Automated testing system for an embedded software

Quality Commander

Automated operation by robot
and
Automated judgment with operation result

Kaizen! Quality

Effective usage of the night time and weekend

Robot manipulator performs the test operation of the target device consistently and in high-speed. The result of the test is stored in DB and the duplication of the problem is easily carried out.

Improved quality with a precise operation avoiding a human error

High precision image judgment detects even a small difference and prevents an unexpected pass caused by a human error.
Automated Operation of Touch panel
Automated by Robot and Auto-judgment of screen image

Test scenario
The test scenario is mainly consisted of a collection of a button operation and an automatic judgment. When scenario is executed, the judgment is performed if the display after the button operation is matched with the expected display or not. Simulator operation as a cooperative test could be added in the scenario and executed automatically.

The tip part which operates a touch screen can be chosen from the type corresponding to an electric capacity system, etc. according to operation devices. It supports the push pressure measurement using a load cell. Pressure measurement by load cell

Device holding adapter is adjustable for a different type of devices. Device holding adapter can be used for multiple models

Button operation
Automatic judgment if it is a correct display

Test scenario

1. Preparation
2. Test Scenario creation
3. Fast and precise, 24H operation
4. Test execution
5. Result analysis

Creation of the environment setting file
The button location of the device and virtual image of the target device are defined as an environment setting file. When test is performed, you need to identify the specific environment setting file for the target device.

Easy operation with the mouse click
Test procedure is described in a test scenario. The operation command to push the button is inserted by clicking the mouse on the virtual device. Image capturing command is also inserted by 1 mouse click. The operation is so easy for the test engineer who does not have a programming expertise that he or she can get used to the system in a day.

High speed still image judgment
Maximum of 20 still image per second can be captured and judged automatically.

OCR (character recognition)
Recognizing as a character or a numerical value.

Sound judgment
Sound is recorded and judged with the expected sound. In addition to the method of judging by tone signal and frequency, there is “spoken word judgment” which can compare and judge human voice such as voice guidance.

Continuous monitoring tool
By continuing to shoot the state of the screen with frame shooting, it is also possible to keep records of situations where no image is shot by Quality Commander. Images taken can be easily viewed from the result screen of Quality Commander and more detailed analysis can be performed when a defect is detected.

A simulator is also operated at the same time, and increased productivity by the cooperative test
Robot can be selected according to the test application. In addition to the robot manipulator, integrated control with Windows or simulator can be possible.

Automatic alignment of the judgment area
OCR judgment is supported

SCSTL judgment (Search + Still image judgment)
Using an actually measured image, the judgment area for the expected value is adjusted automatically. It is also possible to judge pop-up and scroll menu.

High speed still image judgment
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Continuous monitoring tool
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**Automatic testing of applications**

### Automatic test of Windows application

The system externally controls PC with Windows OS and performs keyboard and mouse operation automatically. You can automate connected test for embedded device and PC. It can also be used for automatic operation of simulator software.

### Automatic test of Android application

Android application is automatically tested by externally controlling the Android terminal connected to the system via USB.

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**Automatic test of in-vehicle device/car navigation system**

### CANoe cooperation/Programmable power supply cooperation

Using the linkage function of CANoe, the value of the environment variable defined in the simulation can be set by the Quality Commander. This allows you to automate cooperative tests such as checking the display change of the in-vehicle device accompanying the state change of CANoe generated. By also controlling the programmable power supply, it is possible to perform power reset operation, check the screen condition after resetting, and so on.

### Multi-touch operation

Multi-touch operation test such as pinch-in/pinch-out/rotation is possible.

### CD Insert/Eject

6 axis robot can perform the in-out operation of CDs for the target device automatically.

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**Automatic test of touch panel device (Approx. Screen size: maximum 16 inches)**

### Height adjustable block type adapter

By stacking blocks, the difference in thickness of target device is absorbed. It is possible to handle touch panel device with a thickness of from about 50mm to thin tablet size device.

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**Solid and secure support**

Customer success is our driving force!

- Requested functionality can be implemented at a scheduled software version ups
- Technical support is provided by our expert engineers
- Technical support and maintenance is delivered all over Japan
- Within 24-hour response by Telephone or Email
- Provides replacing system when it is necessary

We also provide scenario creation and introduction support service.

To earn the effect of introducing Quality Commander, our staff who have plentiful experience of automation will provide a full range of launch support at the time of introduction. We will provide know-how, create test scenarios to start automated tests in a short period of time, and we will help you to get effective immediately.

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For the details, visit [https://www.jnovel.co.jp/en/](https://www.jnovel.co.jp/en/)