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Automated Testing for KeStudio ViewEdit

Being a key step in the software engineering process testing has become a great concern in software development.

Tools are developed to automate testing for the sake of producing more reliable and robust software. KEBA AG is a company specialized in industrial, banking, and service automation. The visualization software application KeStudio ViewEdit being developed at KEBA aims at producing visualizations deriving automation systems. Its complexity and the demand of delivering reliable software impose a great impact on testing. Targeting the automation of the test process, the test automation software TestComplete is exploited to develop a test automation suite at product level for the software application KeStudio ViewEdit. TestComplete offers great compatibility with a wide range of applications and programming languages.

KEBA

Test Automation

TestComplete

WinBatch

DelphiScript

Software Testing

The never ending need for delivering reliable software applications makes it very important to include testing into every phase of software development.

In general, testing is carried out to give information about whether the product satisfies the requirements of the customer or not. Its goal is either to find errors in the software or to verify that the software is meeting the requirements.

Software testing is usually performed after the requirements are identified and the first stable build of the software is released.

Automated Testing

Automated testing is achieved by using a software to automate tests which can run on one or more test cases of the provided plan. Automated testing should provide setting up the test environment from setting up the test preconditions to identifying the outputs of the test cases for further comparison to identify the overall output of the test. Automated testing cuts the huge amount of effort and time that manual testing consume since it is the process of writing a program that can validate many test cases in a short period of time.

In addition to that, automated testing can undertake tests that cannot be done using manual testing like testing an application on huge amounts of data. This will take ages to be tested manually however, automated testing can make use of idle resources at night and perform the test. Many test automation tools provide recording of a series of events that can be played back repeatedly a large number of times.

This is very useful when testing graphical user interfaces however, it can have some drawbacks if some changes are done to the graphical components. But if designed cautiously it can provide a great payback for the testing procedure.

Problem Statement

KeStudio ViewEdit is developed under eclipse where plugins are implemented to provide its different functionalities. Examples of such functionalities that must be verified are creating a new project with certain specifications, checking properties of the existing widgets, or creating a basic layout for the project. The project is about generating a test automation suite at product level for the 114 test cases of KeStudio ViewEdit that need to be automated.

In this project four automation test suites are implemented in order to verify the 114 test cases that need to be tested automatically. The tests are implemented in TestComplete and written in DelphiScript. WinBatch scripts are responsible for running the appropriate test on the test cases with specifying the correct input and expected output and configuring the test preconditions.

Here the power of automated testing appears in which a small number of generic tests can verify a large number of test cases and thus cutting short the time and effort needed by manual testing.