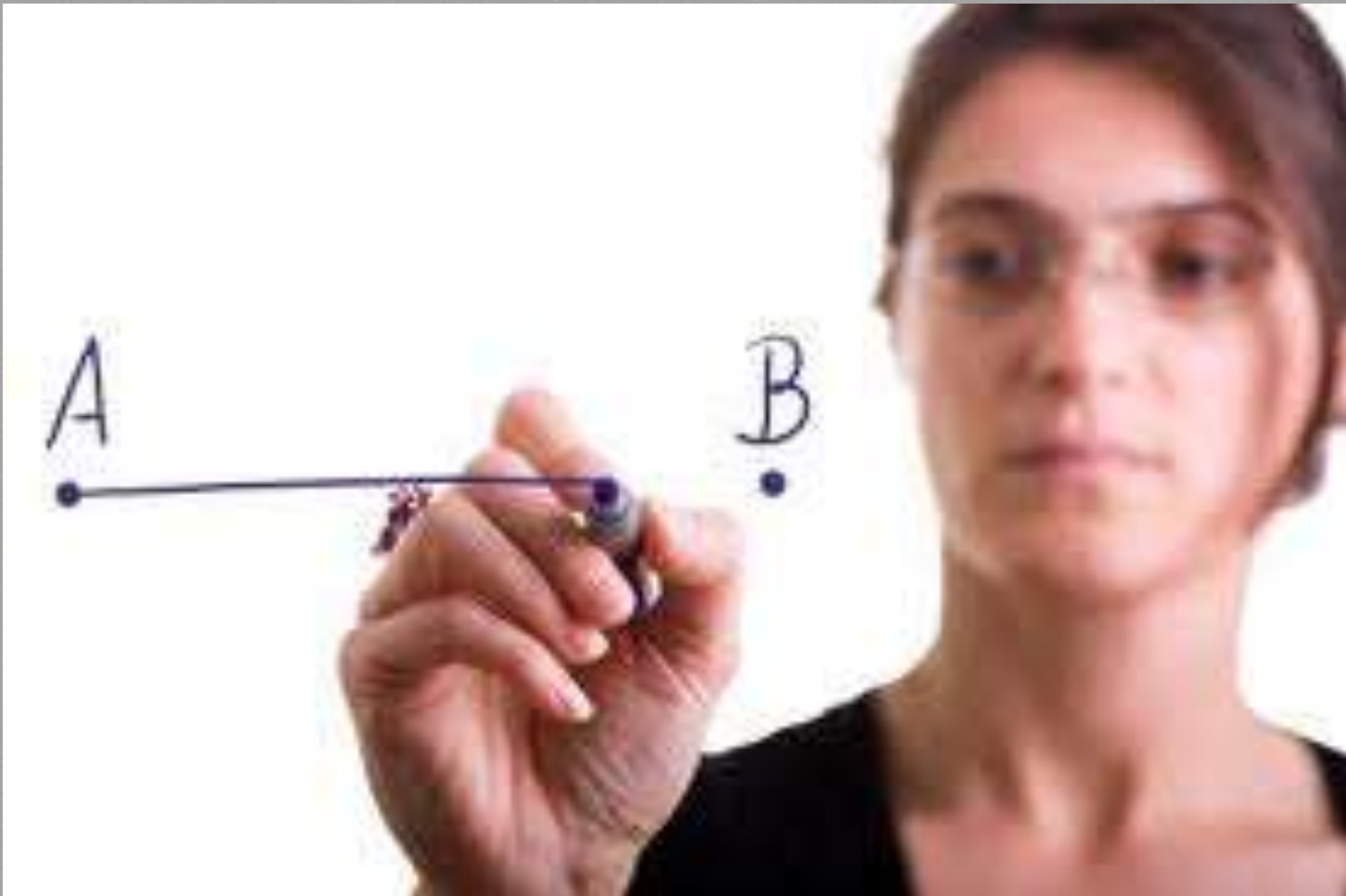# Content

Change And Fast

Early feedback (Why?)

# From A to B in the fastest way

What are the Objectives for Automation ?

- Free up time for more important tasks

- Increase productivity and time to market by:

  - Reducing code freeze periods

  - Providing early feedback for quality issues

  - Repeatability

  - Fix fasts (closer to coding reality)

- Document behavior = executable specs

- Ensure reliable system at any given moment

- Feel safe to promote changes into production

Typical Automation – Top Down

Record & Play	DDT Data Driven Testing	KDT keyword driven test	Hybrid	Agile Testing
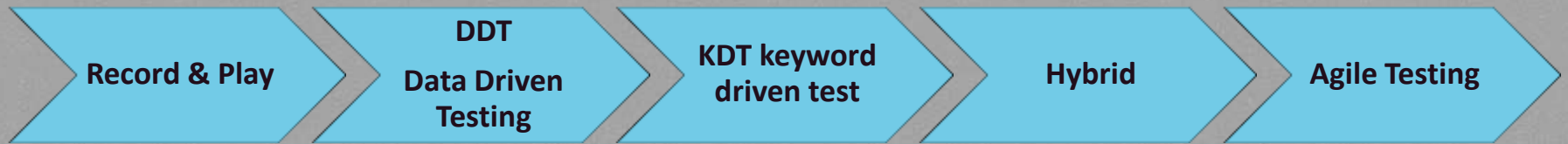
Record & Play: Very sensitive, only suitable for stable system late in the process, require manual effort, Slow execution, inflexible and not easily extended
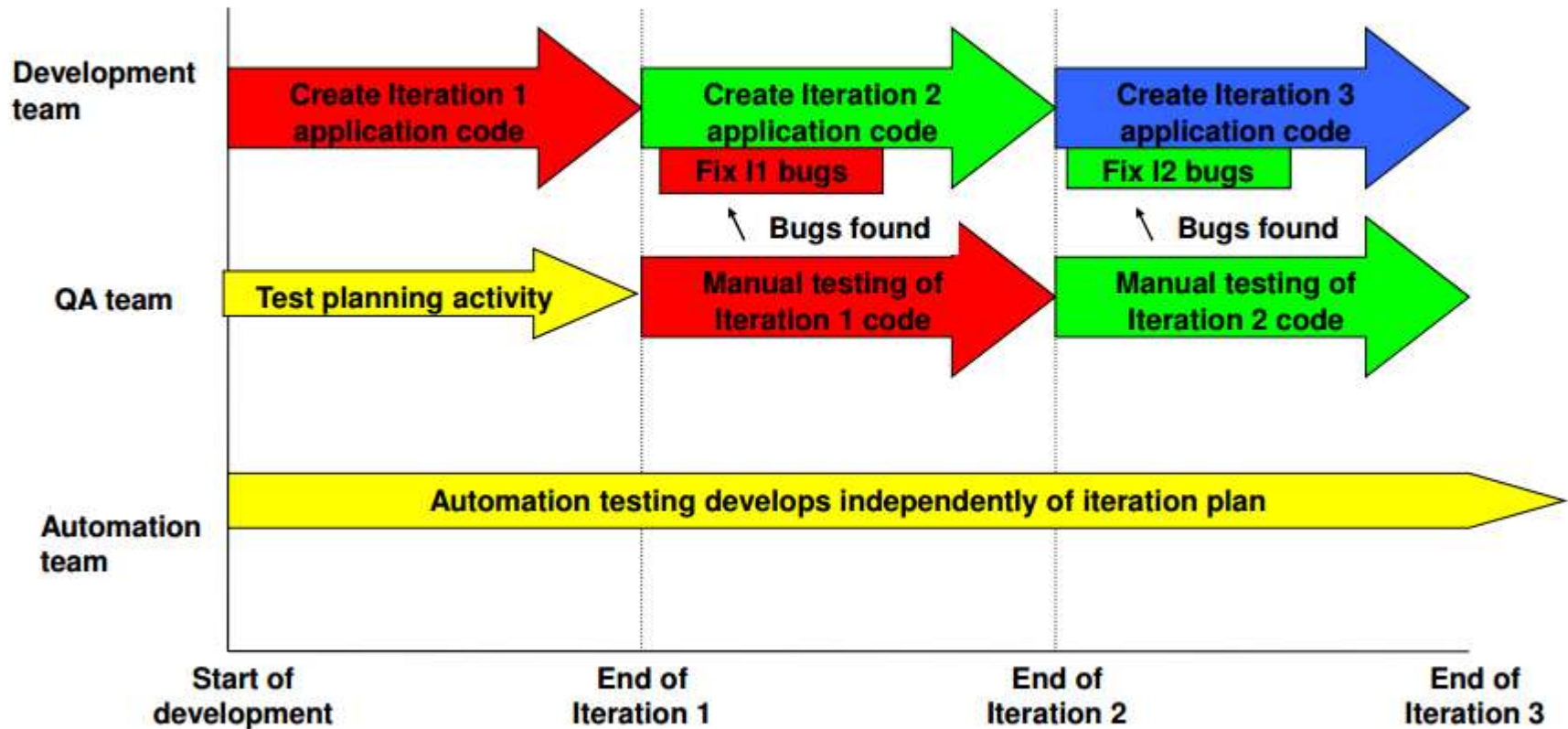
DDT: Data that is external to functional tests. Tests may be altered by easy (excel) introduction of variables to infinitely extend test cases (simply adding new lines)

KDT – a software testing technique that separates the programming work from test design. Consists of keywords (business functions and UI operations), and business scenarios (login, sell item,…). Known as very powerful approach to achieve more test automation, early in solution life-cycle, at low maintenance
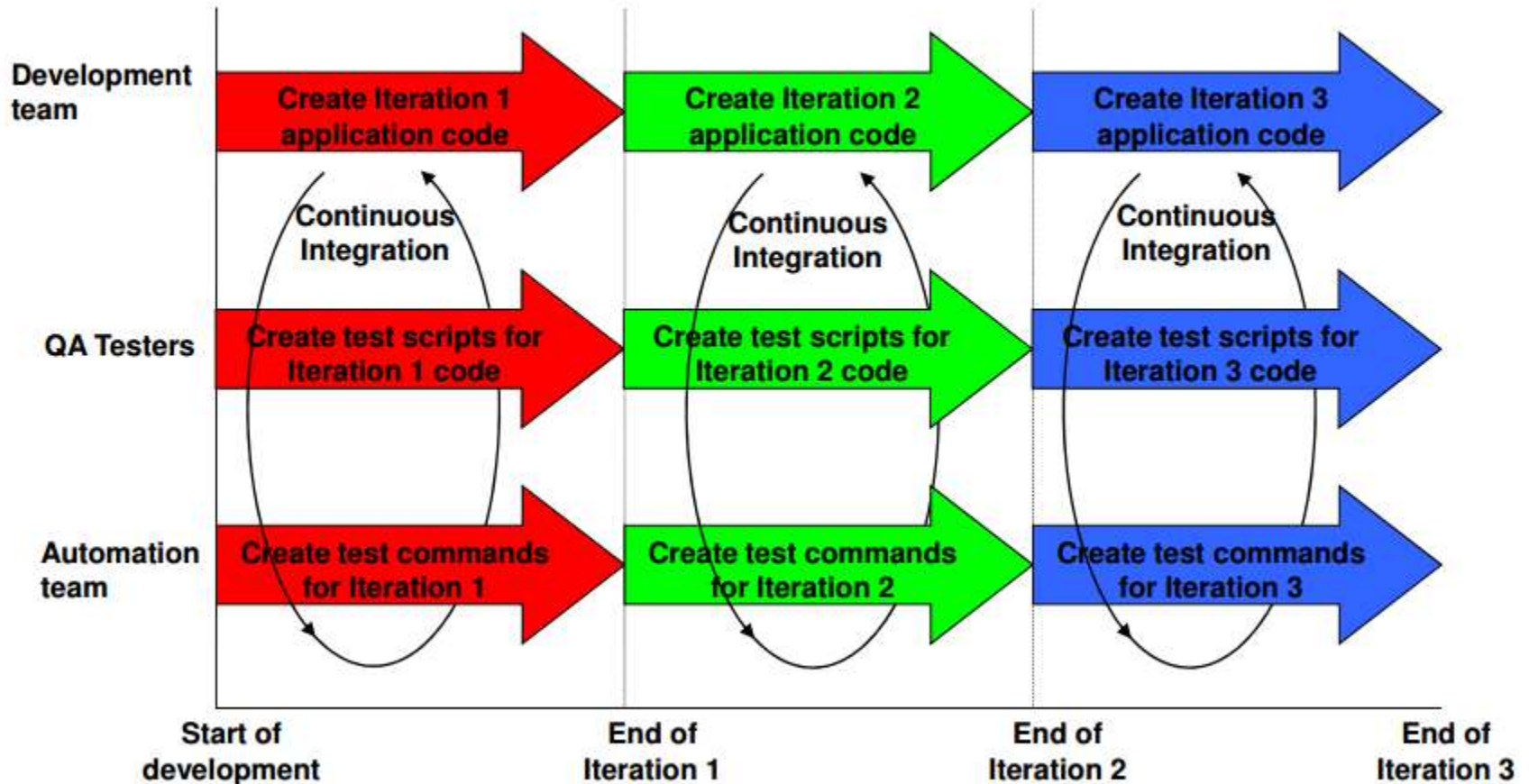
Hybrid: Modular testing which involves DDT and KDT, achieving a higher coverage automated test solution.

Agile testing: a combination of ATDD (acceptance test driven development) and embedded unit testing. Introducing a continuous integration testing approach to increase confidence in solution in product and solution layers.

Old way

Development team — Create Iteration 1 application code → Create Iteration 2 application code → Create Iteration 3 application code →

Fix I1 bugs

Fix I2 bugs

Bugs found

Bugs found

QA team — Test planning activity → Manual testing of Iteration 1 code → Manual testing of Iteration 2 code →

Automation team — Automation testing develops independently of iteration plan →

Start of development | End of Iteration 1 | End of Iteration 2 | End of Iteration 3

Shared ownership

Test Automation Pyramid

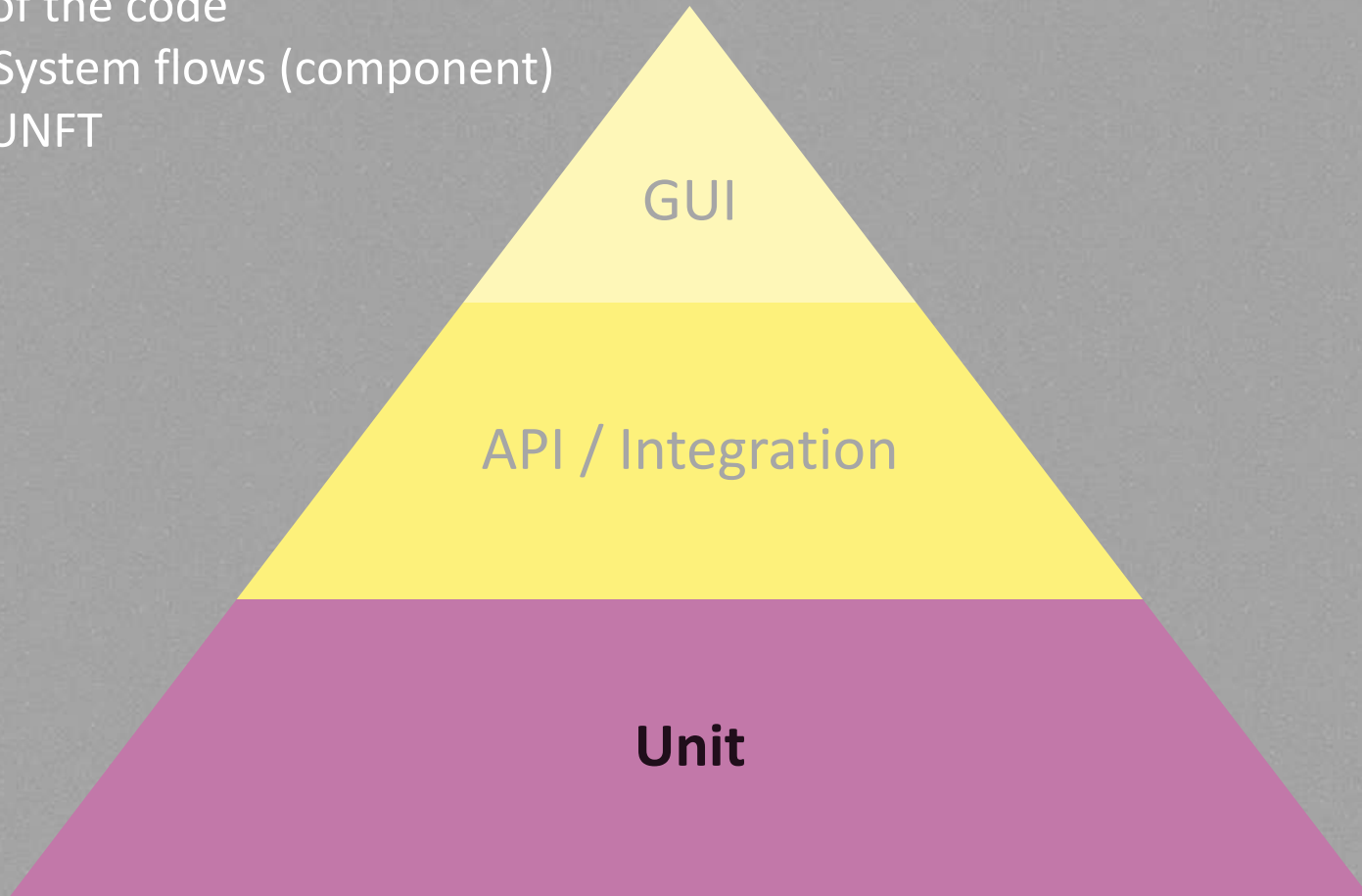Record and Play → DDT → KDT → Hybrid → Agile Testing
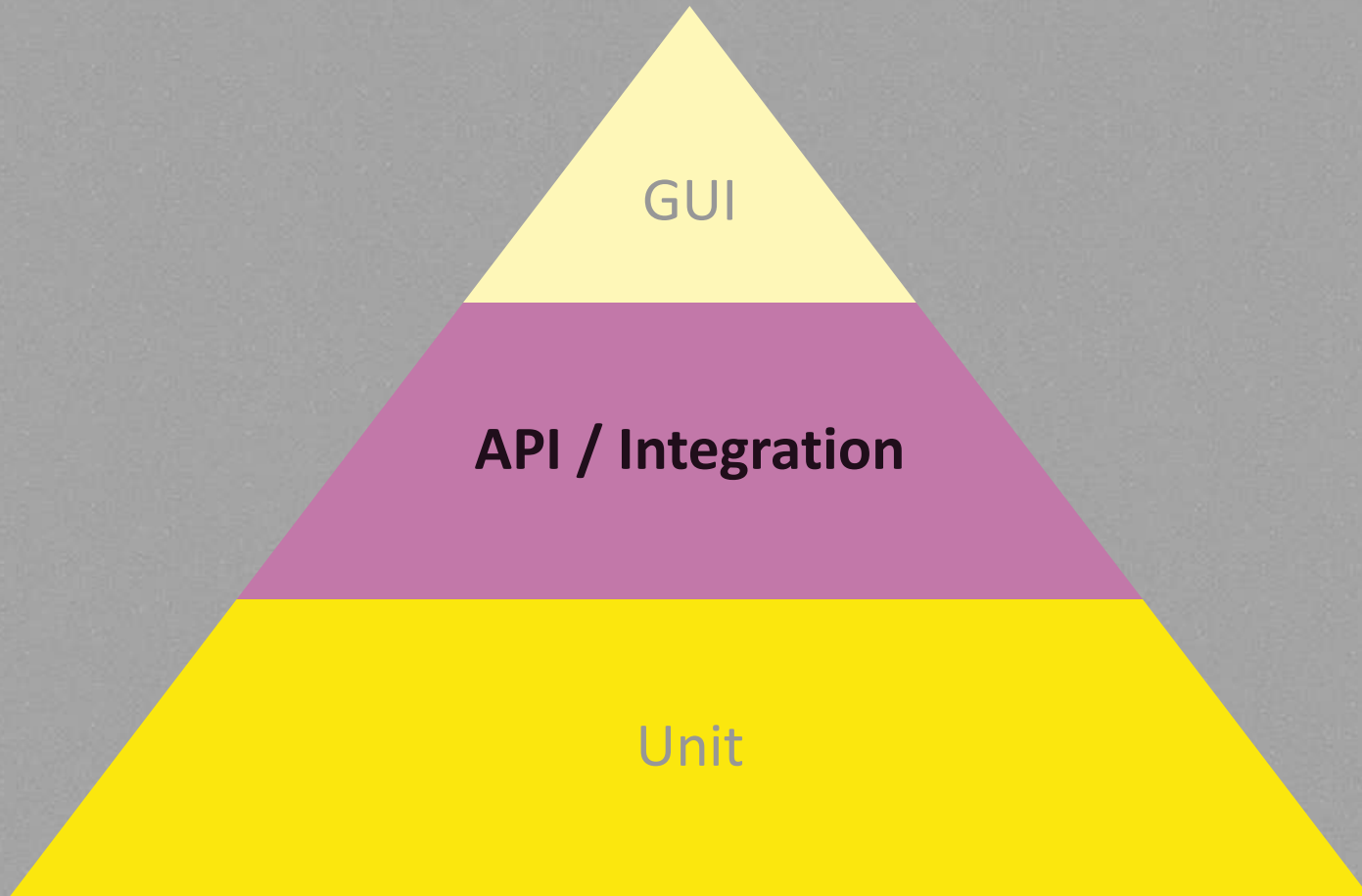
20%

Unit

70%

Test Automation Pyramid

Unit

- Foundation
- System language
- Fast feedback
- Part of the code
- Also System flows (component) and UNFT

GUI

API / Integration

Unit

API / Integration

- Business logic behind the GUI,
- Understood by customer !!!
- Slower (DB, wider scope)

Test Automation Pyramid

GUI

- Tests run through GUI
- Written after code completed
- Expensive, more brittle
- Very slow

Manual…

GUI

API / Integration

Unit