



Flaky tests - getting out of the re-run cycle

Martin Aun

martin.aun@pipedrive.com

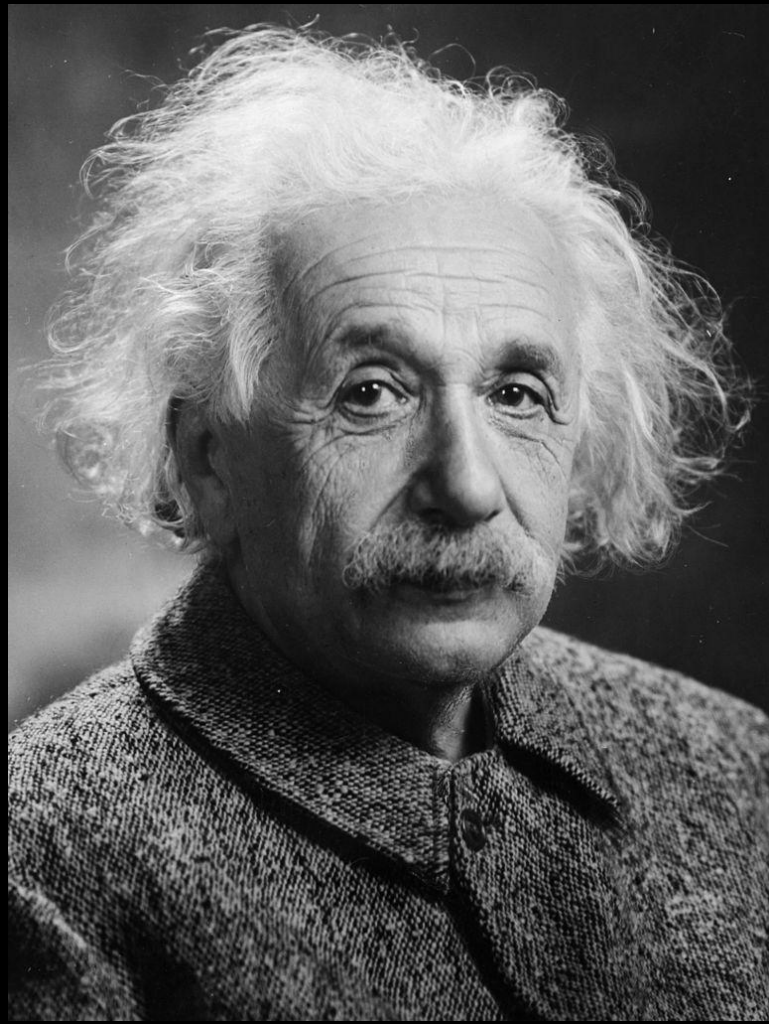
June, 2018

About me

- Cybercom
- Playtech
- LHV
- Pipedrive



"Tartu old town", author: [Oliver Moosus](#)










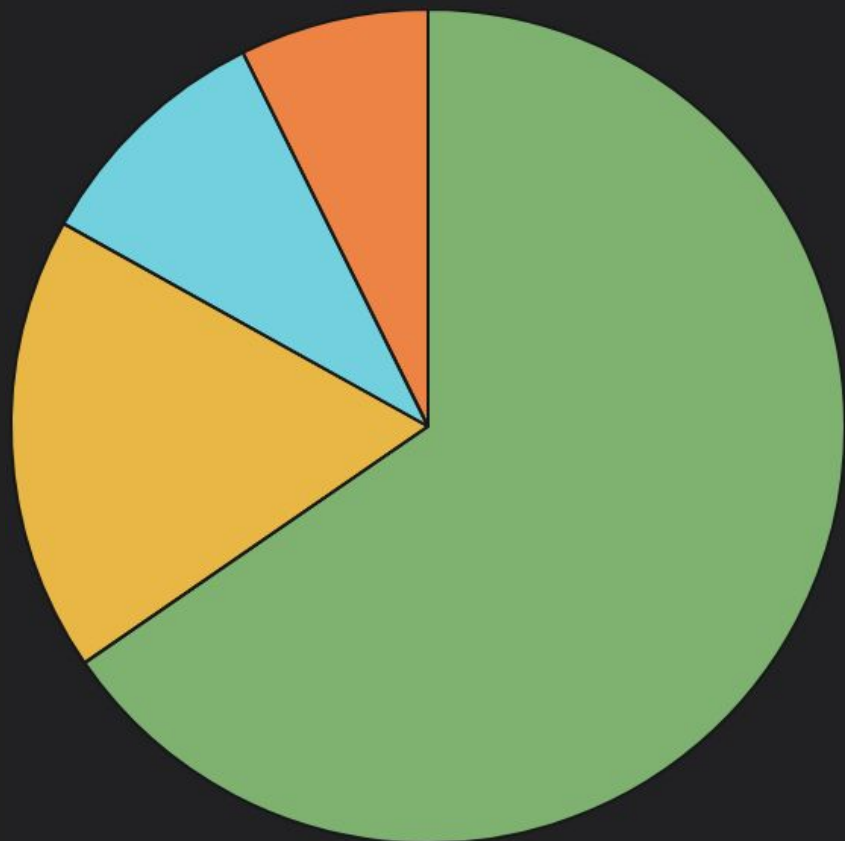
*Insanity: doing the same thing over
and over again and expecting different
results*

What are “flaky tests”?

Also known as

- *broken tests*
- *unstable tests*
- *“randomly” failing tests*

 <u>#343</u>	May 23, 2018 8:04 AM
 <u>#342</u>	May 23, 2018 6:54 AM
 <u>#341</u>	May 23, 2018 6:32 AM
 <u>#340</u>	May 23, 2018 6:30 AM
 <u>#339</u>	May 23, 2018 5:30 AM
 <u>#338</u>	May 21, 2018 1:23 PM
 <u>#337</u>	May 11, 2018 6:13 PM



— Bug in deployed branch	65%
— Bug in test	18%
— Failure of service dependency	10%
— Bug in live product	7%

What are “flaky tests”?

Tests that give both failing and passing results on the same code and configuration

How to identify flaky tests?

- Do not guess
- Collect statistics
- Visualise

Top failed tests in 2 weeks

Test	Passed	Failed	Last passed	Last failed
AddContact	199	4	24.05.2018	23.05.2018
DeleteContact	203	4	24.05.2018	23.05.2018
EditDeal	205	2	24.05.2018	12.05.2018
CreateFilter	205	1	24.05.2018	19.05.2018

How to reduce the number of flaky tests?

- No automated tests == No flaky tests
- Keep the tests short and simple
- Keep the tests independent and isolated
- Limit the number of end-to-end integration tests
- Whenever possible mock the dependencies

Make debugging as easy as possible

- Descriptive error messages
- Proper logging options
- Easily locatable logs

Make test failures visible

- Post the test results to a public channel in slack

jenkins APP 14:36

Pipedrive-api-tests-test - #5913 Unstable after 11 min ([Open](#))

Test Status:

Passed: 1446, Failed: 1, Skipped: 71

Initiated by: Martin Aun

Revision: */master

Region: chi

Env: test

Make test failures impossible to ignore

ID	DEPLOY BY	COMPONENT	TEST DEPLOY	TESTS			LIVE DEPLOY	LIVE TESTS	INFO
				UNIT	FUNCTIONAL	INTEGRATION			
18686	martin	webapp	success 8m 25s	success 33s	success 31s	success 8m 30s	success 5m 3s	success 4m 42s	success after 25m to chi
18683	martin	webapp	success 9m 18s	success 34s	success 33s	failed	pending	pending	Deploy or tests ... <small>set failure reason</small>
18681	pavel	webapp	success 8m 51s	success 32s	success 31s	success 8m 20s	success 5m 4s	success 4m 41s	success after 26m to chi

Remember!

- There are no random failures
- Each failure has to be investigated
- Visualise the test results
- Fix the tests immediately - tests are a part of the product and must be treated like that

Q&A
