

# AGILE TESTING: TDD AND MORE

# ESSENTIAL PRACTICES

- This training workshop provides practical guidance and real-world examples on the key testing techniques, roles and environments required to work Agile. These techniques drive the use of "tests" as executable specifications through to establishing an automated test suite that ensures a safety net through continuous regression testing.
- You will participate in various group exercises and analyse real-world case studies on the application of Agile testing techniques in the context of an Iteration/Sprint cycle.
- Test-Driven Development (TDD) is the corner-stone of enabling Agile teams to deliver high quality software frequently (every 2-4 weeks). Particular focus and real-world examples are provided to ensure participants understand the benefits and various forms/focus of TDD.
- This course is a one-day interactive training workshop designed for technical team members responsible for the specification and development of software products and/or custom systems.

## Test-Driven Fundamentals:

- TDD and the Agile development lifecycle
- Agile testing mindset
- Roles (cross-functional, Product Owner)
- Goals & principles of TDD
- Def'n of Ready & Def'n of Done 🌐 👥

## Acceptance Test Driven Dev (ATDD):

- Test Scenarios 🌐 } 👥
- Given-When-Then 🌐 } 👥
- Decision Tables } 👥
- Acceptance Test Data 🌐
- Verify & exploratory testing
- Real-world feedback

**Test Scenarios:**

**Nominal:**

- Value covers price and current zone
- Timeout after swipe => back to welcome screen

**Boundary:**

- Purse balance = fare => 0 balance and warning
- First time used (card not active) => activate

**Erroneous:**

- Insufficient balance => message + log error
- Card blocked => message + log error
- Card expired => message + log error

## Practical Sessions:

- 👥 Interactive group sessions are held to demonstrate the collaborative nature of key techniques
- 🌐 Real-world case studies are reviewed to give further insight into the applied use of key techniques and concepts

## Test Patterns

- Common test patterns
- Example patterns 🌐

## Automated Integration Tests:

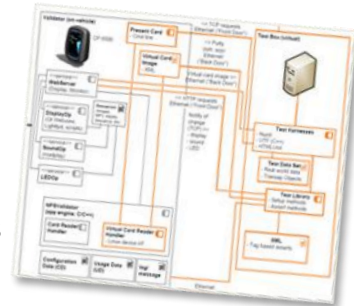
- Technical Stories
- Architectural Spikes 🌐
- Test Frameworks 🌐

## Automated Unit Tests:

- Continuous Integration } 🌐
- Mocking frameworks } 🌐

## Agile Testing++:

- Automated Build 🌐
- Code Inspection / Peer Review 🌐
- Agile testing tools (sample)



Item	Author	Date Completed	Requested By	Source
14.14.10.1	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.2	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.3	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.4	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.5	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.6	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.7	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.8	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.9	Support	2011/01/24 10:20 AM	Page Controller	changed 2011
14.14.10.10	Support	2011/01/24 10:20 AM	Page Controller	changed 2011

```

@unittest.mock
public void TestPatronCard(card, Patron, PatronCard) {
    // Given
    int currentBalance = 2000; // 2000
    int fee = 100; // 100
    String testCard = "12345678901010101010";

    // When
    PatronCard patronCard = PatronCard(card, Patron); // presented for 6.3 sec

    // Then
    int reducedBalance = currentBalance - fee;
    assertEquals(reducedBalance, patronCard.getReducedBalance());
    assertEquals("The balance has reduced to " + reducedBalance, patronCard.getReducedBalance());
    assertEquals("Card is no longer presented");
}
    
```



"Comprehensive, easy to understand and well presented..." Andrew Phoon, Team Lead - Vix Technology



"Dwayne's knowledge & enthusiasm (also advice) & real world examples helped identify improvements we can make..." Nick Mulligan, Team Lead - REIWA

