auto Cancellation" (Not Applied), and "Parallelization" (Chrome 108: 12%, Firefox 97: 0%).

# Releases (Phase 2)



Daily Releases



Regression was fully automated



Test Analysts executed only the failing tests



Regression time took approximately 1 hour

# Notice any improvements?



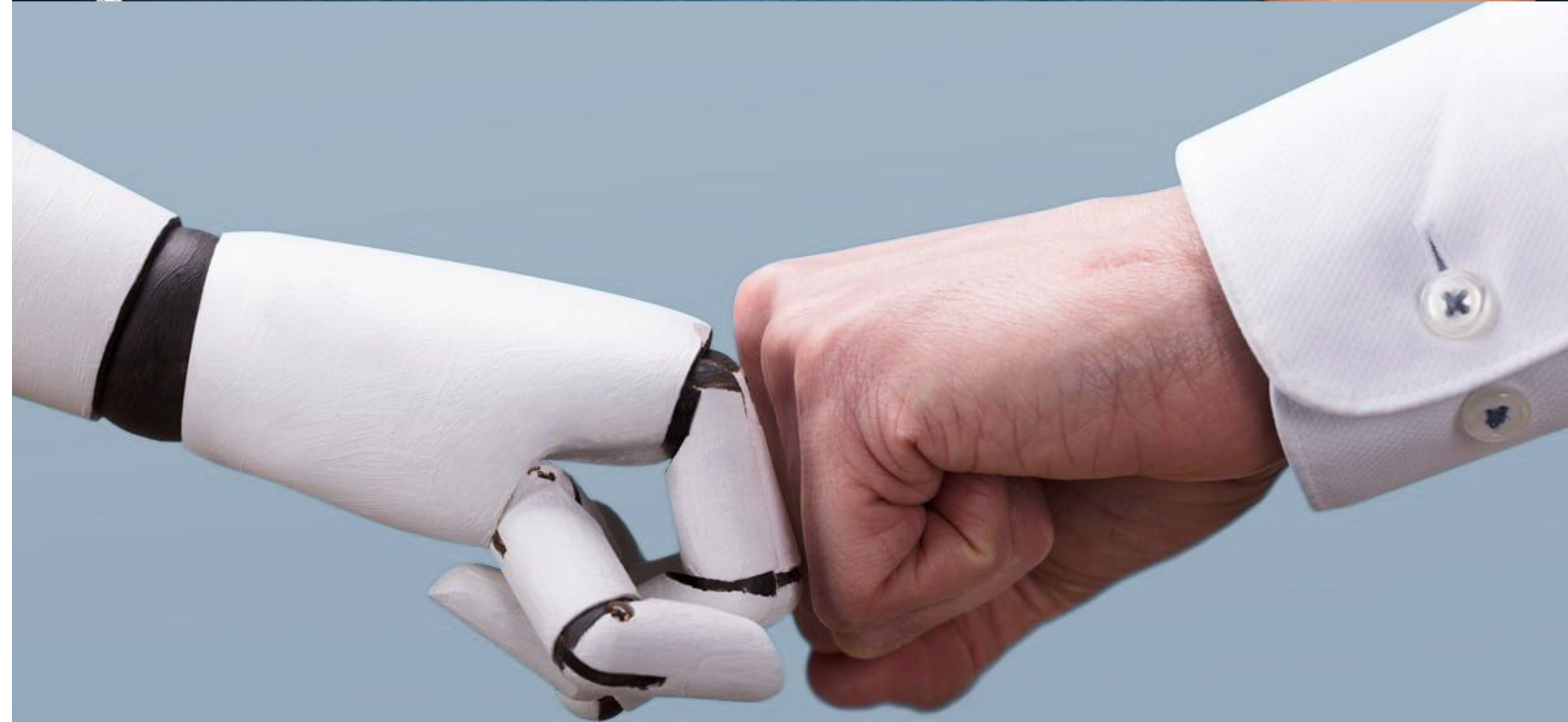
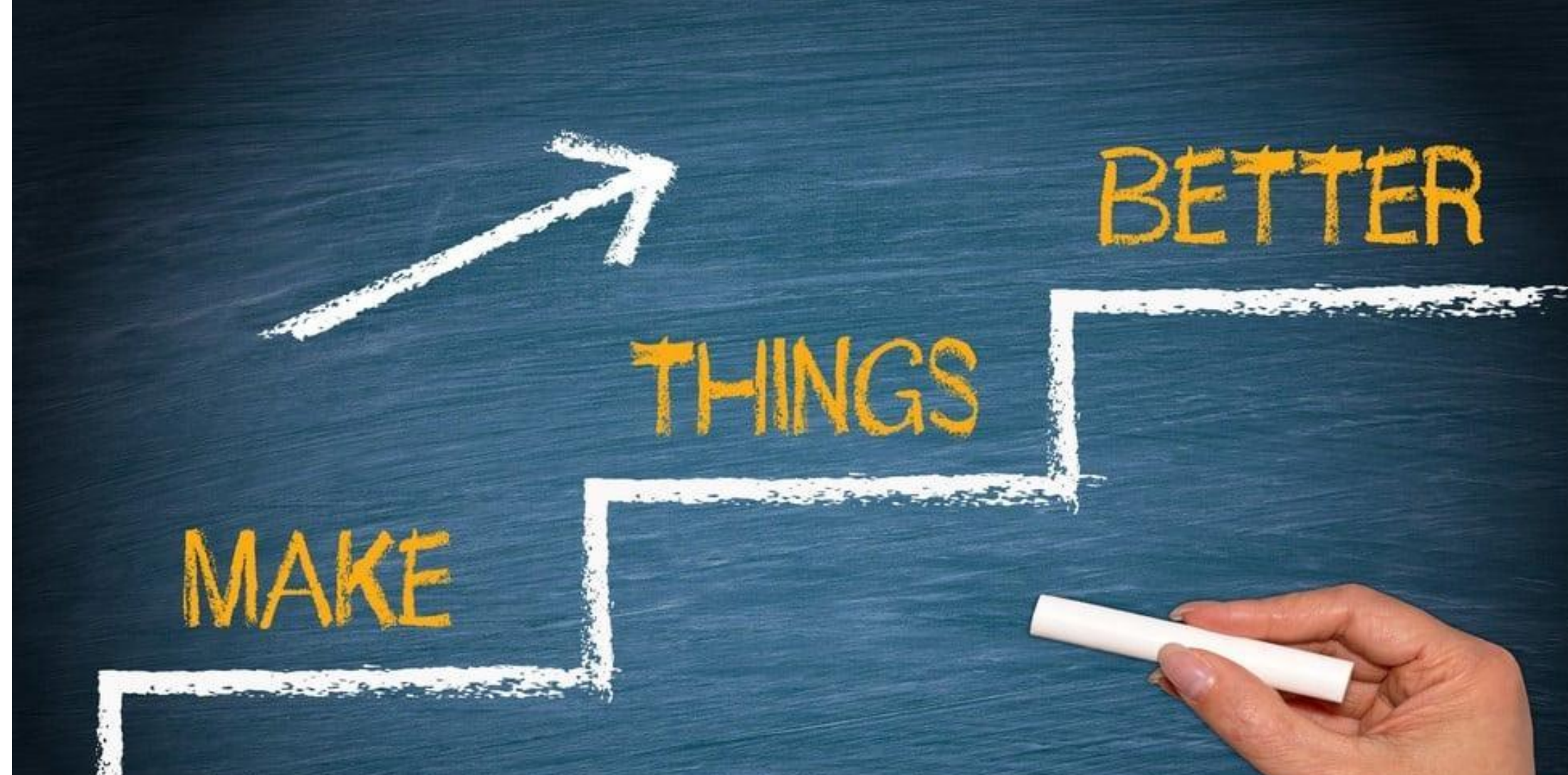
**Release  
Frequency**

Weekly to  
Daily



**Regression  
Time**

1 Day to  
1 Hour





# Testing Responsibilities - Post Improvements



**Release Testing  
Regression only**  
(Test Analysts & Test Engineers)



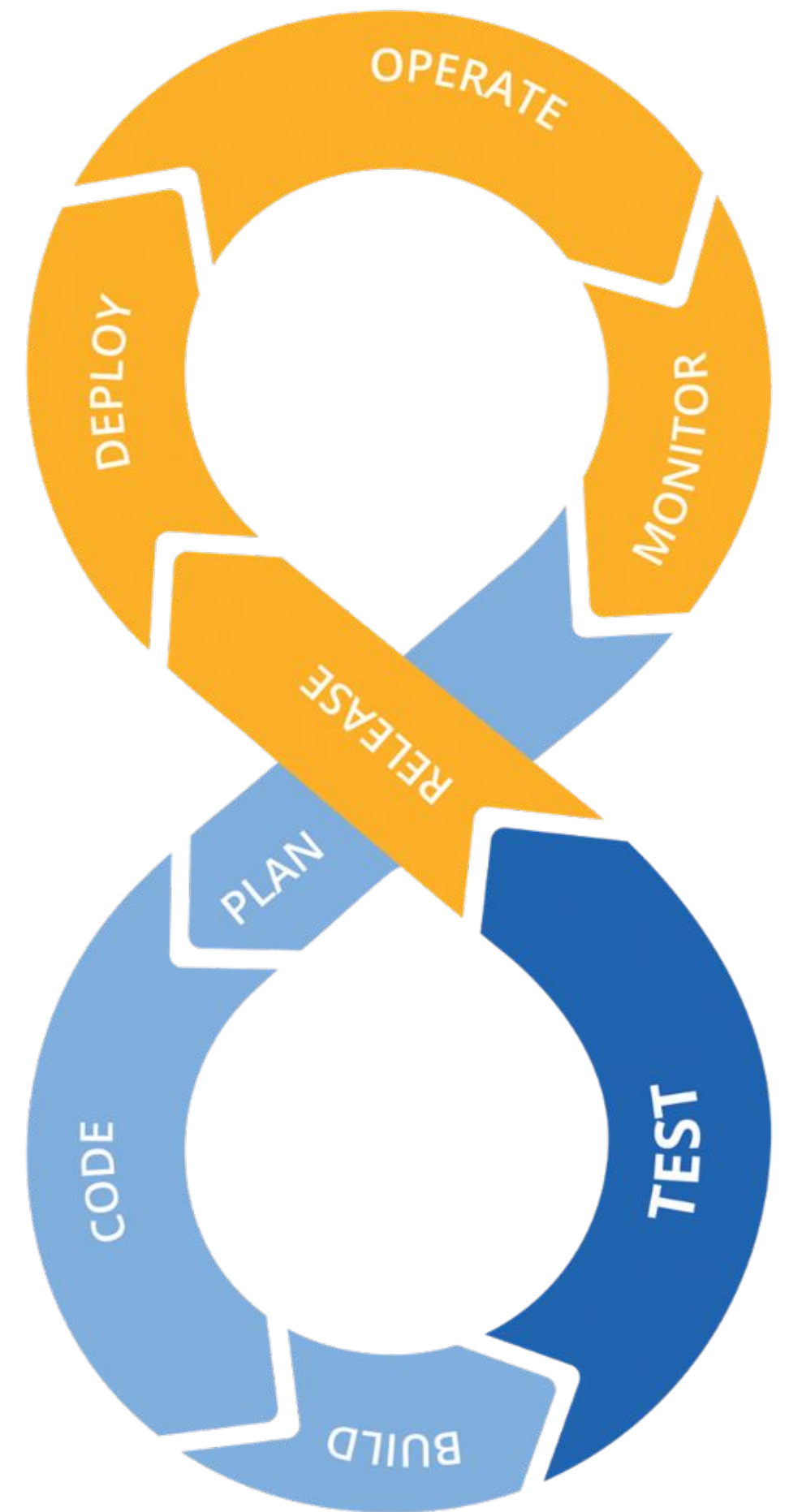
**Manual Testing  
of only Major Features**  
(Test Analysts & Test Engineers)



**Automation  
Development &  
Maintenance**  
(Test Engineers)

# A year later...

- Catching issues early
- Maintainable test suite
- Little to no test failures
- Significantly faster regression
- Daily releases
- Transitioning to CI/CD





# Other Positive Impacts

- Organized work environment boosts motivation
- Reliable automated tests free up time
- More time for learning and self improvement

# Future Plans



**Mobile Automation**



**API Automation**

# Recap



More tests does not mean  
more quality



Test Automation does make a  
difference



An organised work  
environment boosts employee  
wellbeing



**Thank you!**

**Questions?**