



PNSQC

OCTOBER 10-12 2022



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**Define Test Automation
requirements through
recordings**

AGENDA



- Historical trends and industry analysis
- Impacts from software delivery and constant evolution
- Five key benefits from Test Automation recordings
- Future predictions
- Session recap

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TEST AUTOMATION MARKET: HISTORICAL TRENDS & INDUSTRY ANALYSIS

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HISTORICAL PERSPECTIVE



First record/playback tools appeared about 20–25 years ago

The primary objective was to test desktop applications
Some tools could test broken URL links, but not dig into the objects

The tester was required to have scripting or programming knowledge to make the tests run effectively, even in record/playback

Below is an evolution of Test Automation frameworks:



* Continual push to bring automation creation capabilities back to non-programmers

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CURRENT INDUSTRY ANALYSIS



According to research – *“What automation engineers struggle with...”*

- 1) Test script maintenance will get easier
- 2) Automation tool self-healing will arrive
- 3) AI will help report automated test runs and analysis
- 4) Non-Selenium, automation-based tools will gain in popularity
- 5) Record and playback will rise again
- 6) The new buzz phrase: Continuous Testing
- 7) Mega-consolidations are coming... or here

Author: Joe Colantonio

<https://techbeacon.com/app-dev-testing/state-test-automation-7-key-trends-watch>

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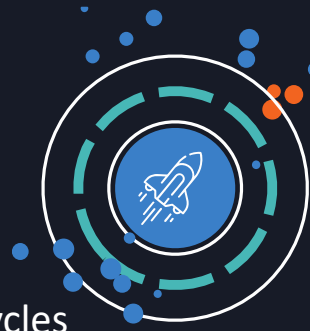


TEST AUTOMATION IMPACTS: SOFTWARE DELIVERY & CONSTANT EVOLUTION

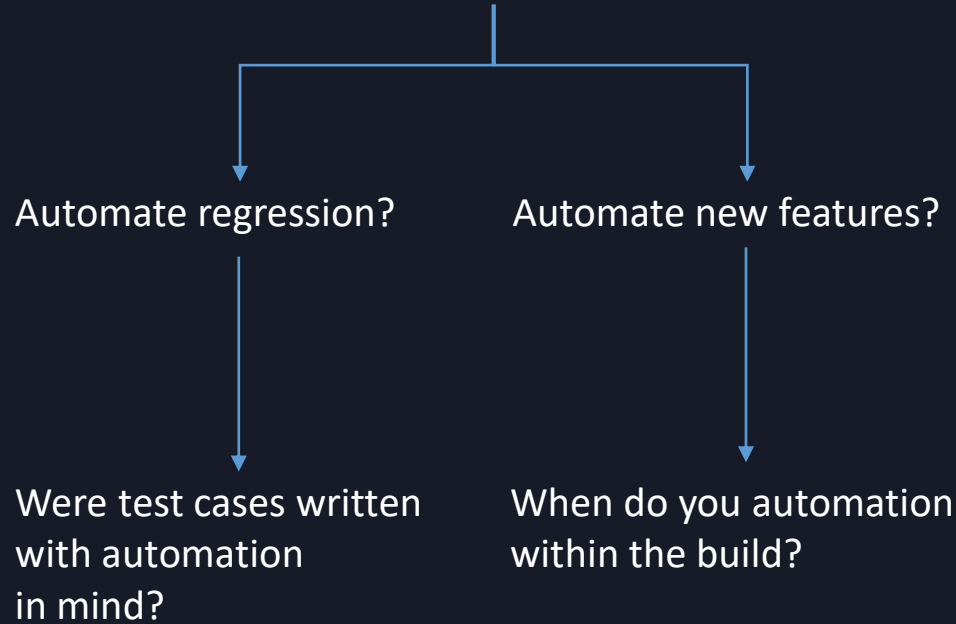
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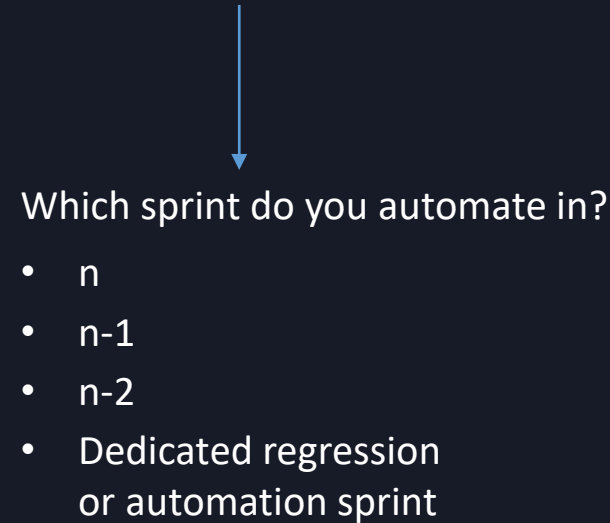
SOFTWARE DELIVERY CHANGES



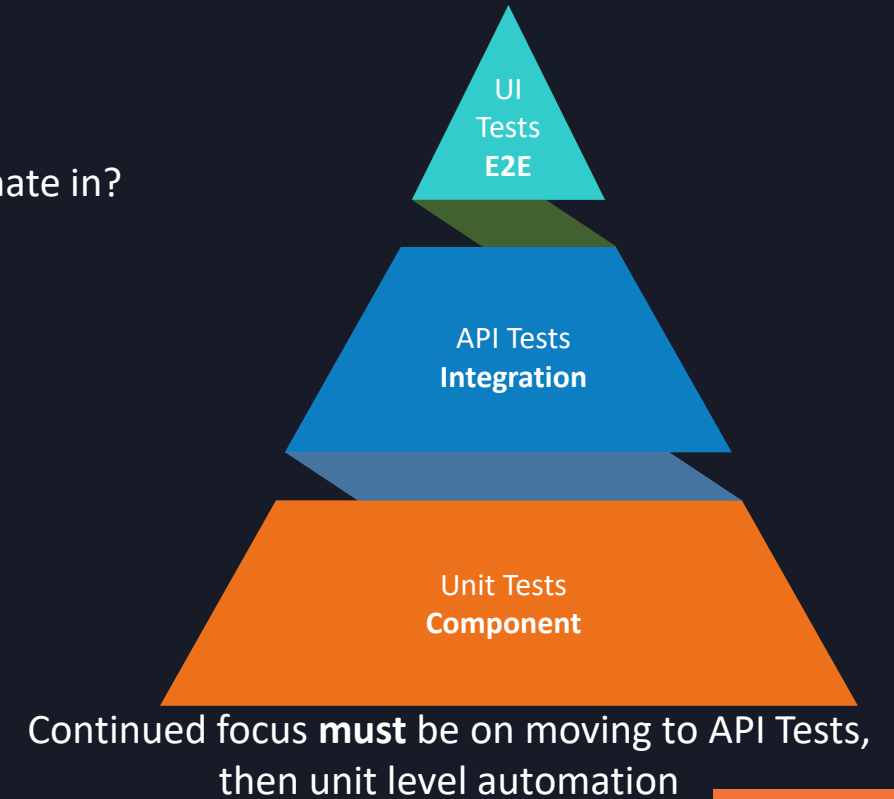
Waterfall automation



Agile automation cycles



DevOps automation cycles



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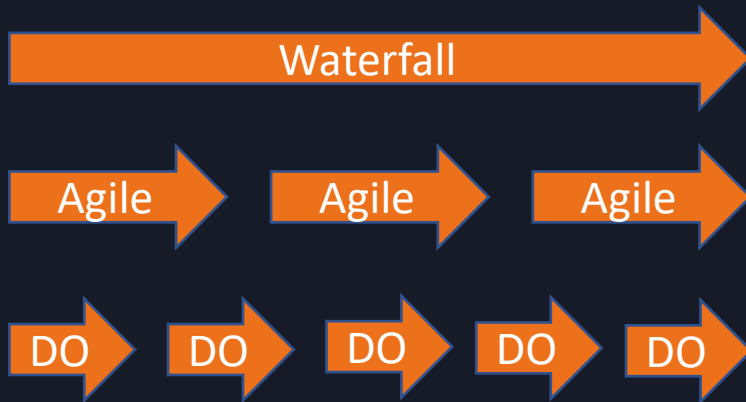
CHANGES ALWAYS EVOLVING



Fast release cycles require faster automation

Automated tests can break easily

Changing technology stacks



UI challenges
Screen locators change
Elements are removed
XPath structure changes
Dynamic attributes

API challenges
Schema changes



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FIVE KEY BENEFITS FROM TEST AUTOMATION RECORDINGS

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FIVE KEY RECORDING BENEFITS



Keyword generation for testers

Better UI & API automation at onset

Automation engineers with good code

All testing roles creates automation

Working with manual regression tests

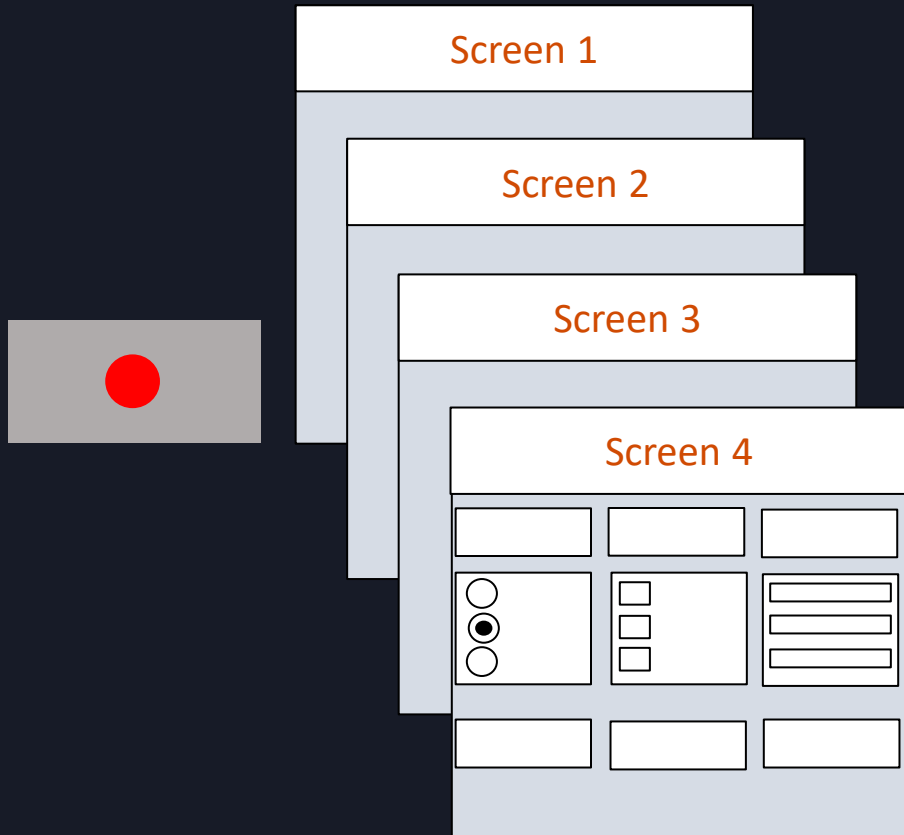
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1: KEYWORD GENERATION



Common keywords for testers



Test Script 1
Step
CLICK <Name of Edit Box>
INPUT <Data>
SELECT <Radio Button choice>
CHECK <Checkbox choice>
CLICK <Button selection>

Test Script 2
Step
SELECT <Radio Button choice>
CHECK <Checkbox choice>
CLICK <Button selection>
CLICK <Name of Edit Box>
INPUT <Data>

Four common keywords are created

Scripts read as manual test cases

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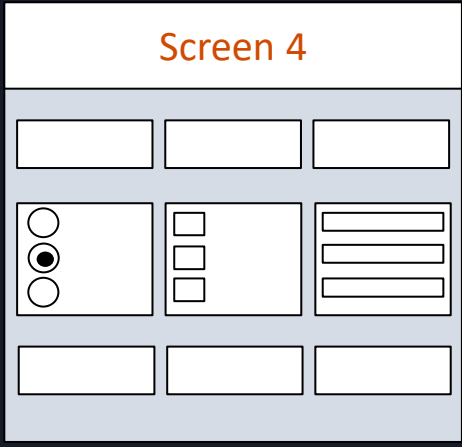
2: BETTER UI & API STRUCTURE



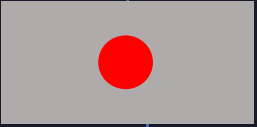
Better UI & API automation at onset

UI Interaction & Script generation

Test Script 1
Step
CLICK <Name of Edit Box>
INPUT <Data>
SELECT <Radio Button choice>
CHECK <Checkbox choice>
CLICK <Button selection>



- Help developers understand the fields you want to use and validate
- In turn, they can provide the related APIs for testing the functionality



Separate from UI object information

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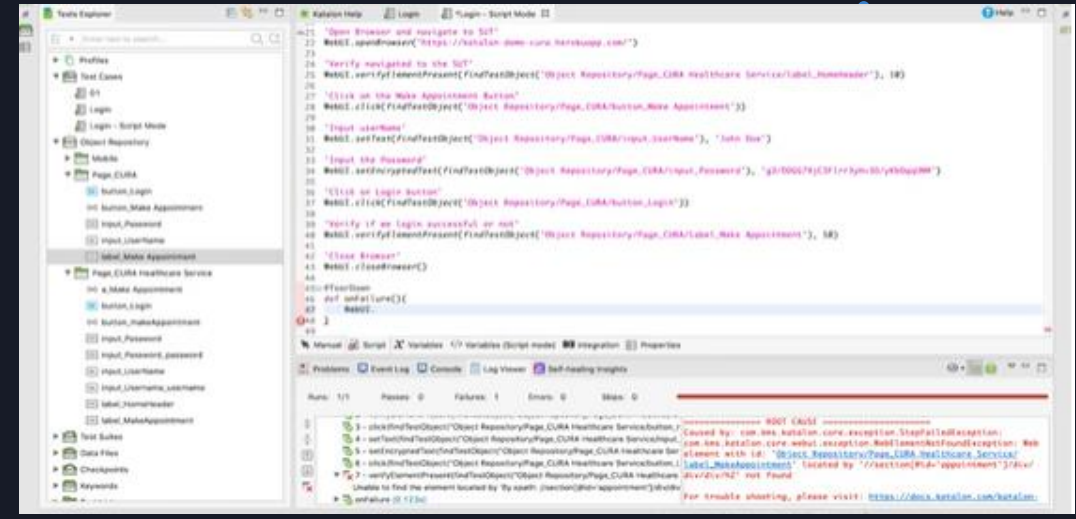
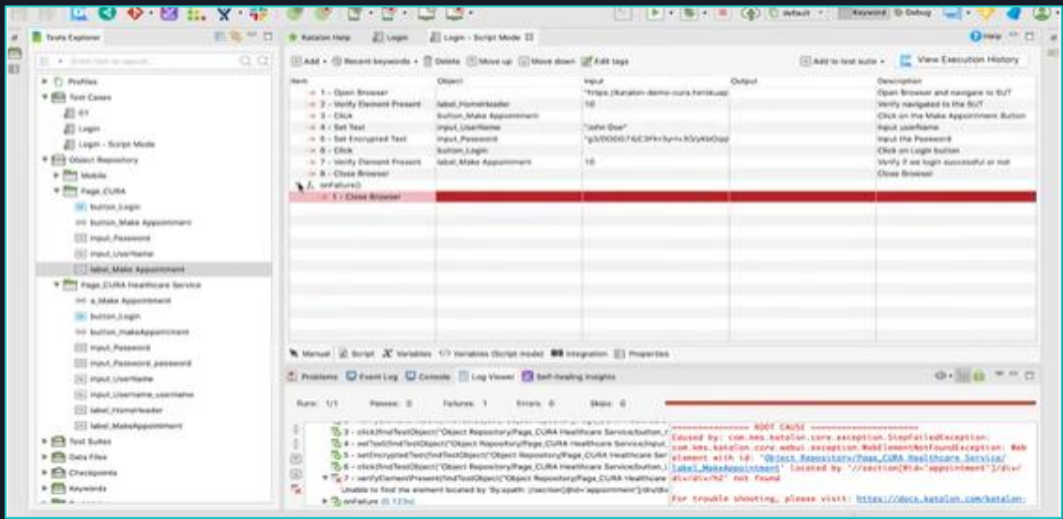
3: ENGINEERS USE BETTER CODE



Better code base to start

By recording tests here...

...the code can be generated there



Key takeaways with this approach

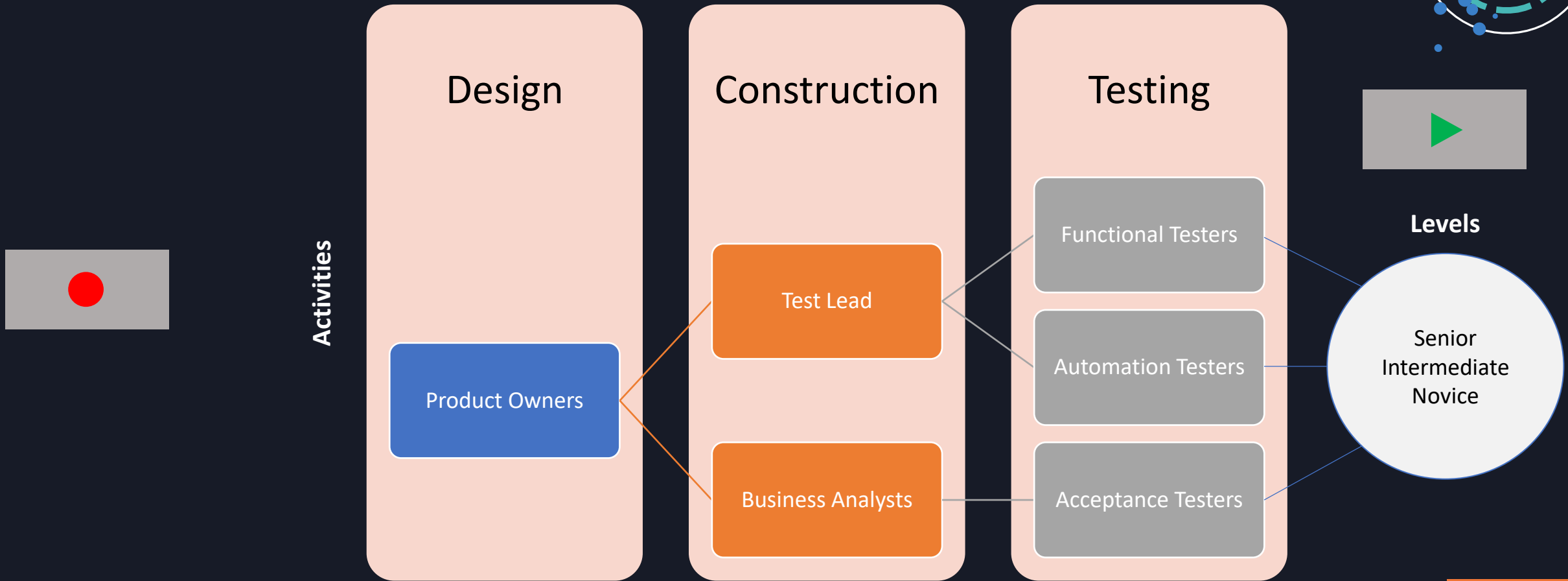
- 1) No **ambiguity** on desired step to test and validate
- 2) Cleaner code to start, especially for **newer** engineers
- 3) Add **additional** coded steps if needed, using the object repo

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4: ALL TESTERS AUTOMATE

Automation for all testers



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5: MAINTAIN BETTER REGRESSION

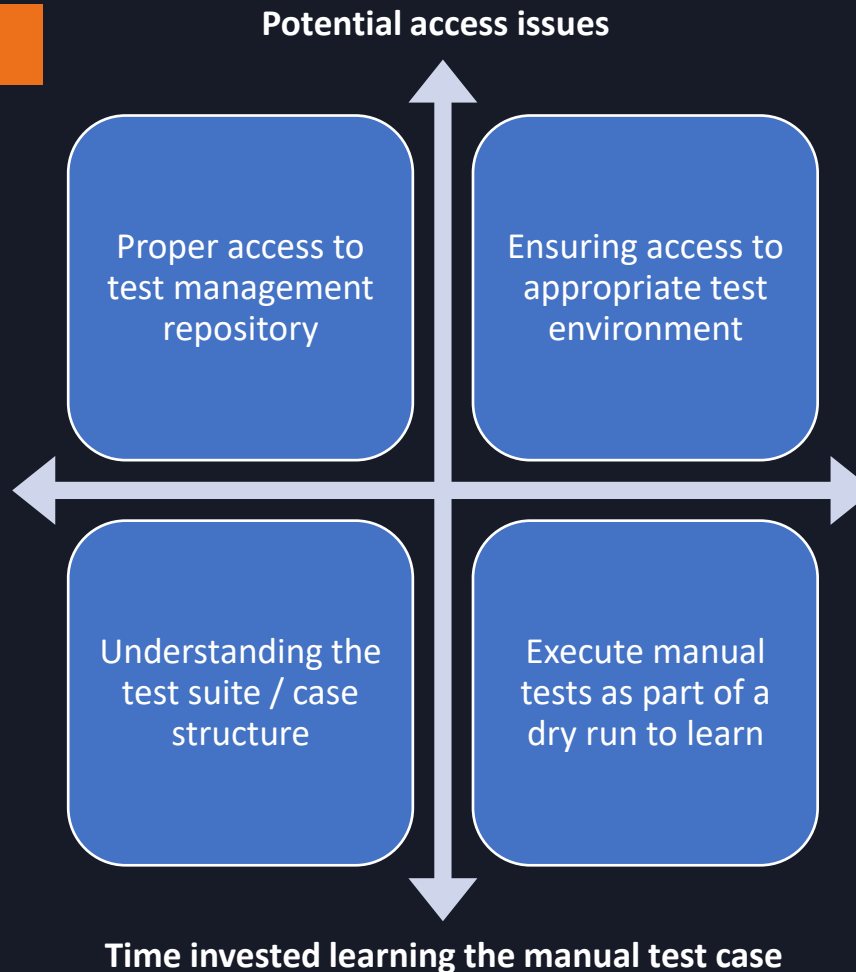


Existing test case library reconsidered

Functional tests were NOT written with test automation in mind



Navigation to get to right path



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TEST AUTOMATION OUTLOOK: FUTURE PREDICTIONS

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INDUSTRY FUTURE PREDICTIONS



Must adopt Test Automation trends

- 1) Codeless automated testing
- 2) Invest in more automation
- 3) Develop automation pipelines
- 4) Blend of continuous testing
- 5) API and service test automation
- 6) AI and ML
- 7) Chat-bot tests

Author: Gaurav Shukla

<https://blog.knoldus.com/must-adopt-test-automation-trends-2021/>

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PERSONAL FUTURE PREDICTIONS



My future automation predictions...

- 1) AI capabilities become more stabilized and normalized
- 2) Data security becomes more prevalent within testing tools, especially non-production data
- 3) Unit testing frameworks integrate more with test automation solutions
- 4) Testing analysis becomes more common within tools for functional coverage and code coverage
- 5) Performance indicators within test automation solutions help performance-focused tests
- 6) Test automation professionals will blend into operational roles to support RPA initiatives

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SESSION RECAP

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RECAPPING TODAY'S SESSION



Research historical perspectives that drives current industry trends

Understand what's changing in software delivery that leads to evolution

Absorb the five key benefits of recordings, build a plan around appropriate items

Stay current with predictions from leading experts, look for common themes

Build a plan around using recordings in sprints and measure accordingly

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QUESTIONS?

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THANK YOU