

Regression Testing



Main Idea

Regression:
"when you fix one bug, you
introduce several newer bugs."



Regression testing

Any type of software testing that seeks to uncover software errors by partially retesting a modified program.

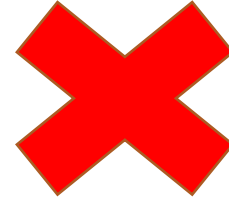
The intent of regression testing is to provide a general assurance that no additional errors were introduced in the process of fixing other problems.

- *Bug regression*
- *Old fix regression*
- *General functional regression*
- *Automated GUI regression suites*

Strengths & Weaknesses

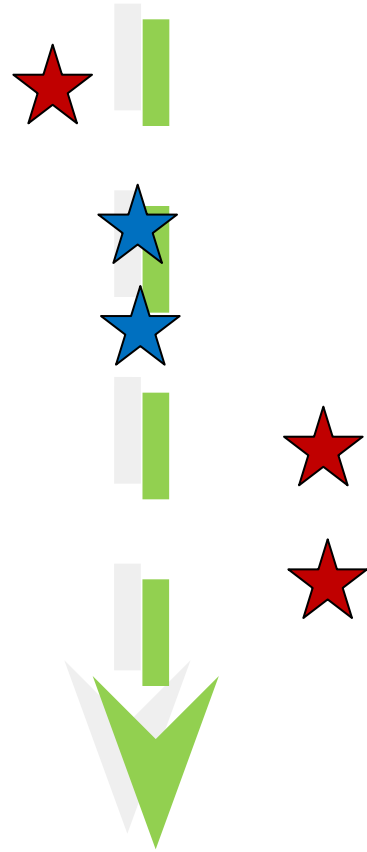


- **Reassuring**
- **Confidence building**
- **Regulator-friendly**

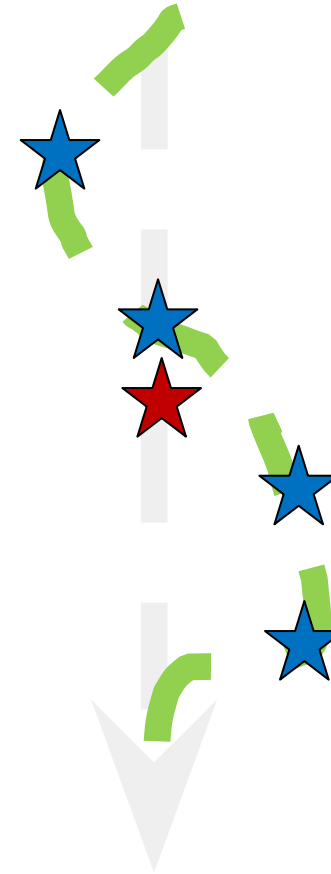


- Anything not covered in the regression series.
- Repeating the same tests means not looking for the bugs that can be found by other tests.
- Pesticide paradox
- Low yield from automated regression tests
- Maintenance of this standard list can be costly and distracting from the search for defects.

2 Styles of Regression



Verification



Pass tests, but look around

Verification and Looking around

Verification



Very quick

May be what customer requires



Not likely

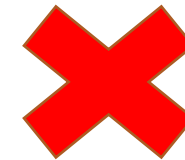
to find new bugs

Looking around



More bugs are found

“Random” bugs may be found



Takes more time

“Test cases” bug can be missed

When repetition is better?

- 1 test case bug may be more important than 10 other bugs
- Layers of bugs
- Mines move
- Repetition contractually required
- Cost of generating diff outcomes is high
- Compare results between runs





Risks and Problems

1 Get too relaxed...

Chances to miss very serious problem
Remain attentive even if all seems ok
Change area\approach\order of actions



2 We never tested number of heads...

There are always holes in test cases
Get review and approval from customer
Get feedback: what was missed?
Tests become obsolete with time (2 head dragons were ok 😊)



3 No time to complete regression

Negotiate scope
Use priorities



4 “You should have found it earlier”

Agree scope

Track status

Store results

Learn from experience



Risks and Problems

Summary

- Do not get relaxed
- Keep tests up-to-date
- Clearly defined strategy, agreed with customer
- Re-test most important parts at the end
- Rotate people/approaches