Tests Storytelling

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Context

Continuous testing

- Different layers of tests
- Multiple products/features to cover by tests
- Multiple environments to run across
- Tests run continuously – every minute, hour, day, per deployment
- Tests used by teams – internationally
- Test categorization:
    - Critical tests – *avoiding sadness*
    - Important (key-feature) tests – *generating happiness*
    - Other tests – early feedback

Reasoning

The Why

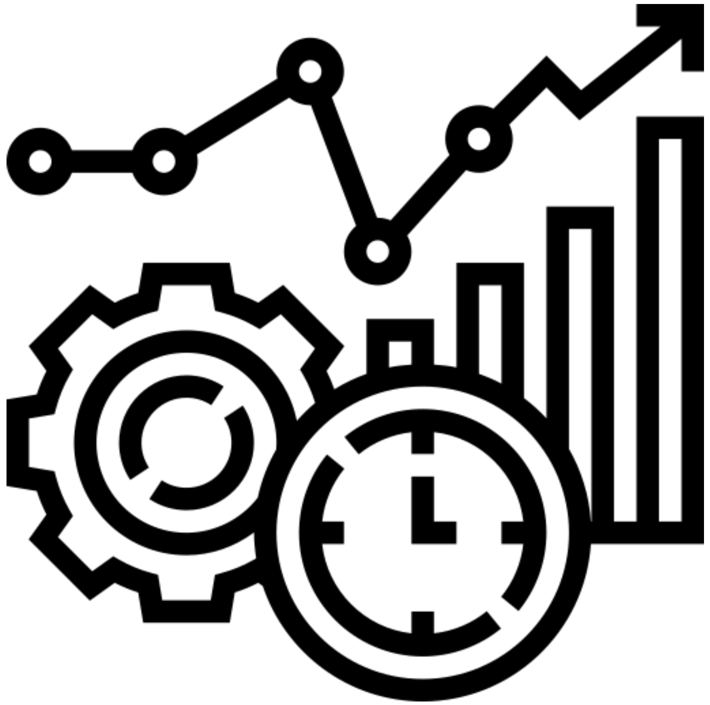
- Data from one test run is enough for us today but what about tomorrow?
- Gathering data about environments, products or failure reasons requires too much work
    - Not searchable
    - Not easy to cross-reference with other data
    - Not pretty (not easy to visualize)
- Sharing data across departments is somewhat limited (licences, access)

Data, data, data

Data pool

- Product/feature
- Test name
- Environment

- Test run
- Test started at
- Test finished at
- Test result status
- Test failure reason



Learning from test data

Data: environment, product, finished at, test status

How often are we running tests across environments?

- Expectation: *tests are mostly run on testing environments*
- Expectation: *tests are mostly run during work hours when deployments take place*

- Are steps for prevention taking place?
- Are there any issues in the deployment pipeline?
- Are there any environment-specific issues?
- How often are products being tested on each environment?

Data: product, test, test status, failure reason, environment

How healthy are products based on test results?

- Expectation: *tests are failing mostly on testing environments*
- Expectation: *less healthy products should be cross-referenced to failure reasons*

- What is the test statuses ratio per product?
- Are some products struggling on a specific environment?
- Are there any products that can't be tested on a specific environment?
- What are the top failure reasons for the product?

Data: product, test, duration

How long are tests executing?

- Expectation: *tests won't last longer than 30 seconds per run*
- Expectation: *tests won't last longer at some point in time (peak)*

- Did the speed of execution decrease after some deployment?
- Could the cause be feature overload?
- Is there an issue with some faulty dependency?
- Are we having a peak at some point in time?

Data: product, test, test status, failure reason

Which tests fail the most and for what reasons?

- Expectation: *common failure reasons happen and should be grouped accordingly*
- Expectation: *1 bug report for 1 cause of failure*

- Error handling – meaningful business-oriented error messages

- Are there any recurring failures of the same test?
- Is there any failure reason that appears across multiple tests?

Data: finished at, product, test, test status, failure reason, environment, duration

… or drill-down in test runs

- Filter by any field: environment, product, test status, or test
- Search by a phrase: keyword from a failure reason
- View the entire history data in a desired time range

- Explore when did that failure reason first appear
- Narrow down the point in time when tests last longer than expected (peak)
- Product health confirmation - check if the failing test passes after a fix is applied

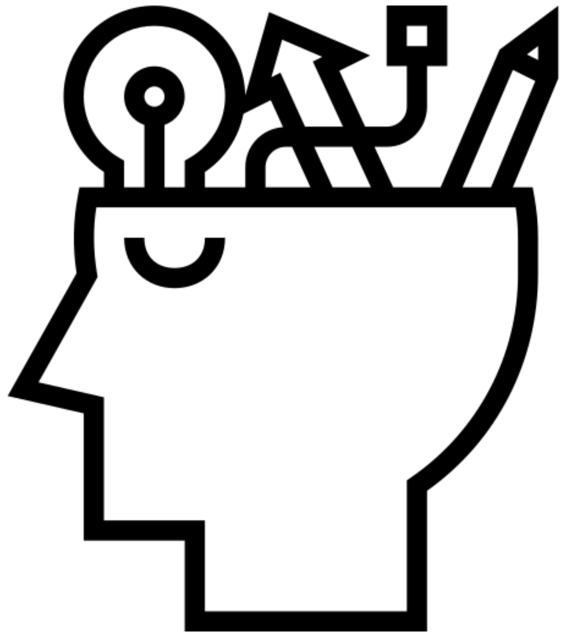
Acting from test data

Test strategy

- Help your teams enhance the deployment pipeline
  - Group critical tests for fast feedback
  - Make error messages human-friendly – adapt the context to business
  - Escalate if test environment is not stable
- Steer your testing efforts in the direction they are needed
  - Products or features with most failures
  - Failure reasons with the same cause
  - Recurring failures – repeating issues

Takeaways

- Think about your context
- Figure out *the why*
- Prepare the data
- Harvest the data
- Visualize the data
- Investigate trends in tests
- Adapt your testing strategy



- Remember: gathering meaningful data about your tests takes time

MAY THE
TESTING FORCE
BE WITH YOU