



CASE STUDY

Improve the Customer Experience with Cross-device iOS and Android Testing

Profile

NTT DOCOMO is Japan's largest mobile telecommunications company, providing innovative, convenient, and secure mobile services to over 74 million customers in Japan via advanced wireless networks. As a provider of integrated services centered on mobility, the company is actively engaged in the development of technologies for next-generation devices, services, and networks. Under the corporate identity of "Creating a New World of Communications Culture," NTT DOCOMO has been developing mobile communication businesses, focused on improving email, portals, and other internet services while fulfilling its mission of running a stable communications infrastructure.

eggplant
Test Automation Software

NTT DOCOMO decided to implement a solution for detecting failures proactively from the viewpoint of users to improve the end-user quality of internet services within the network, across a variety of content, with an external cloud environment, and based on the time of day.

Service Assurance Demands

The end-user quality of internet services is determined by complicated factors including traffic that varies within the network, across a variety of content, with an external cloud environment, and based on the time of day. NTT DOCOMO decided to implement a solution for detecting failures proactively from the viewpoint of users by having devices access services on a regular basis.

Eggplant uses high-precision image recognition technology to record the operations, providing high levels of reliability for scenarios performed under automatic operation. Eggplant supports multiple devices, such as iOS and Android.

“In the past, we introduced a service automation system on a trial basis that used a smartphone’s automation tool in order to improve the user experience, but we had a problem with the long-term, stable operation and maintainability of the tool, making it impossible to fully introduce the system. User evaluation of emails, portals, and other services was also getting stricter year by year. So, we again began to consider the possibility of introducing an automated service monitoring system,” said Mr. Katsumi Noda, Manager, Service Operations, Service Design Department, NTT DOCOMO.

Silent failures, for which the diagnostics of devices or systems gave no alert, content replacement mistakes, and failures in the external cloud service, were previously addressed by personnel in the field using the existing monitoring system. However, the use of the new automated service monitoring system has enabled the detection of failures in a more expeditiously and systematic manner.

Improved Failure Detection

In April 2015, the new automated service monitoring system utilizing Eggplant began operation in a small-scale configuration, implementing a solution from the viewpoint of users, for supervising the operating status of a variety of services 24 hours a day, 365 days a year in a stable and proactive manner.

“Previously, it took a long time to determine whether an alarm issued by the monitoring system should be addressed urgently,” said Noda.

“This new automated service monitoring system enables us to identify the degree of a failure from the viewpoint of users, by which we can determine immediately whether a system restart or further isolation is required. In addition, we are able to find the failure symptoms by checking the variation in TAT on a monthly basis.”

MR. KATSUMI NODA, MANAGER, SERVICE OPERATIONS,
SERVICE DESIGN DEPARTMENT, NTT DOCOMO.

Eggplant Selected

NTT DOCOMO considered several solution providers before selecting Eggplant Functional introduced by NS Solutions Corporation (NSSOL). The key factors that led to the selection of Eggplant Functional were its cross-device capabilities and the robustness of its features. NTT DOCOMO is using Eggplant Functional to test previously untestable areas, as well as delivering service confirmation and monitoring capabilities to help improve the overall customer experience.

The monitoring system records a series of display-based operations performed by mobile devices and automatically executes their reproduction, in which the success or failure of screen transitions, the screen transition turnaround time (TAT), and other factors are recorded on log servers. The monitoring server checks the logs in the log servers to see if there is a failure.

“This system can record and reproduce a series of operations including touching an icon and logging on to the service. Recorded operations are stored in a script. This allows easy maintenance and supports iOS, Android and others as a multi device solution,” said Noda.

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