TechTeach
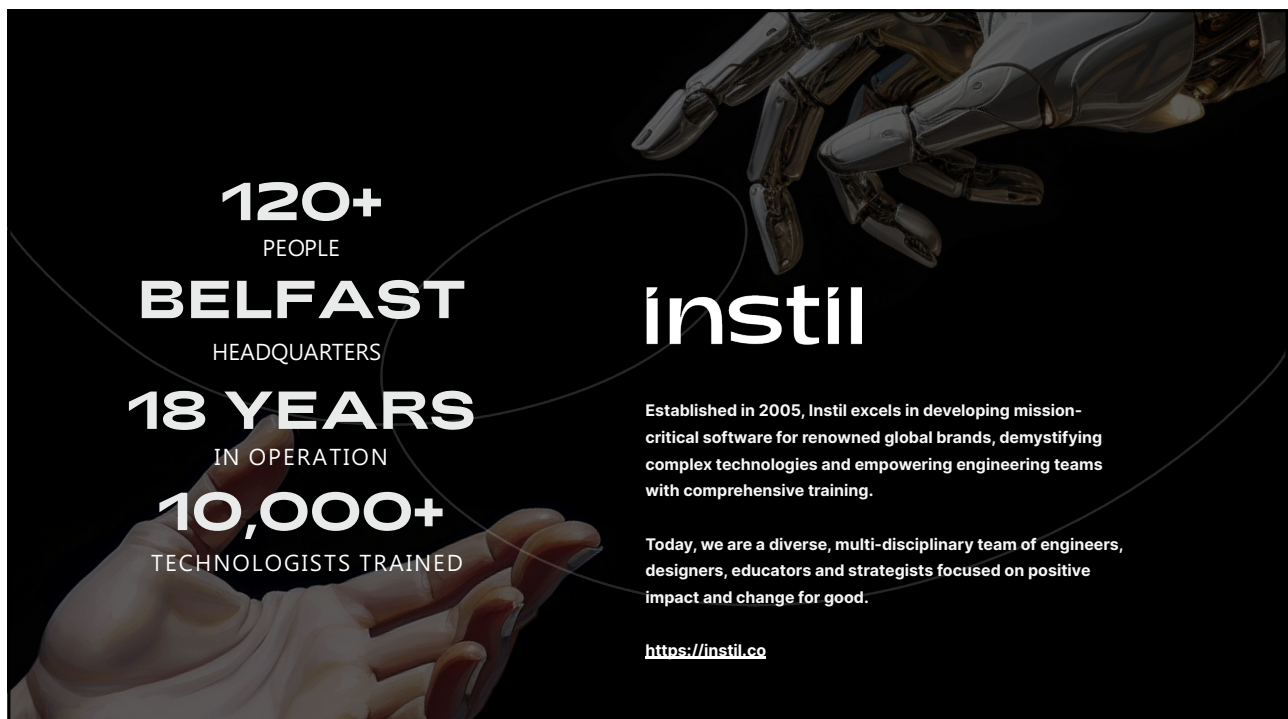
Session 5: Unit Testing

Two-part series: 9 & 16 April, 3.30pm, MS Teams

Supporting teachers to deliver computing education

1

120+
PEOPLE

BELFAST
HEADQUARTERS

18 YEARS
IN OPERATION

10,000+
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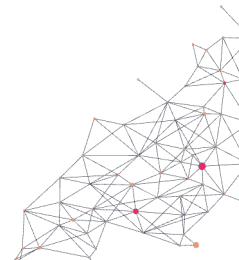THE VOICE OF NI SOFTWARE

IS TESTING IMPORTANT?

Most developers spend time every day writing tests. Some practice **Test Driven Development (TDD)** which requires writing tests before writing production code.

"Testers don't like to break things; they like to dispel the illusion that things work."

Kaner, Bach, Pettichord

https://www.wiley.com/en-gb/Lessons+Learned+in+Software+Testing:+A+Context+Driven+Approach-p-9780471081128

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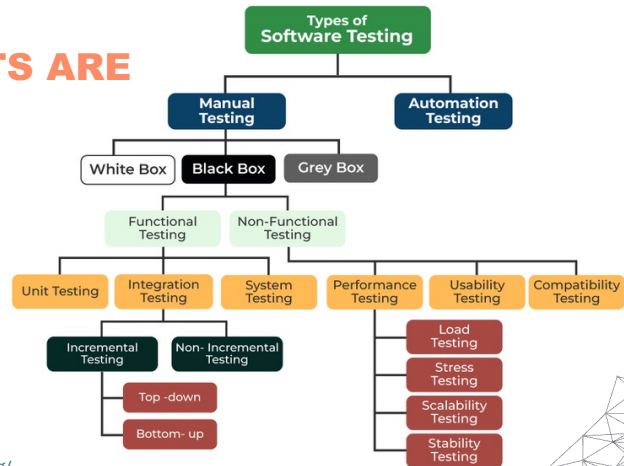THE VOICE OF NI SOFTWARE

WHY TEST?

- Figure out what the code should do
- Have confidence that the code we've written actually works
- Allow us to change the code knowing we haven't broken it (avoid Regressions)
- Explain what the software does – as documentation for future developers
- To get feedback on the code – the test is a client/user of our code

4

WHAT SORT OF TESTS ARE THERE?

This is not exhaustive. There are **many** variations on testing.
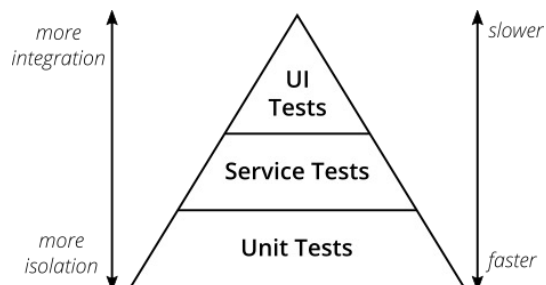
https://www.geeksforgeeks.org/types-software-testing/

5

WHAT SORT OF TESTS ARE THERE?

A common to way to think about testing is the testing Pyramid

https://martinfowler.com/articles/practical-test-pyramid.html

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Slide 7

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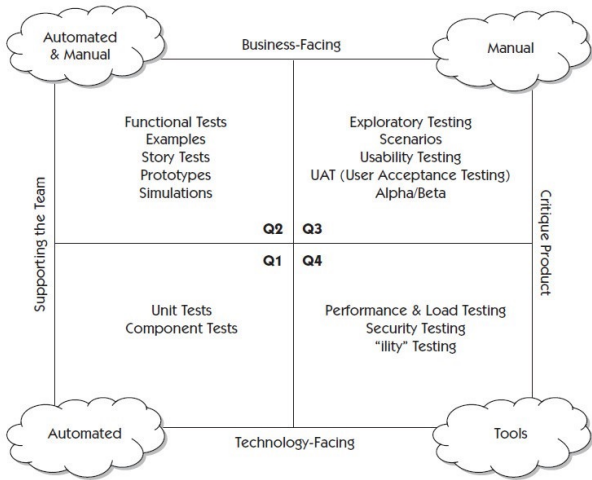THE VOICE OF NI SOFTWARE

THE TESTING QUADRANT

The testing quadrant is a useful model to think about testing.

Based along two axes. Are the tests:
- *Technology Facing* or *Business Facing*?
- There to *support the team* or *critique the product*?

Unit Testing is in Q1 – **Support the Team** from a **Technology Perspective**.

"Am I building the product right?" rather than "Am I building the right product?"

https://www.onpathtesting.com/blog/what-are-agile-testing-quadrants

Automated & Manual — Business-Facing — Manual

Supporting the Team | Critique Product

Q2
Functional Tests
Examples
Story Tests
Prototypes
Simulations

Q3
Exploratory Testing
Scenarios
Usability Testing
UAT (User Acceptance Testing)
Alpha/Beta

Q1
Unit Tests
Component Tests

Q4
Performance & Load Testing
Security Testing
"ility" Testing

Automated — Technology-Facing — Tools

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Slide 8

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LET'S SEE SOME TESTS

Let's look at some unit tests. Next session, we'll go into more detail on the structure of a test, but we should end this session by seeing some.

https://github.com/ryangadams/tech-teach-unit-testing-demo-april-24

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9

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Extras?

https://instil.co/subscribe/

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