AUTOMATION PITFALLS AND HOW TO SWING PAST THE TAR PIT

SCOT NOFTZ

SOFTWARE ARCHITECT IN TEST

ABOUT ME

Worked in software testing for around 10 years. Started as a manual tester and progressed through the ranks. Currently work on automated solutions to address client needs.

ABOUT SPR

We are digital technology consultants. Our custom solutions help companies transform the way they do business.

NINE PITFALLS TO AVOID

01

Not having a clearly defined plan

02

Not having a goal

03

Not investing in resources

04

Not using the right tools

05

Not automating at the right level

06

Not automating tests in-sprint

07

Not knowing what tests are in your suite

08

Not having well written test cases

09

Not executing tests on a build server

spr

01

NOT HAVING A CLEARLY DEFINED PLAN

How many of you or your companies have taken on new IT or software initiatives without planning?

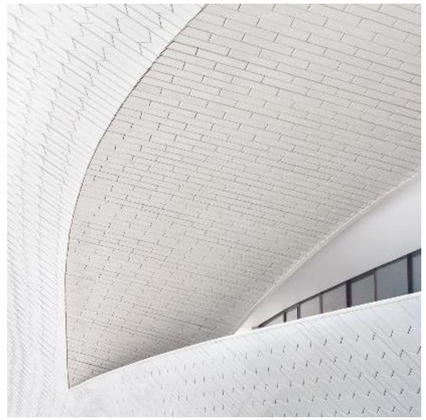
A CHALLENGE AT THE START

THE REPEAT OFFENDER

A new leader or team member joins your company and does the same thing they did at a previous organization.

HOME GROWN OFFENDER

A developer or tester begins automating without organizational consideration.



WHERE TO BEGIN

A test automation project needs to have the same planning as any other initiative within your software organization.

BEGIN WITH WHY

WHY

Why are you taking on test automation?

WHEN

When are tests created?

WHO

Who will be automating your tests?

WHERE

Where in the application architecture are tests being created?

WHAT

What tools will you use for test automation?

HOW

How are tests executed?

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02

NOT HAVING A GOAL

SETTING GOALS...AND WHY THEY MATTER

The Project Management Institute, in its **Pulse of the Profession 2017** global survey listed a lack of clear goals as the **primary cause** of failure for strategic Initiatives.

Creating goals for your project is the simplest and most important point to define but most often overlooked.

- Creating goals will help navigate your project.
- It provides the ability to measure success.
- The reason why you are spending time, money and resources

03

NOT INVESTING IN THE RIGHT RESOURCES

CURRENT TEAM MEMBERS

Most test automation initiatives start with the team members you currently have who may or may not have the technical skills required to do the job.

MANUAL TESTERS

Please stop forcing manual testers to do automation.

They only want to do test automation because they feel their job was in jeopardy.

If most manual testers aren't good automation engineers, then who will do automation?

Need to bring in well-trained engineers that know QA processes as well as coding.

Need to think of automation engineers as you do developers.

WHAT DOES A WELL-TRAINED AUTOMATION ENGINEER LOOK LIKE?

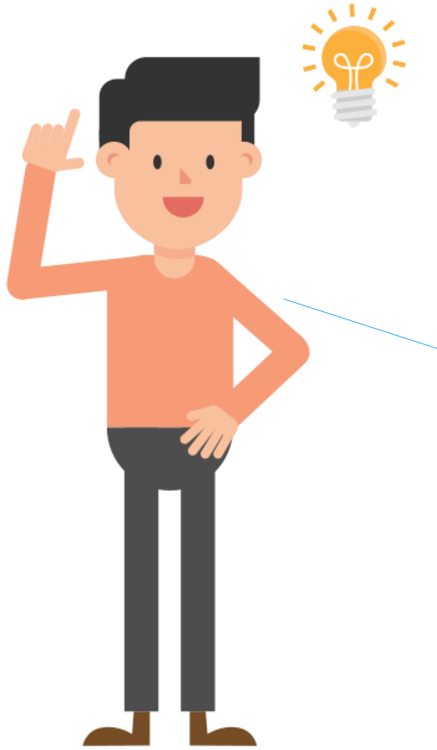
A tester that knows and likes development.

WHAT DOES A WELL-TRAINED AUTOMATION ENGINEER LOOK LIKE?

A developer that knows and likes testing.

A PERFECT MIX OF BOTH

A developer that knows and likes testing.



A tester that knows and likes development.

MANUAL TESTERS

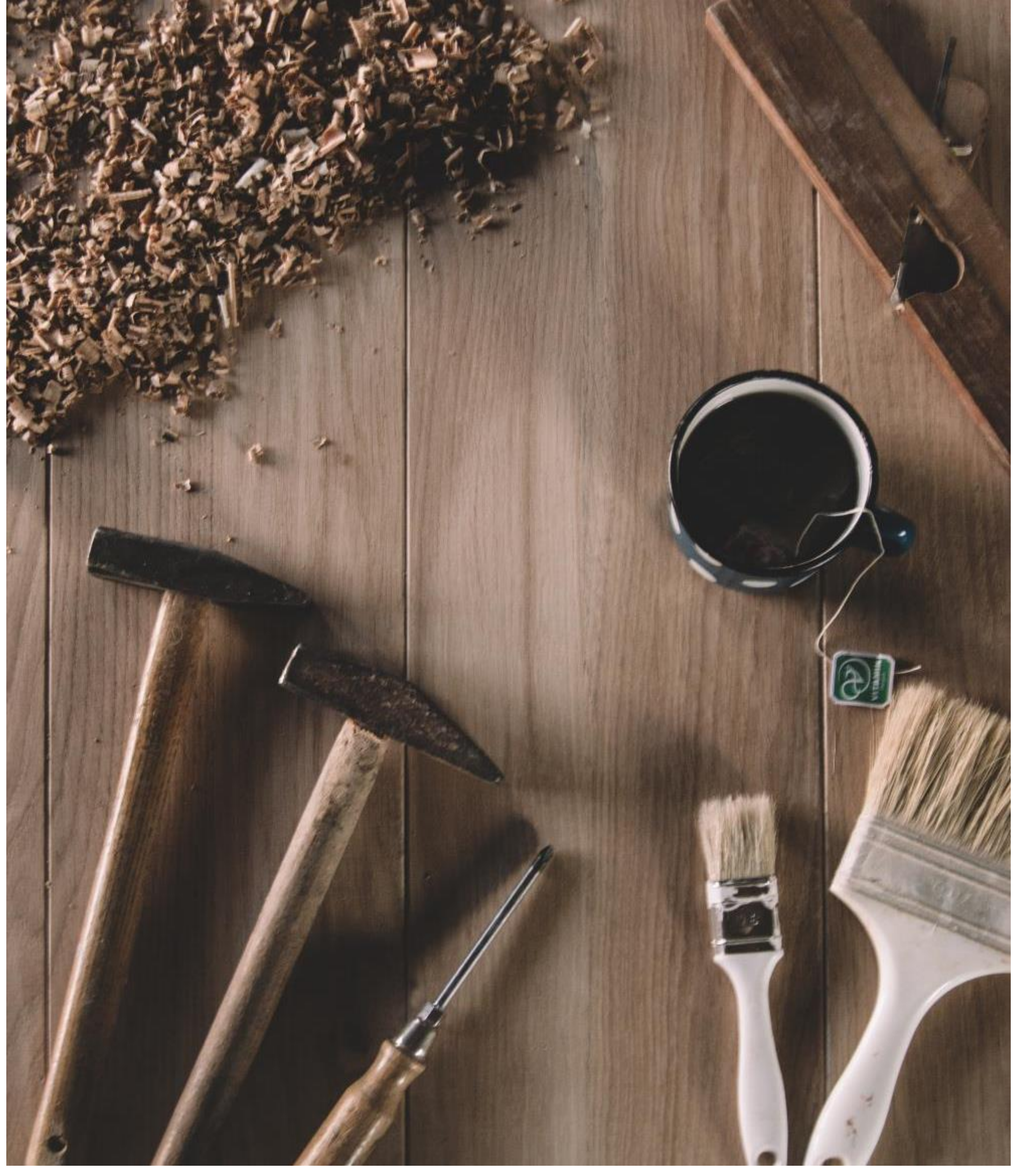
- Domain experts
- Manual / Exploratory testing
- Test Case creation
- 1 – 1 ratio of automation engineers to manual testers

04

NOT USING THE RIGHT TOOLS

SELECTING INCORRECT TOOLS

Selecting incorrect tools for test automation severely impacts your chance of success and could negatively impact your test automation strategy.

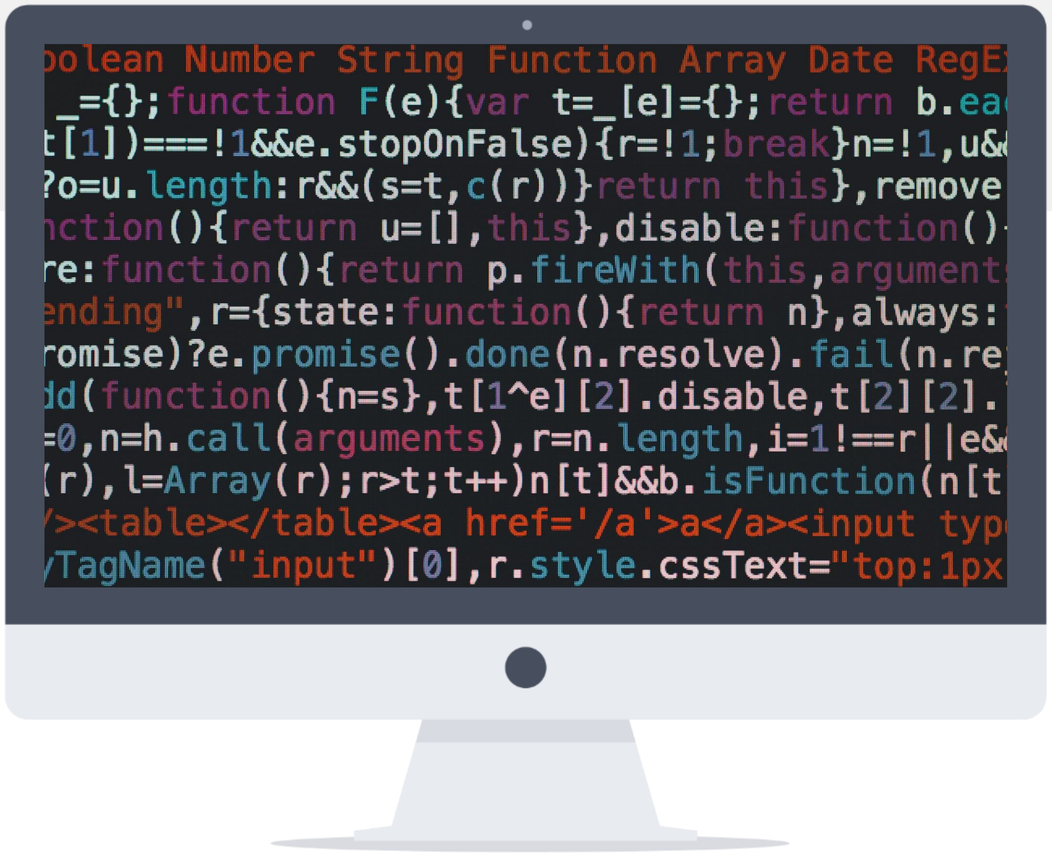


SELECTING AUTOMATION TOOLS

- Start With Language Selection
  - Use the same language for automation as your application
- Select Automation Tool
  - DON’T - be short-sighted
  - DO - Proof of Concepts

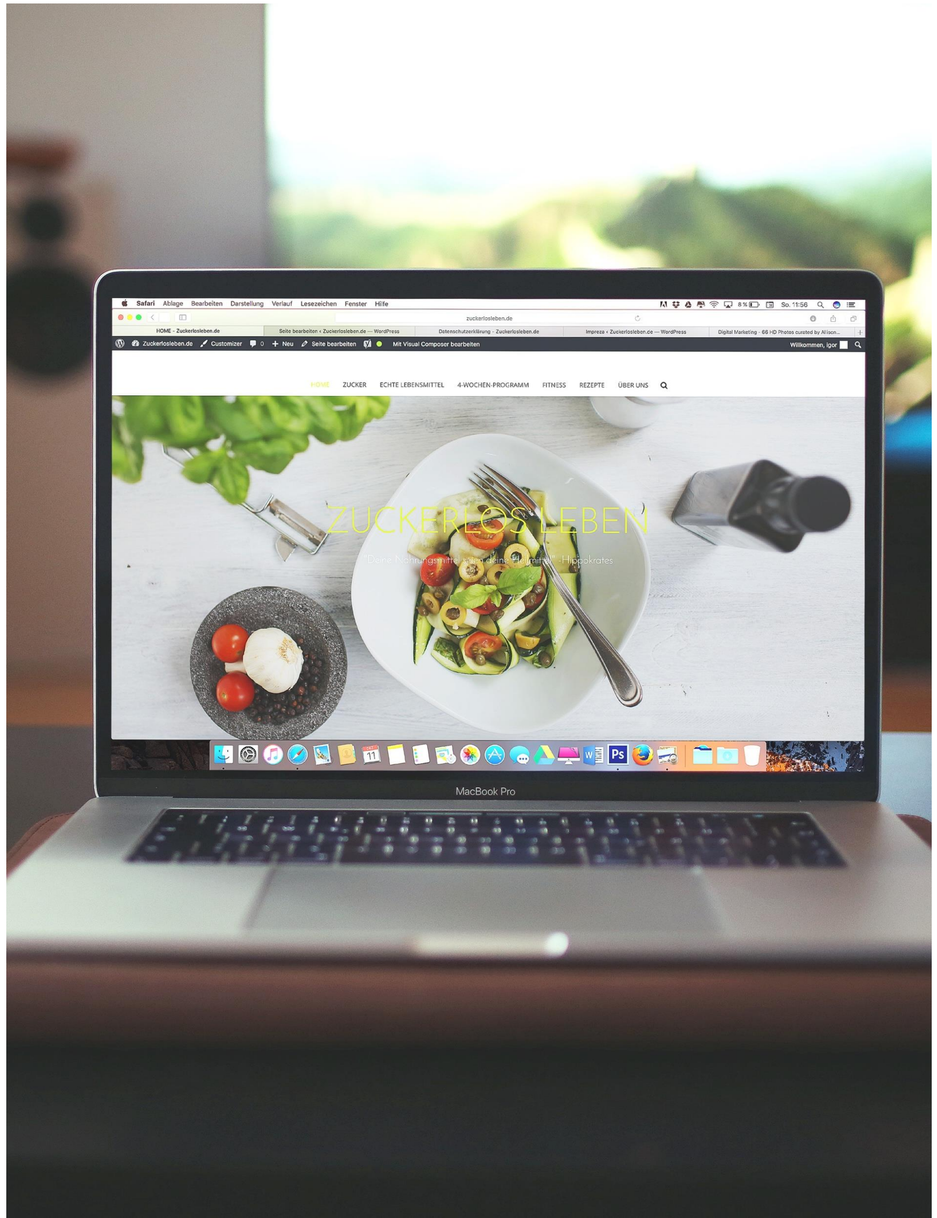
05

NOT AUTOMATING AT THE RIGHT LEVEL



3 LEVELS OF TEST AUTOMATION

1. Unit Testing
2. API/Service Testing
3. UI Testing



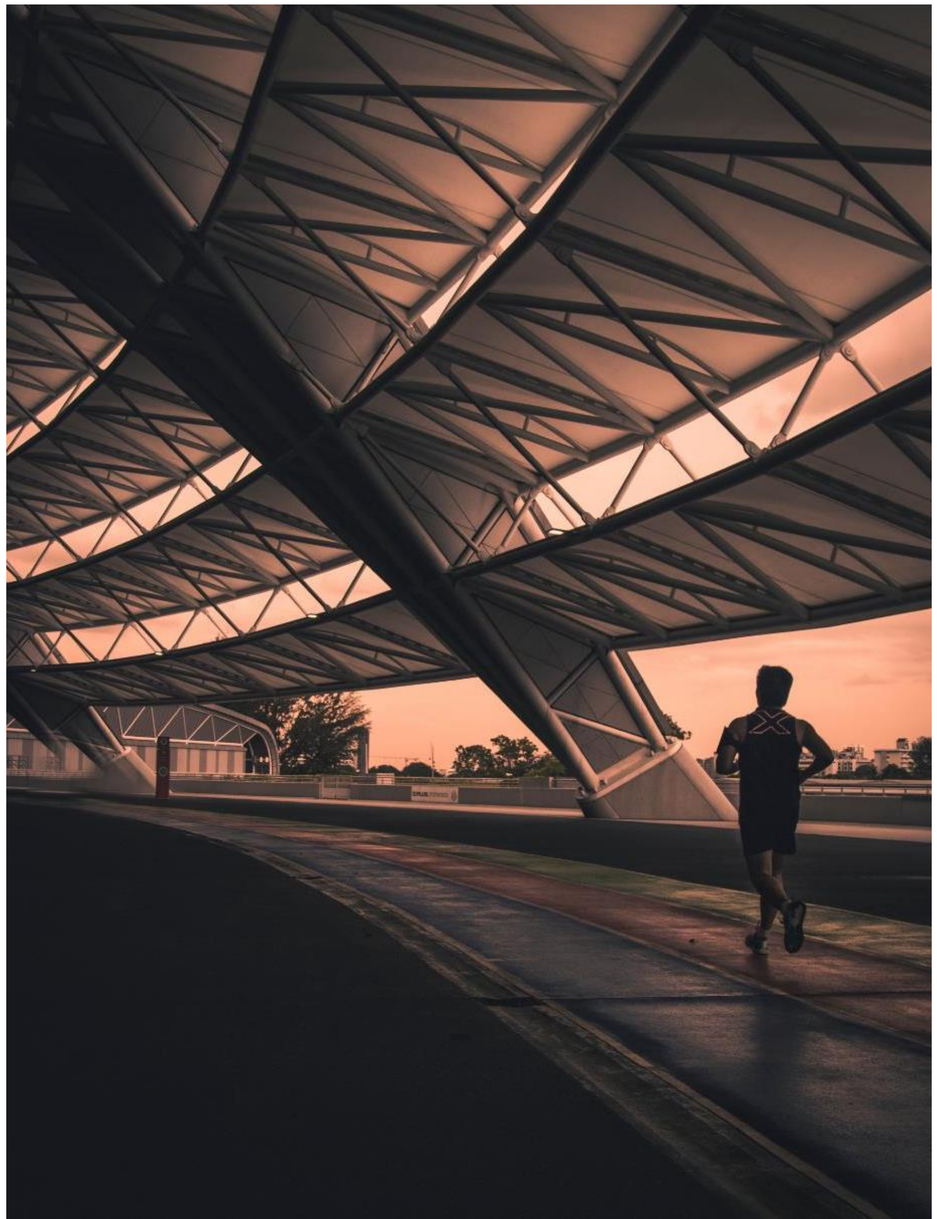
UI TESTING

UI testing is last step of the testing process but often the most understood

- Catching bugs at the UI level is both costly and time consuming
- **Shift-Left** mentality

06

NOT AUTOMATING TESTS IN-SPRINT



WHEN TO AUTOMATE

Tests should be automated in the same sprint as features are developed.

FIVE KEYS TO IN-SPRINT AUTOMATION

- Developers check-in code early and often
- Well-trained engineers
- Automation engineers on scrum teams
- Small, concise test cases
- Automated testing in the DOD

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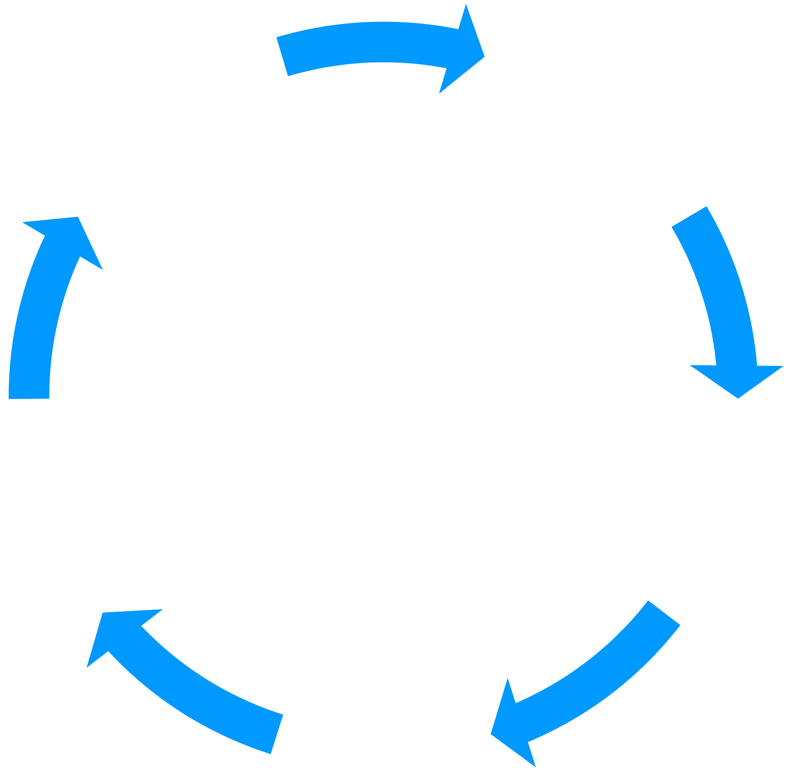
NOT KNOWING WHAT TESTS ARE IN YOUR SUITE

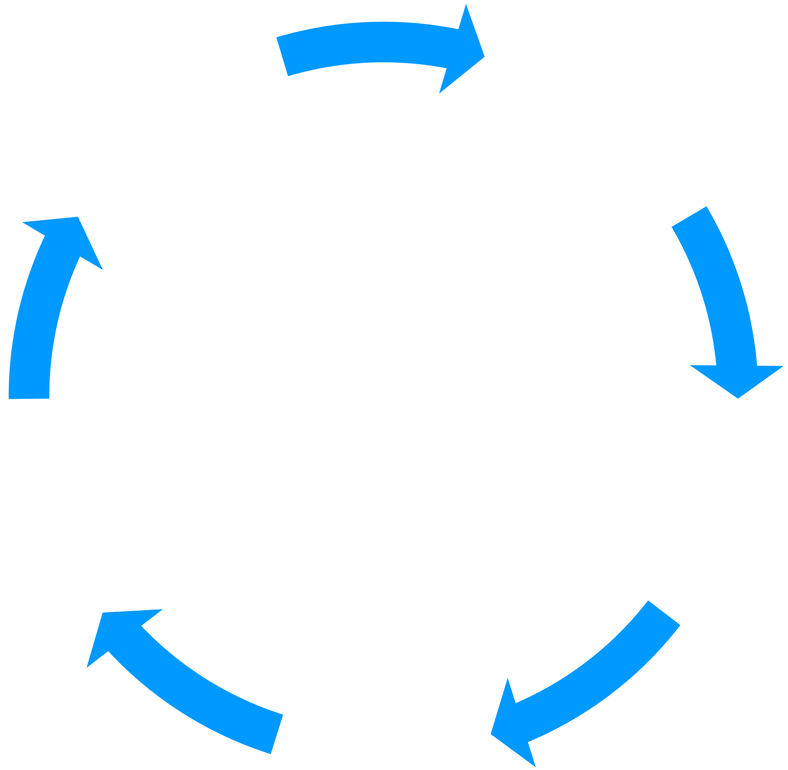
THE LIFECYCLE OF A TESTING PROJECT

- Number of tests increases with each sprint
- Test writing is slow
- Test Suite Execution is short



THE LIFECYCLE OF A TESTING PROJECT

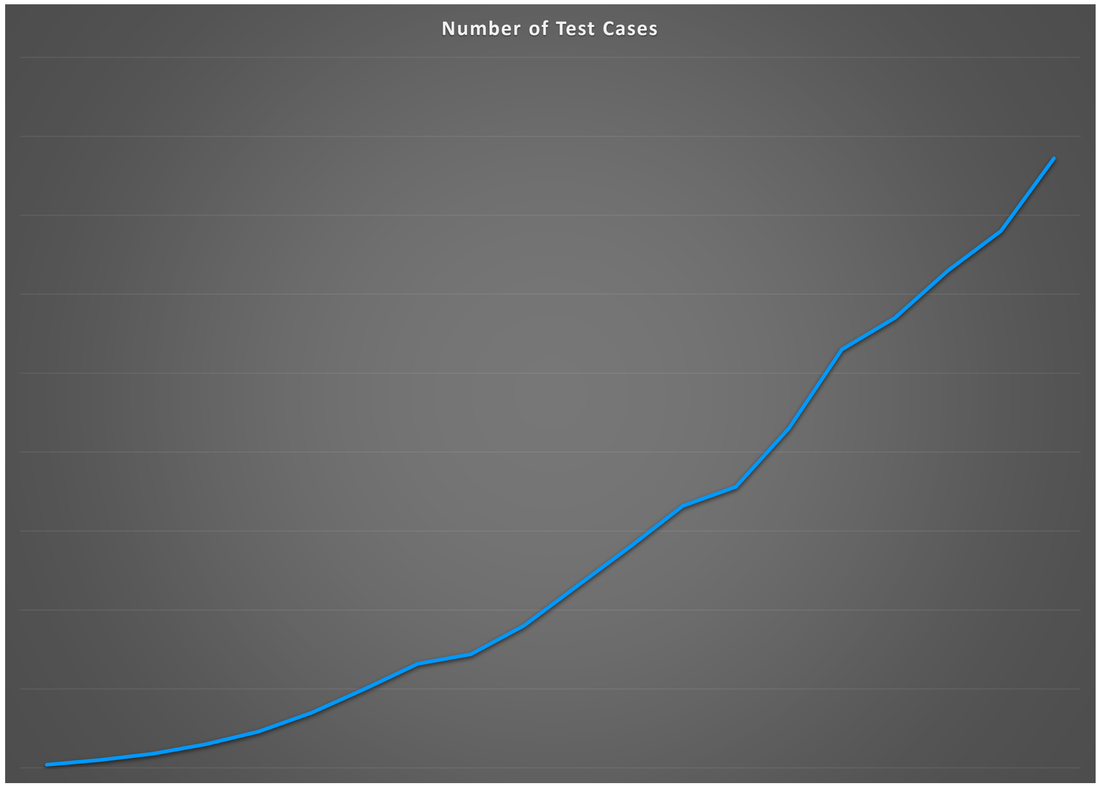
- The testing project grows and matures
- Number of tests continues to increase
- Suite execution increases



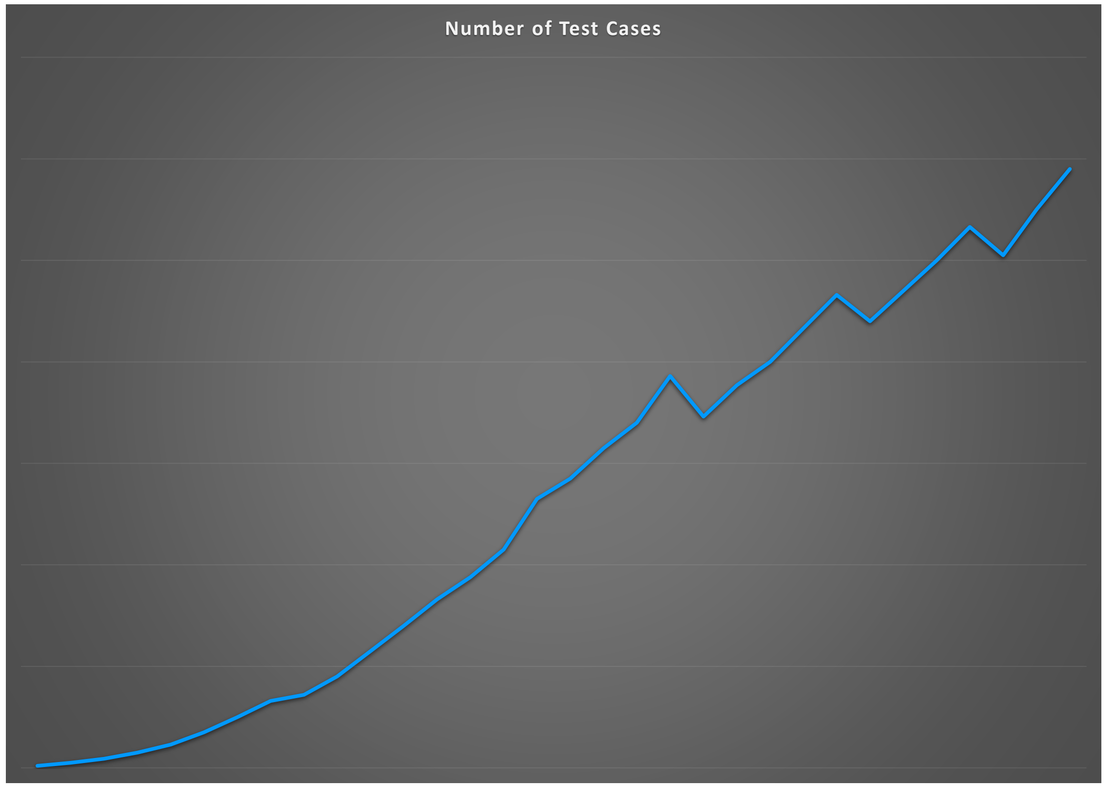
IT'S NOT ABOUT QUANTITY, IT'S ABOUT QUALITY.

NUMBER OF TEST CASES

Expected



Actual



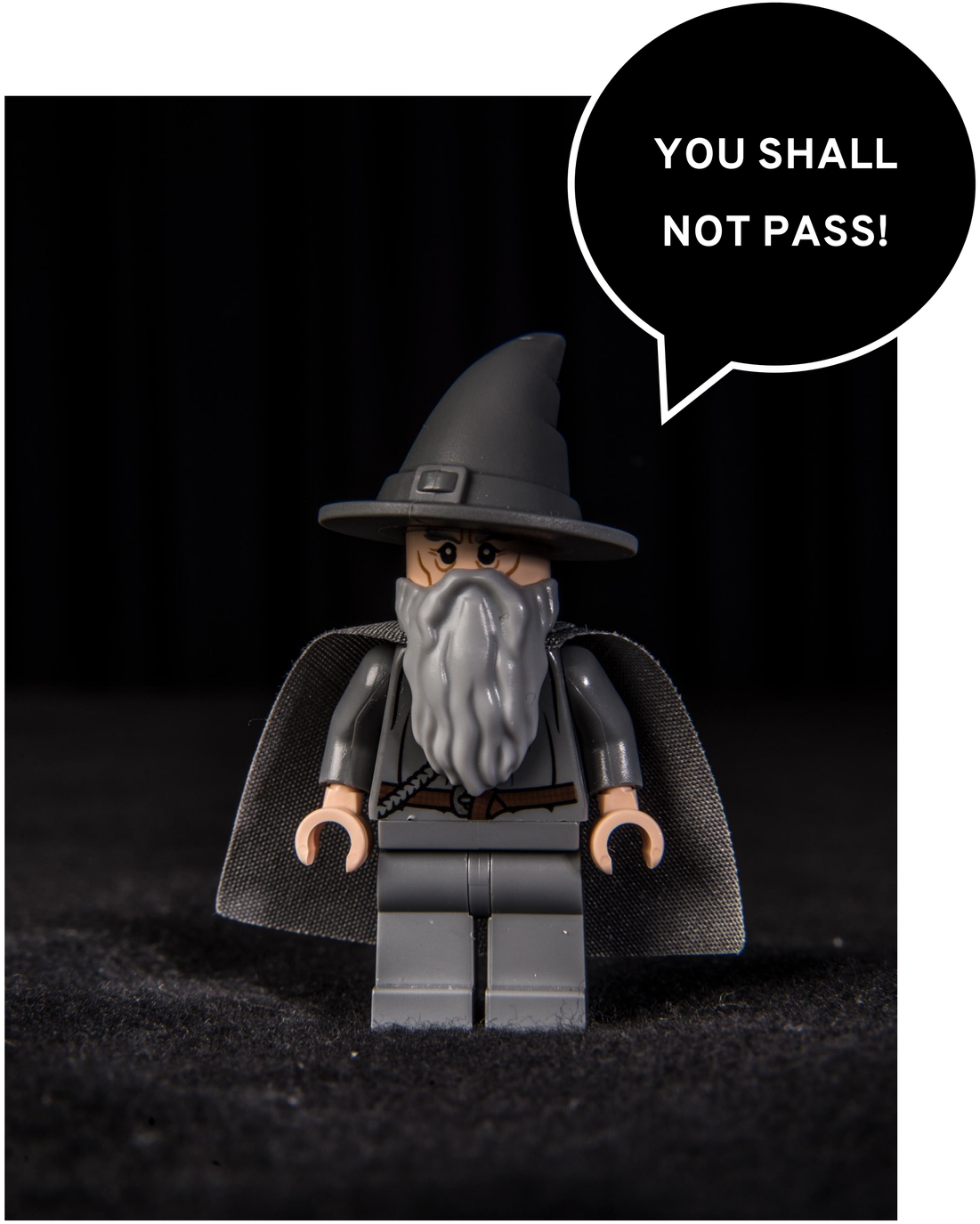
DUPLICATED WORKFLOWS

VERIFY USERS CAN NAVIGATE TO THE USERS PAGE

1. Login
2. Click the **User** tab
3. Verify you are on the Users page

USER INFORMATION IS DISPLAYED FROM USER TABLE

1. Login
2. Click the **User** tab
3. Click the first Username listed
4. Verify Username = xxxx



EVERY TEST SUITE NEEDS A GANDALF

Someone who acts as a gatekeeper and has intimate knowledge of what tests are in your test suite.

Typically have teams that know the tests in their area but not one person who knows if there is overlap.

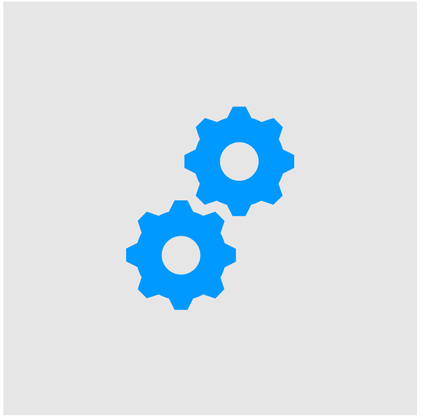
Have a test case shell in your test case management tool for every automated test.

08

NOT HAVING WELL WRITTEN TEST CASES

Automated test cases have requirements that manual test cases do not.

VS



HUMAN EXECUTION

AUTOMATED EXECUTION

HUMAN EXECUTION OF TEST CASES

1. Login
2. Click Users tab
    1. Check phone for text message
    2. Take a sip of coffee
3. Click first user in table
    1. Respond to text message
    2. Get another cup of coffee
4. Verify User information is correct
    1. Think to self: This regression cycle is taking forever I will have to call in sick tomorrow

AUTOMATED EXECUTION OF TEST CASES

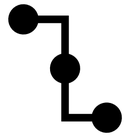
1. Login
2. Click Users tab
3. Click the first user in table
4. Verify user information is correct

FEATURES OF A WELL WRITTEN CASE

SMALL/CONCISE

VERIFY A SINGLE FEATURE

CONTAINS NO HARD-CODED DATA



INDEPENDENT

09

NOT EXECUTING TESTS ON A BUILD SERVER

THE EXECUTION OF THE PROJECT

Tests need to be executed in a build pipeline to fully maximize the benefits of test automation.

This allows:

1. For ease of execution
2. For the results to be viewable by any team member

You can increase your chances of success, improve the overall quality of your applications and speed up time to delivery by avoiding these 9 common pitfalls.

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