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Challenges of automation at Scale

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About Me

- Tester since 1999
- Currently working with Mezocliq as
  Head QA & India Engineering Operations
- Previously worked with
  - Oracle
  - MakeMyTrip
  - CA Technologies
  - Nucleus Software
  - Newgen Software
  - NIIT
- Speaker & author
- Cyclist
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About Mezocliq

meZocliq is a cloud computing company that provides an innovative technology platform to facilitate big-data analytics and business process transformation.

meZocliq offers an integrated non-code application suite with end-to-end functionality. Our suite unifies legacy data and enables broad-ranging analytics, all at a fraction of the cost of other alternatives.

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New York | Delhi

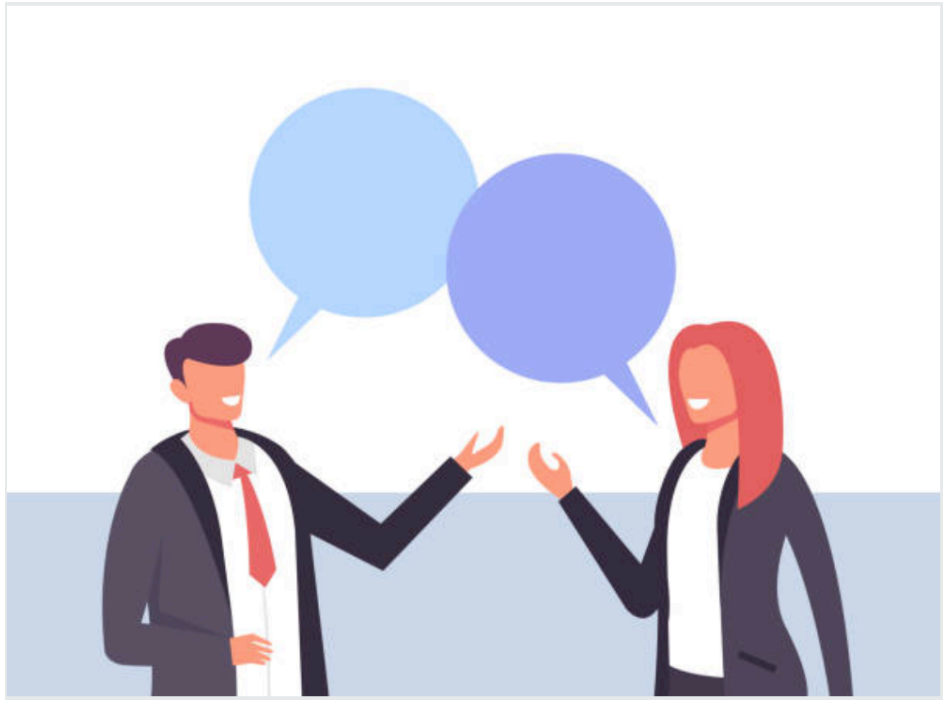
Is test automation important? Yes/No

What’s primary objective of automation?

What are our targets for automation coverage?

50% **60%** **75%** **85%** **90%** **100%**

Ambiguities about automation coverage



Peter (CTO) Maria (QA Manager)

Automation Coverage %

Option A = (Automated TCs / Total TCs)*100

Option B = (Automated TCs / (Total TCs – Non-automatable TCs))*100

How our life will be different once goals are achieved?

- We can execute regression suite any number of times without worrying about their execution duration
- Failure % is under agreed threshold
- There are no or not too many failures that we need to hold-off a release before we triage them
- Don’t need to worry about test coverage via automated suite

Moment of truth for QA Lead/Manager/Director/VP

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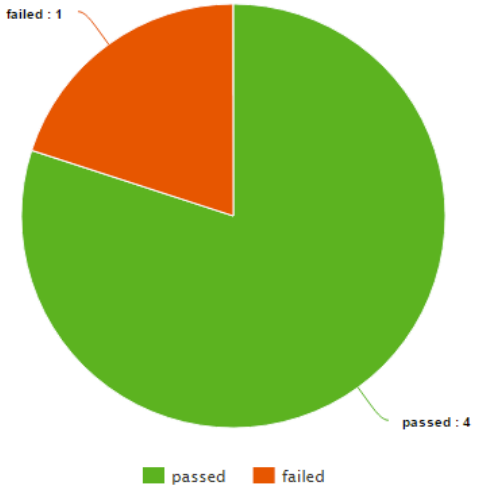
Let’s talk about challenges & how to address them

Top 4 common challenges when we're there?

Execution Duration



Pass/Fail Rate

Failure Triage

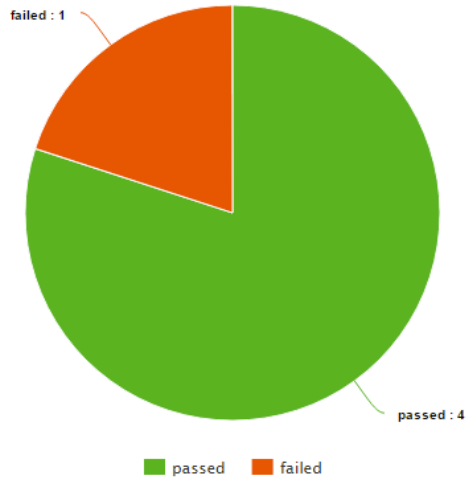
Test Coverage

Handling execution duration

- Check for explicit waits
- Fix slow internal applications and avoid just handling them
- Review performance of 3rd party utilities
- Check for duplicate tests
- Parallelize test execution

Handling pass/fail rate

- Set targets for PASS rate (e.g. API-99.5%, UI-98%)
- Focus on First Pass Rate (FPR) and not Triaged Pass Rate (TPR)
- Review assertions carefully and see if they are legitimate
- Publish & review module wise failure rate
- Keep track of fragile test scripts (having >25% failure rate)
- Have trend of all runs instead of snap-shots



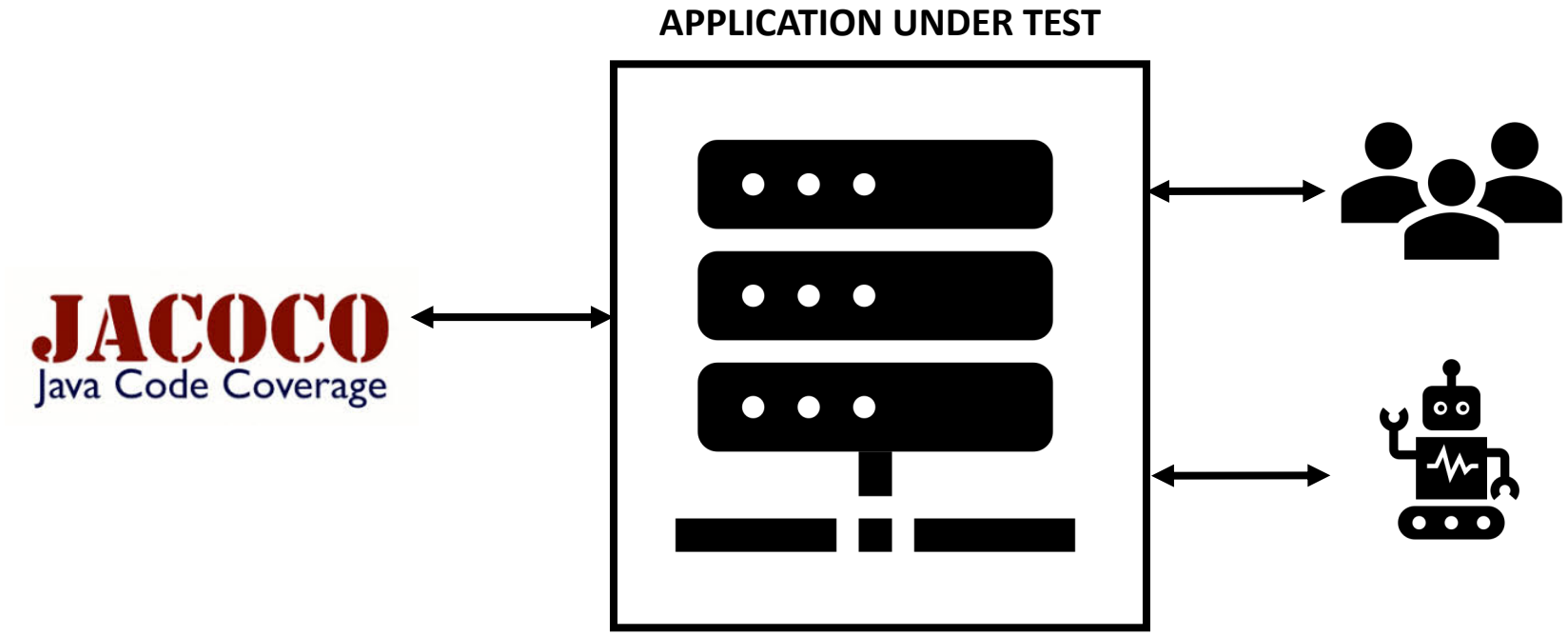
Handling triage efforts

- Author(s) having accountability for failures/triage
- Have separate suite for fragile test scripts
- Account for triage efforts for sprint planning efforts
- Track failures via tickets so that they don't get missed
- Identify and address root causes of frequent failures

Handling test coverage

- Instrument code coverage tools (e.g. JaCoCo) and keep an eye on package exclusions
- Auto-trigger regression suite with every new build
- Plot line trend charts for TCs automated vs. code coverage (line)
- Check inclusions of production issues in automated suite

Some insights about JaCoCo Integration



JaCoCo

Element	Missed Instructions	Cov.	Missed Branches	Cov.	Missed	Cxty	Missed	Lines	Missed	Methods	Missed	Classes
org.jacoco.examples		58%		64%	24	53	97	193	19	38	6	12
org.jacoco.core		97%		93%	111	1,384	116	3,320	20	710	2	136
org.jacoco.agent.rt		77%		84%	31	121	62	310	21	74	7	20
jacoco-maven-plugin		90%		80%	37	186	46	412	8	111	0	19
org.jacoco.cli		97%		100%	4	109	10	275	4	74	0	20
org.jacoco.report		99%		99%	4	572	2	1,345	1	371	0	64
org.jacoco.ant		98%		99%	4	163	8	429	3	111	0	19
org.jacoco.agent		86%		75%	2	10	3	27	0	6	0	1
Total	1,358 of 27,250	95%	150 of 2,141	92%	217	2,598	344	6,311	76	1,495	15	291

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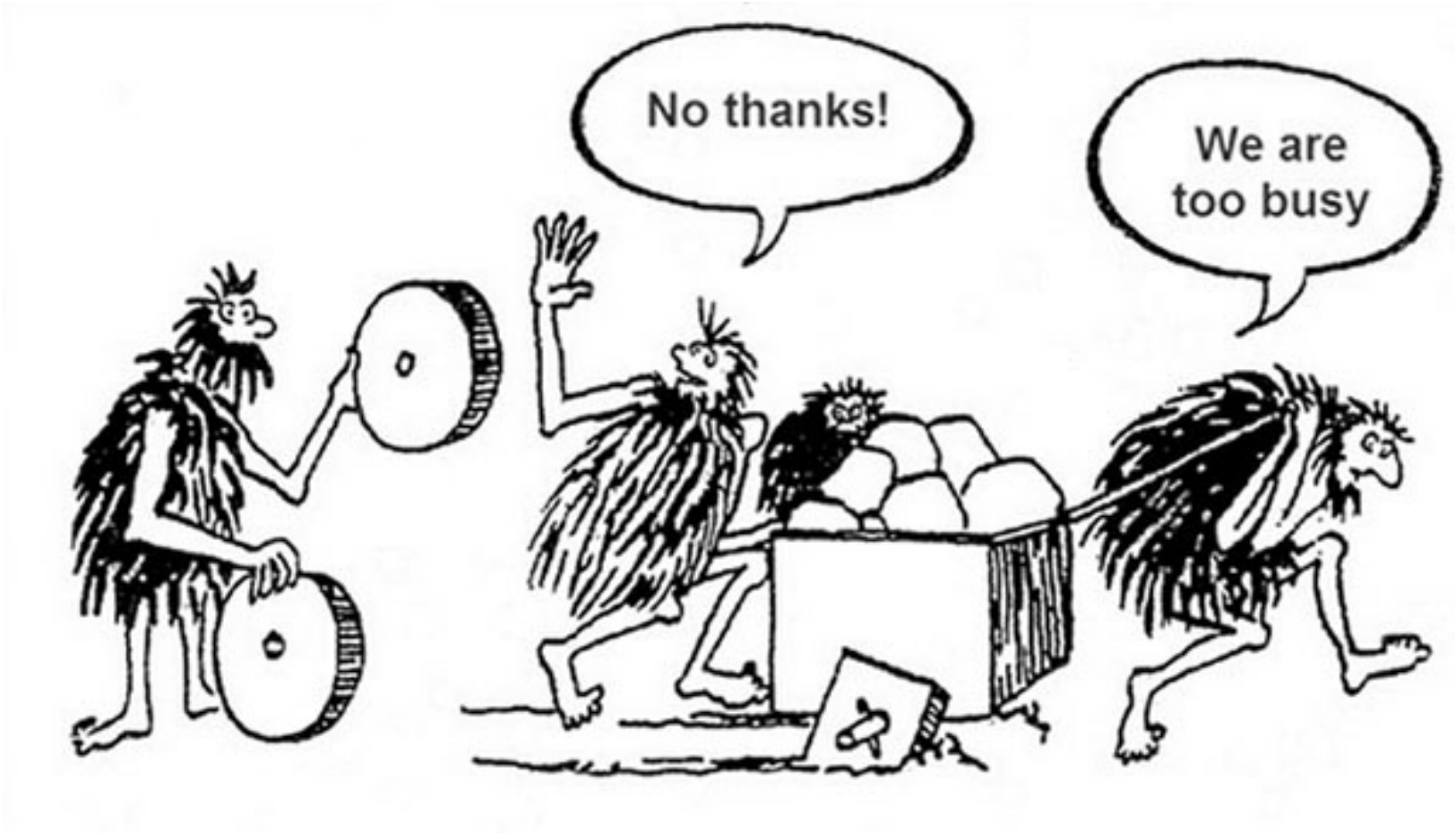
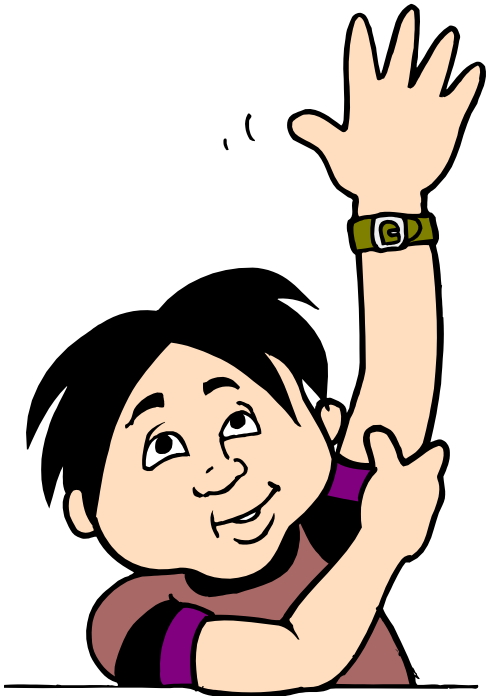
Are these profound observations?



Thanks & Questions…



Questions?

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