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The Testing Professionals

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Test Automation Framework

Accelerating Application Deployment & Upgrade Cycles

This document outlines how application testing can be made more efficient and more thorough via use of TestPro's Test Automation Framework (TAF), in conjunction with test automation best practices.

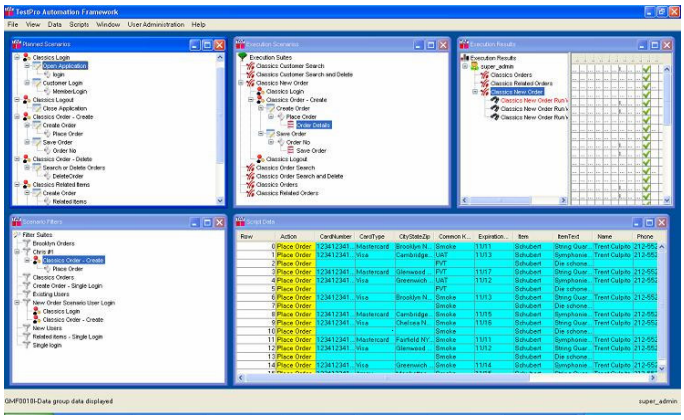
TAF reduces the risk and cost of implementing an application by improving the testing and deployment processes through the use of test automation.

These gains are made both with the initial deployment and through the lifetime of the application system.

The advantages of this approach include:

- Improved test coverage and efficiency
- Reducing implementation time
- Making test automation usable for business users who can test their process areas
- Reducing the upgrade cycle workload an deployment time

Figure 1: TAF User View



The Benefits of Automated Testing

Automated testing can play a significant role in improving an organisation's ability to effectively test and deliver software applications.

While manual testing still has a useful role in validating process correctness for business users and process owners, it has two drawbacks:

1. It is both time consuming and
2. It is difficult to maintain the level of intensity required during multiple regression iterations.

This is why automation is used – it avoids the drawbacks of manual testing. There is now a clear industry consensus that automated tools offer a repeatable and efficient testing solution. The benefits of automated test tools are significant:

- Regression testing is faster than manual testers
- Repeatability of the tool and accuracy in testing is excellent
- The tools can run unattended e.g. overnight
- Test coverage dramatically increase through variations that the tool can cover much faster than a manual tester
- The ability to expand the testing through adding computers and running more tests in parallel
- To be able to run test data in any environment in any order as required

When implemented correctly, automated test tools deliver on their promise of more thorough and efficient testing, achieved with less manual effort.

Benefits of TestPro's Automation Framework

TestPro's Automation Framework uses 4th generation architecture, design and test planning techniques to take test automation to the next level.

The results include:

- True usability for business users and process owners
- Lower testing costs

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- Improved test efficiency and reduced test cycle times
- Lower test maintenance

TAF enhances vendor test automation tools to:

- Accelerate the implementation of automated testing.
- Improve the ROI of automated testing.
- Simplify the interface to the automation tool, so that business users can more easily participate in testing.
- Capture and maintain application data and context so testing is more efficient and thorough.
- Reduce automated test script maintenance, which also improves ROI.

TAF ROI and Key Benefits

The whole focus of TAF is to improve the usability, efficiency and ROI of test automation.

- TAF provides a simple method to define and manage the test execution scenarios, in conjunction with the various data required by the tests.
- By using filtered test data sources, tests can be executed by business process owner with a range of different data combinations, to confirm the correct process execution in different scenarios

Results Reporting & Analysis

TAF provides detailed results reporting so that testers can quickly identify the cause of failures.

The reported information includes actual data that was entered into the system at the failure point, plus any output results that were generated, for example PO numbers, error messages, plus a screen shot at the failure point.

This information enables testers to quickly understand the usage scenario causing a failure. This specific scenario can then be tagged as one that should be specifically run as part of future regression testing.

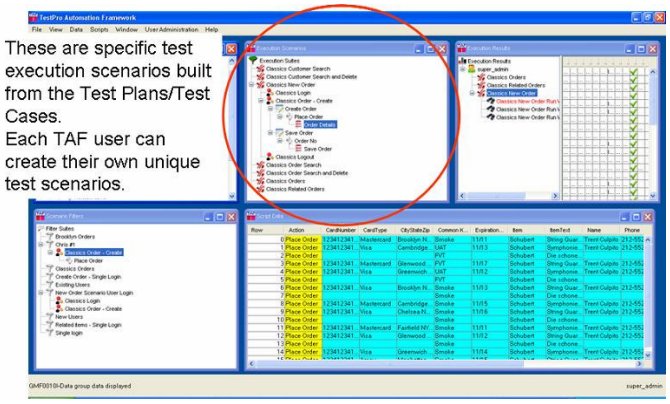
Test Data Management and Filtering

TAF provides simple but powerful data management facilities so individual testers can quickly define test datasets for their unique process scenarios and allow tests to be aimed at specific outcome based tests.

Filtering data is both fast and considerably more efficient than any other method of test execution.

It offers the user direct access to the number of tests in a suite that will run without being familiar with the entire dataset that could be run.

Figure 2: TAF Test Data Management



Risk Based Testing

Automation suffers from the generic format that automation takes as a scripting method. TAF provides

a clear and immediate ability to sort, collate and execute data for tests that have risk based testing within the data management. This powerful feature is critical in the ability to execute tests with the highest priority first and foremost.

To achieve these benefits, TAF uses a generic object model that abstracts the data and parameters to a data store with separate, data maintenance facilities.

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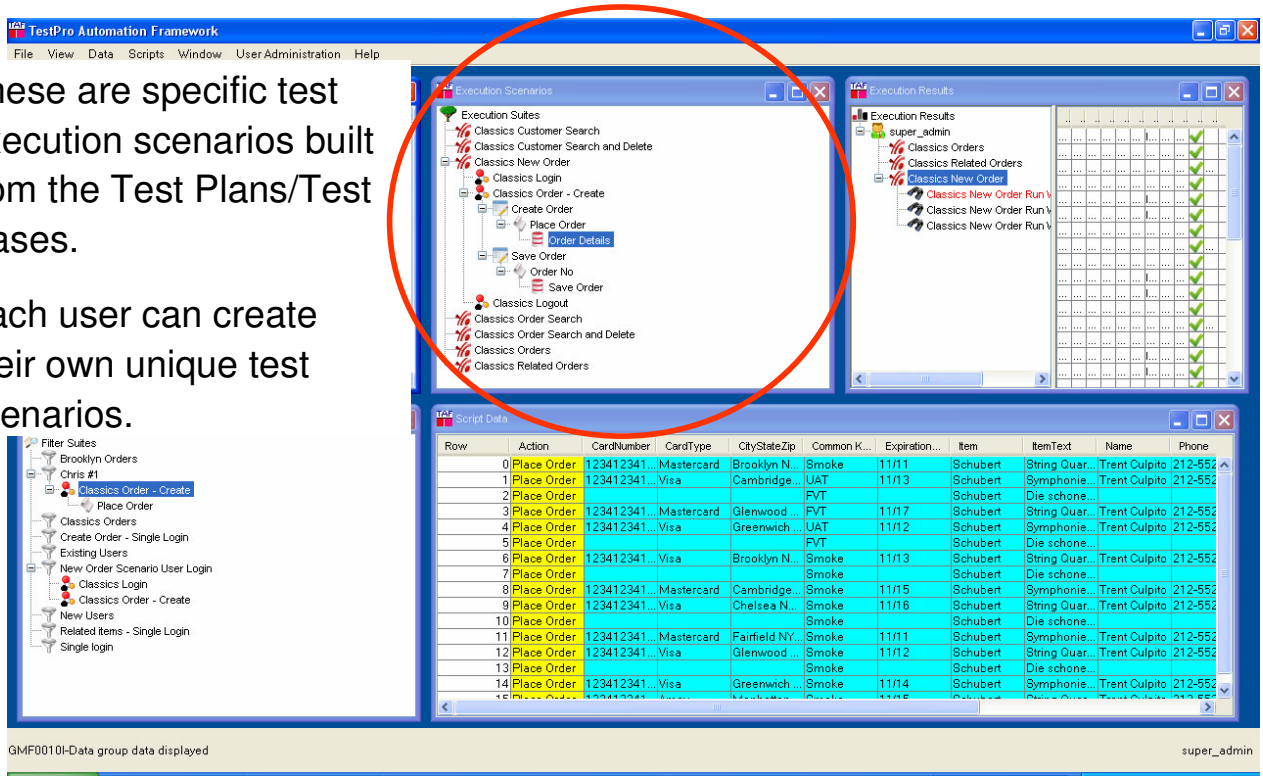
This implementation closely integrates with the leading Test Automation Tools, whilst leveraging the power and object recognition capabilities of those tools.

Automation can achieve it's ultimate potential when implemented using a tool and method that supports the flexibility of multiple data combinations.

Figure 3 - TAF Test Scenario Execution



These are specific test execution scenarios built from the Test Plans/Test Cases.

Each user can create their own unique test scenarios.