Class 14   Framework

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High Level Agenda

➢ What is Framework
➢ What is Framework Component
➢ Hybrid Framework
➢ Maven
➢ Creating Framework Structure

Intro to Framework

Let us talk about a simple situation where I ask a few team members to write different tests on same application. The starting point would be a set of requirements that I want everybody to adhere:

- Automate some piece of functionality
- Implement Logging
- Implement Reporting

All the team members will go back to their seats, will read the requirements assigned to them and will write the tests in a way that they are most comfortable with.

Intro to Framework

What's the problem here?

-All the tests will be written in different ways. That will cause a problem in running them together.

-All the tests will have custom ways of logging, that will bring in problem in collecting logs at the end of test run.

-All tests will have different ways to fetch test data, some will be hardcoded and some will pick from different XML or excel sheets.

Intro to Framework

What's the problem here?

-As the test are on same application, there is a high probability that all test will pass through common areas of application. It will cause duplication of code every where.

-All test will report pass or fail in their own way. Causing report collection a nightmare.

-Now all tests are different, so running them would also be different. A custom runner for every test is just an insane thought.

Why we need Framework

The initial requirement of having a standard way of writing tests is what will evolve into a framework.

Every company or teams can have different frameworks but the whole idea will be to have a common set of rules.

What is a framework

- A framework is a set of assumptions, concepts and practices that needs to be followed.

Something similar to the syntax of a programming language. Syntax sets the rules. In a testing framework it could be the standard with which a test class needs to be designed or a standard which should always be followed to perform test logging.

What is a framework

Components of frameworks

Lets start with a very basic framework and find out how we can have requirements that can help us create a very basic framework.

What is a framework

Components of frameworks

The first problem that we came across we found the need of having a test writing standard, where test will be written in a specific format that will enable us to have a uniformity around all the tests

Req 1) Test case standardization.

What is a framework

Components of frameworks

The second problem that we came across to have a common way of logging tests. This will enable us have a common way of collecting logs

Req 2) Logging standardization.

What is a framework

Components of frameworks

We know that our tests need test data and our framework will need data to find out environment and configuration details. This came out as the third problem.

Reg 3) Test data and configuration utility.

What is a framework

Components of frameworks

Fourth problem that we saw was in terms of having function/procedures that help us perform functions in the overlapping areas of functionality without knowing the details of that functionality.

Eg. Lets say you want to test the payment gateway but to reach there you have to go through by login. So login can be a function/procedure or a module to abstract out logging complexity

Reg 4) Helper/Utility library.

What is a framework

Components of frameworks

As all the tests were different we were not able to run them in a consistent way. This gives a need to have a consistent test running calls defined by
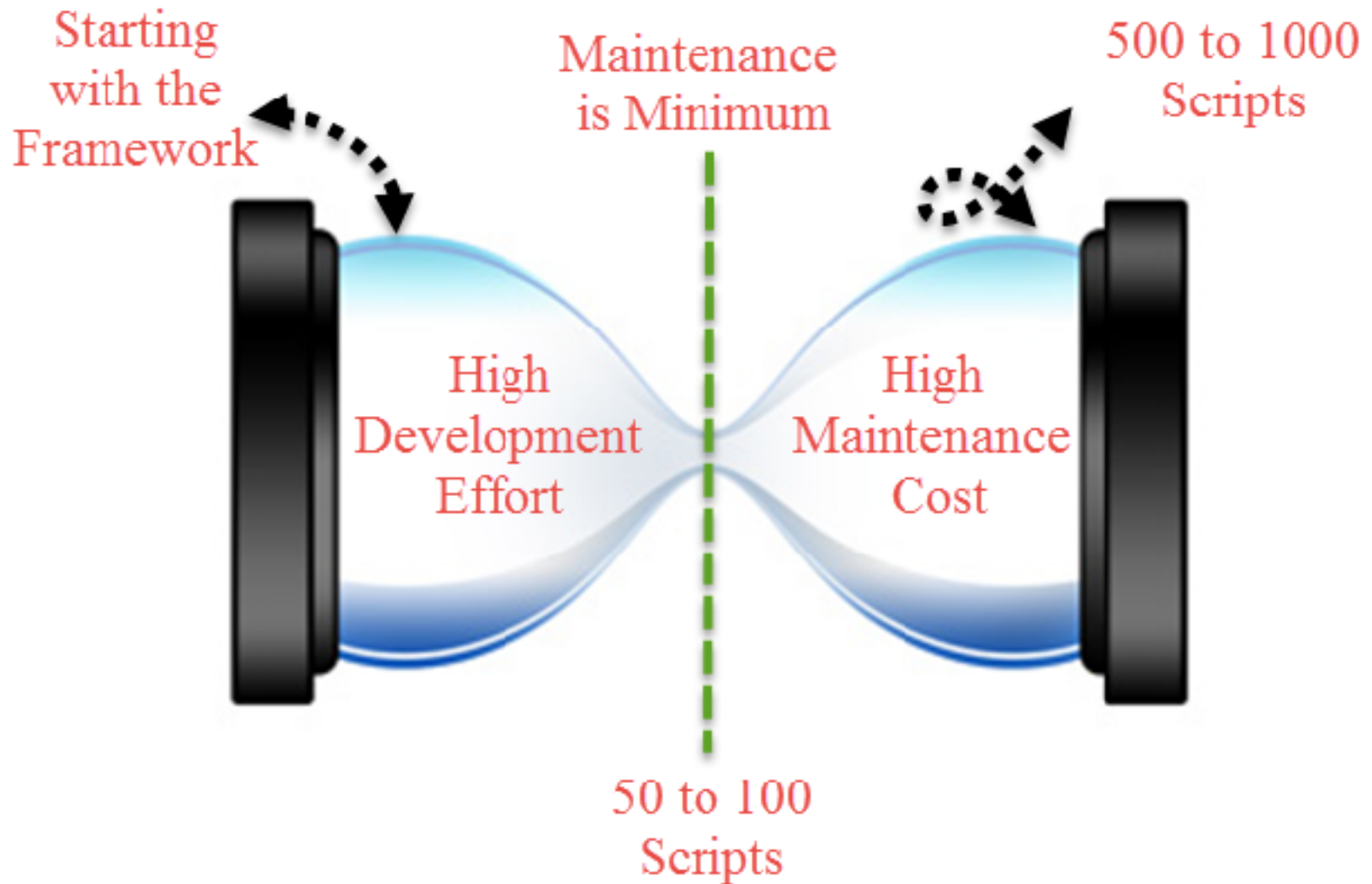
Reg 5) Test execution engine.

What is a framework

Components of frameworks

Reporting was big concern as all the test for not conforming to a fixed reporting pattern. This gives a rise to

Reg 6) Reporting utility.

How to Start & Where to Start

Starting with the Framework

Maintenance is Minimum

500 to 1000 Scripts

High Development Effort

High Maintenance Cost

50 to 100 Scripts

Basic framework design

Test Runner	DataProvider
Reporter	Helper/Reusable
Logger	Tests

Hybrid Framework

- We will call this framework as Hybrid Framework because we will use methods/ function and data driven (excel based).

- Hybrid framework= Modular Driven + Data Driven Framework

Thank you ☺️

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