

# Quality Assurance

*as a DevOps Touchstone*



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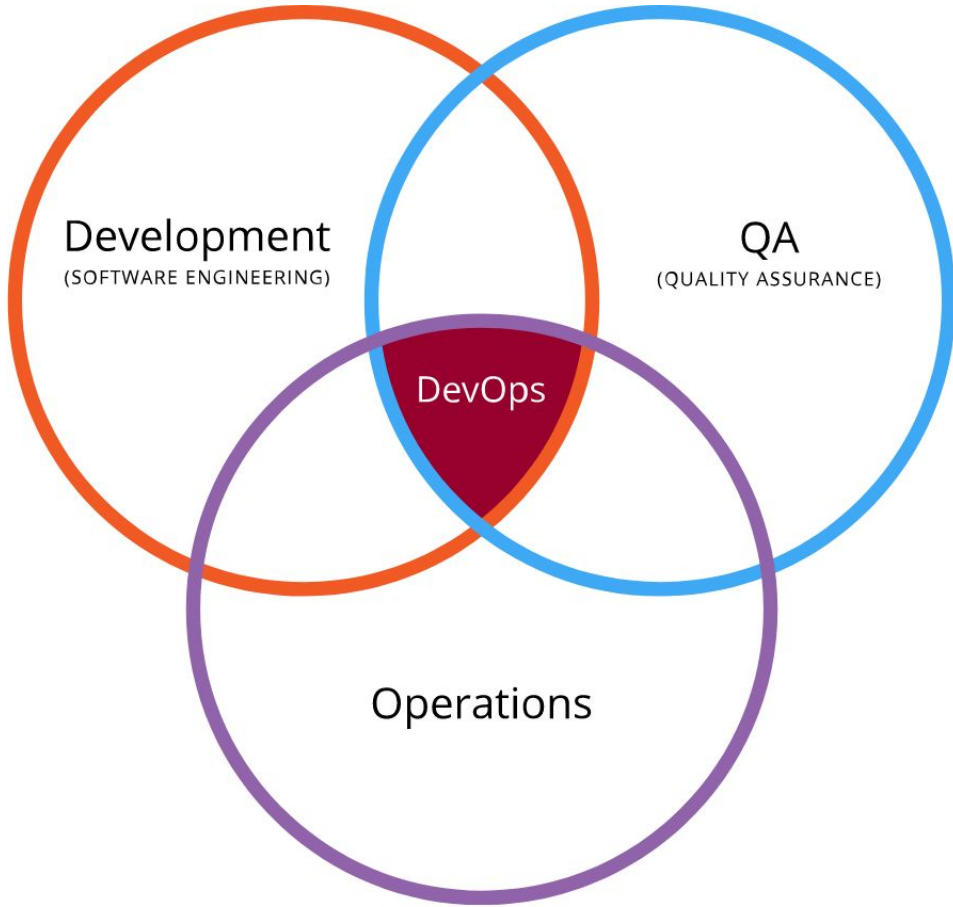
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# Agenda

- Introduction: QA's place in DevOps
- Bringing Value
  - Challenges
  - Fast Delivery
    - Testing in Agile
    - Execution speed
    - Reduce flakiness
    - Maintainability
  - Effective Testing
    - Quality Aspects
    - Test Design Ways
    - Learn from failures
- Keep on track!
- Summary & QA







Customer

QA

Project Team





Seasonal Releases → Continuous Delivery  
(Regression → Automated Testing)

# EARLY QA INVOLVEMENT



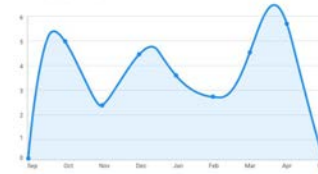


Challenges

# Quality Metrics

Deployment Frequency

Total Deployments per month



Lead Time

Average lead time per commit per month



DORA METRICS

Change Failure Rate

Percentage of deployments with bugs



Mean Time to Recover

Average Time to Resolve bugs introduced in deployments



## Speed

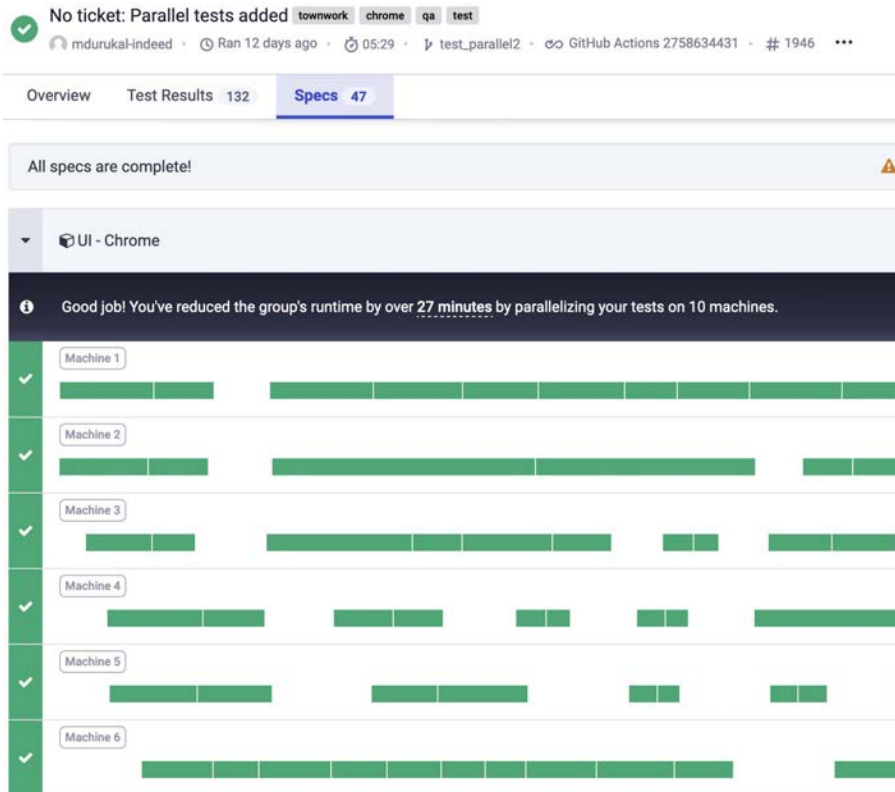
- Features waiting for test
- Average execution duration
- Flaky tests (retries)



## Reliability

- Escaped Bugs
- Customer Feedback
- Incidents from production

# TIME IS PRECIOUS





# RELIABILITY

		Any Issues in the feature?	
		No	Yes
Test Report	PASS	No Problem	Silent Horror
	FAIL	False Alarm	Real Bug

# TEST SMELLS



# QUALITY GATES



# MAINTAINABILITY

```
▶ <head> ... </head>
▼ <body> event
  ▼ <div id="container">
    ▼ <div class="is-desktop">
      ▼ <div class="serp-page">
        ▼ <header class="desktop-header">
          ▶ <div class="heading townwork"> ... </div>
          ▼ <div class="following-area townwork">
            ▼ <div class="following-area-inner townwork"> flex
              ▶ <div class="logo-container" data-test-id="site-logo"> ... </div> flex
              ▼ <div class="research">
                ▼ <div class="search-panel-desktop" data-test-id="search-panel"> flex
                  ▼ <div>
                    ▼ <div class="search-input location">
                      ▼ <div class="search-input-main on-focus"> flex
                        ▼ <div class="search-input-main-logo-input"> event flex
                          ▼ <div class="search-input-logo"> event flex
                             event
                            ...
                          ...
                        ...
                      ...
                    ...
                  ...
                ...
              ...
            ...
          ...
        ...
      ...
    ...
  ...
< div > div.search-input.location > div.search-input-main.on-focus > div.search-input-main-logo-input >
```

return '[data-test-id="input-query"]';

```
cy.get(serpPage.keywordInput()).click();
cy.get(serpPage.keywordInput()).clear();
```



# Fasten and Ease Maintenance: Remove Duplication



# EFFECTIVE TESTING

next

[click here for more information](#)



# Customer Focus



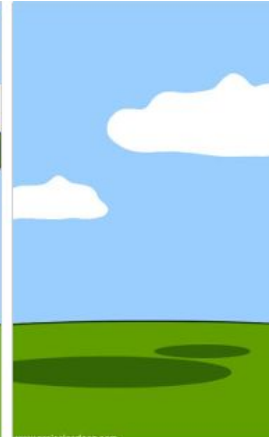
www.projectcartoon.com  
How the customer explained it



www.projectcartoon.com  
How the project leader understood it



www.projectcartoon.com  
How the programmer wrote it



www.projectcartoon.com  
How the project was documented



www.projectcartoon.com  
How the customer was billed



www.projectcartoon.com  
What the customer really needed



# The Mindset: Test the unexpected

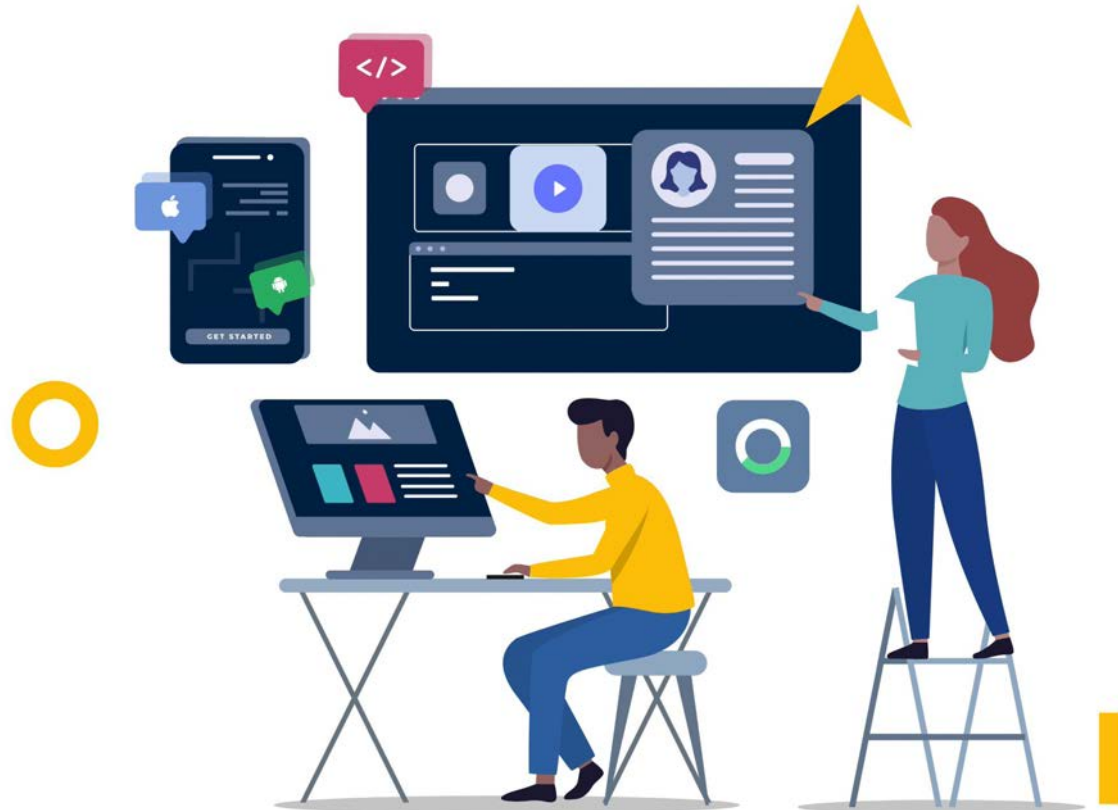


- It works on my  
computer

- Yes, but we are  
not going to give  
your computer  
to the client



# Test Design Techniques



# Walk in user's shoes: Persona Based Testing



General info	From APAC, M, Age 83	From EU, M, Age 34	From AMER, F, Age 19
Activities	News	Gaming	Posts, chat
Motivations	Voice assistant	Loves shortcuts	Using several browsers
Frustrations	Wall texts	Slow pages	Mobile incompatibility
Focus	Accessibility tests	Functionality, Performance	Cross browser tests



## Not only functionality

- Usability
- Performance
- Responsiveness
- Security
- Compatibility
- Portability

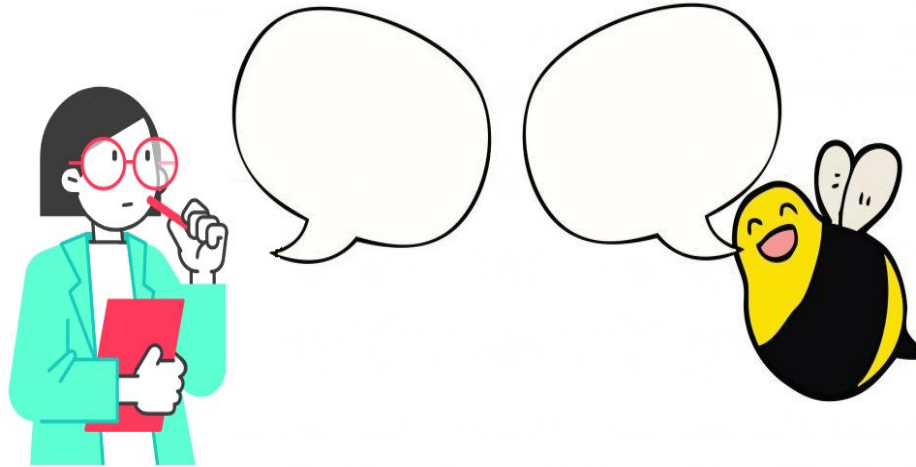


Keep  
on track



# Listen to bugs

## Postmortems..



# Visualize

## Use Dashboards



- QA's place in DevOps
- On the one hand: Speed
  - Execution speed
  - Reliability
  - Maintainability
- On the other: Quality
  - Coverage
  - Design Techniques
- Monitoring

