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End User Experience Monitoring of Android Application in Inspect IT.

ABSTRACT - Masterthesis

Currently, smartphones find a great importance in day to day life with Android operating system being used by 82.8% of the world's population as of 2016. Android applications are used in almost every field in great numbers and with the increase in numbers, there arises need for applications with good performance and functionality. To improve the performance of an application, it is necessary to monitor it first for various parameters like method execution time, method invocation sequence, CPU and Memory consumption of an application.

For the first time in Android, a successful effort was made in this thesis to instrument each and every method of all the classes in an Android application for its performance with the help of an open source library Aspect J. Instrumenting a software involves modification of the byte code in the actual code either at run time/compile time before loading into the Virtual Machine (VM) so that the modified code does the job of monitoring the actual code for performance parameters. The monitored parameters are sent over the network to the Central Monitoring Repository (CMR) from the Android application and are displayed in an open source NovaTec owned UI client named the InspectIT UI client in the form of graphs, tables etc along with a very good User Interface thereby giving the end user a very good User Experience.

The successful implementation of this instrumentation technique in Android can be used to monitor any given Android application for its performance.