



EXPERIMENT - 6

Software Testing and Quality Assurance

Abstract

Study the Testing Tool: Win Runner.

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Aim:

Study the Testing Tool: Win Runner.

Theory:

WinRunner is an Automation Software Testing Tool that is owned by HP and was developed by Mercury Interactive. It is known and extensively used for its ability to supports the majority of the programming languages and web development technologies such as C, C++, C#, Visual Basic, VC++, D2K, Java, HTML, Power Builder, Delphe, Cibell, etc. It is used for performing various testing techniques, which includes the functional testing, user interface testing, integration testing, regression testing, etc., by making use of its options to record the functionality for creating test steps and by using the playback UI interactions option for generating the test scripts.

- WinRunner is Mercury's legacy automated testing tool.
- WinRunner is a test automation tool, designed to help customers save testing time and effort by automating the manual testing process.
- Automated testing with WinRunner addresses the problems by manual testing, speeding up the testing process.
- You can create test scripts that check all aspects of your application, and then run these tests on each new build.
- As WinRunner runs tests, it simulates a human user by moving the mouse cursor over the application, clicking Graphical User Interface (GUI) objects, and entering keyboard input.
- It create a summary report showing the test status

Advantages

- Enables Rapid Testing
- Provides Consistency
- Reusability of tests
- Customizable for future changes

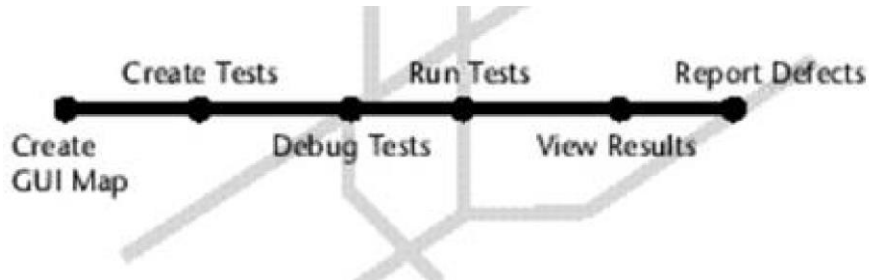
Disadvantages

- Doesn't apply for Stress or Load or Scalability Testing.
- Doesn't support .net programming
- Tester should have programming knowledge/experience

- It doesn't support multimedia systems.

Win Runner Testing Process

Testing with WinRunner Involves six Stages



1. Create a GUI map: - WinRunner must learn to recognize the objects in an application in order to run tests - The preferred way to teach your objects depends on the GUI map mode
2. Create tests: - Win runner writes scripts automatically when recording actions in application - One can program directly in Mercury interactive script language(TSL)
3. Debug tests: - You debug the test to check that they operate smoothly and without interruption
4. Run test: - Run test in verify mode to test your application - It compares the current data of application being tested to the expected data captured earlier - If any mismatch are found, win runner captures them as actual results
5. View results: - After each run it displays result in report - The report details all the major events that occurred during the run such as checkpoint, error message, system message, user message
6. Report defects: - If a test run fails due to a defect it will report directly in report window

Features of WinRunner are: -

- Functional Regression Testing Tool
- Windows Platform Dependent
- Only for Graphical User Interface (GUI) based Application
- Based on Object Oriented Technology (OOT) concept
- Only for Static content
- Record/Playback Tool

Win Runner environment

- Windows - C++, Visual Basic, Java, PowerBuilder, Stingray, Smalltalk
- Web - Web Applications
- Other technologies - SAP, Siebel, Oracle, PeopleSoft, ActiveX

Installation:



-> Follow Installation Steps as prompted by Installer

The main Testing Process in Win Runner is

1) Learning

Recognization of objects and windows in our application by winrunner is called learning. Winrunner 7.0 follows Auto learning.

2) Recording

Winrunner records over manual business operation in TSL

3) Edit Script

depends on corresponding manual test, test engineer inserts check points in to that record script.

4) Run Script

During test script execution, winrunner compare tester given expected values and application actual values and returns results.

5) Analyze Results

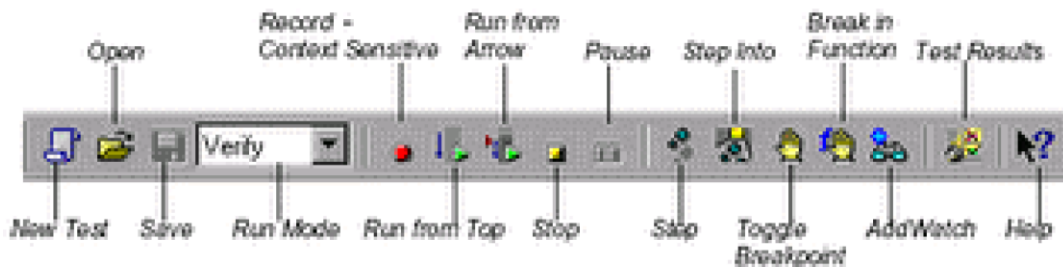
Tester analyzes the tool given results to concentrate on defect tracking if required.

Choose Programs >WinRunner>WinRunner on the Start menu. The first time you start WinRunner, the Welcome to WinRunner window opens. From the welcome window you can create a new test, open an existing test, or view an overview of WinRunner in your default browser.

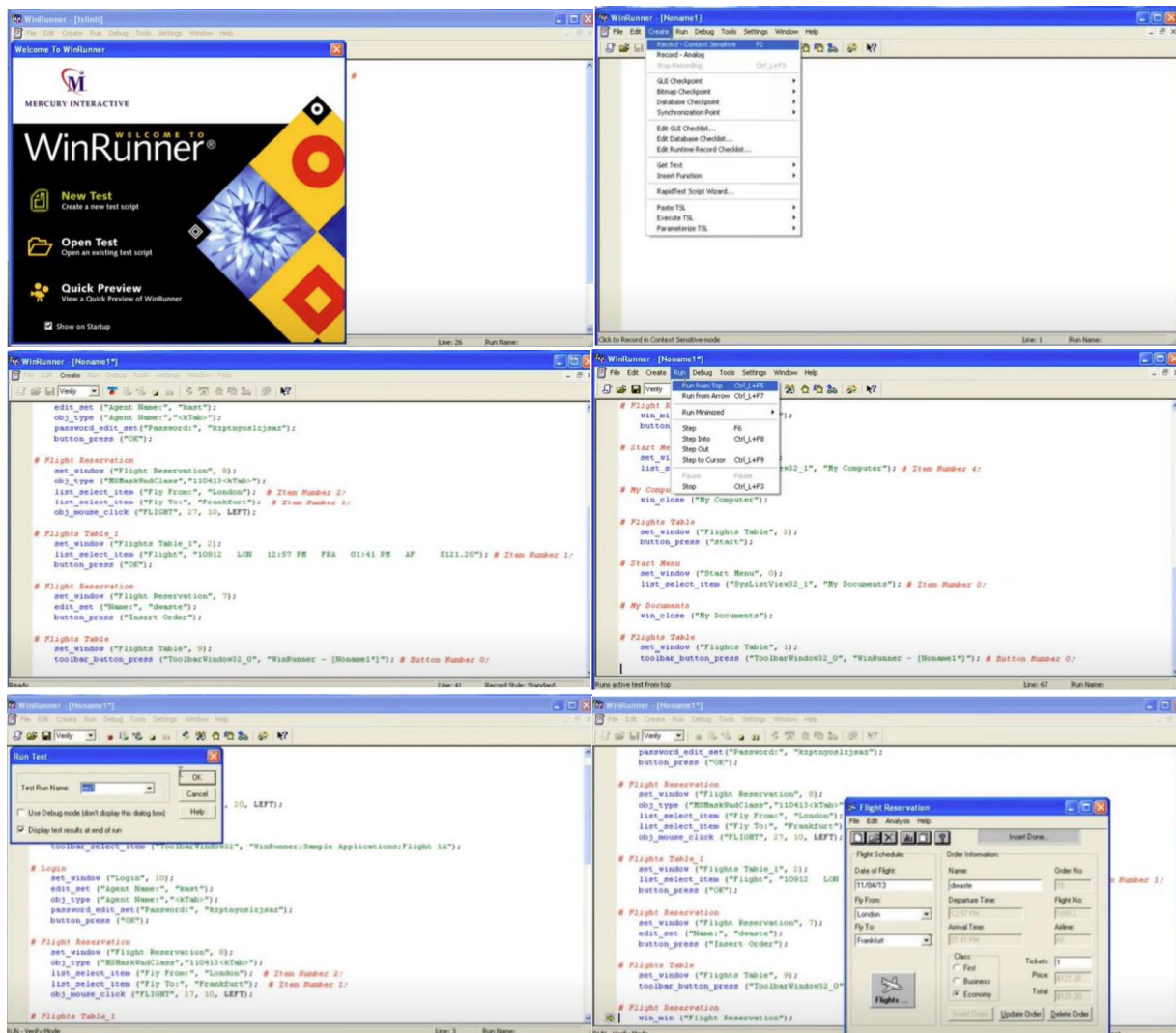
Each test you create or run is displayed by WinRunner in a test window. You can open many tests at one time.

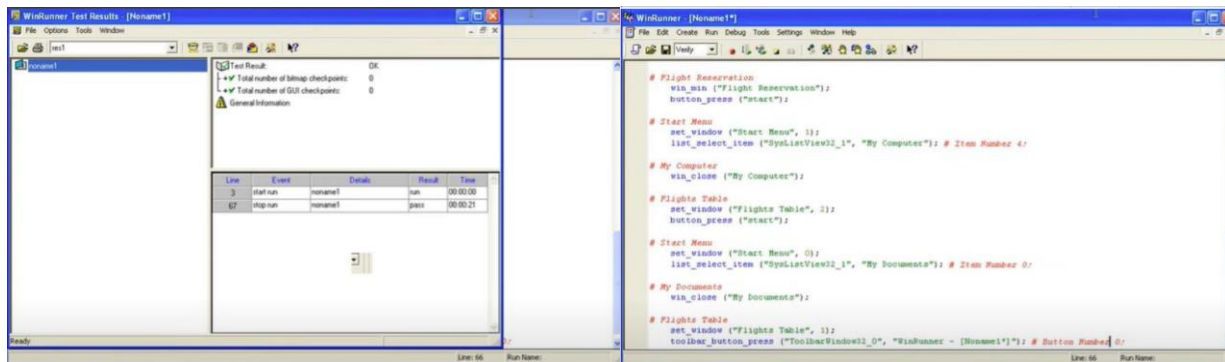
1. The WinRunner window displays all open tests.
2. Each test appears in its own test window. You use this window to record, program, and edit test scripts.

- Buttons on the Standard toolbar help you quickly open, run, and save tests.
- The User toolbar provides easy access to test creation tools.
- The status bar displays information about selected commands and the current test run.



The Standard toolbar provides easy access to frequently performed tasks, such as opening, executing, and saving tests, and viewing test results.





Result:

The Testing process in WinRunner flows from the identification of functions, the recording of application activity, the test script management, the execution of tests, and finally the analysis & reporting of the gathered test results. It can be applied on the various software development methods like the Waterfall, Agile, and even the V-V model for the testing phase to be automated in accordance to the functional specification.

Viva Questions

Q1. Describe the WinRunner testing process.

There are main 6 stages involved in the WinRunner testing process.



1. Creating a GUI Map file can help WinRunner to identify GUI objects used in the application for which one wants to test

2. Tests can be generated by

- - Recording
 - Programming
 - Combining both

3. Running test cases in debug mode can help us to ensure consistency in tests run. Breakpoints in tests, variables monitoring, and ease of control on test runs can make work easy of finding defects.
4. Running test cases in verify mode to test the application and compares the data of the application with the earlier captured data.
5. This stage states the status of any test – PASS or FAIL.
6. In case of any failure of any test case due to some defect, that defect can be directly reported from the Test Results window.

Q2 Specify the language used in WinRunner.

WinRunner used TSL-Test Script Language. It is similar to C.

Q3. Brief about the test scripts you've created in WinRunner.

WinRunner test scripts contain statements written in Mercury Interactive's Test Script Language (TSL). We can modify the recorded test scripts, either by adding more programming elements and TSL functions or by using Function Generator, a WinRunner's visual programming tool.

Q4. What's there in Wrun.ini File?

Wrun.ini the the file is the setup configuration file for WinRunner.

Q5: What does it mean by the logical name of any object?

The logical name of any object is nothing but the text label of that object. This makes the code easily understandable and readable.