



SDSU
presents
a thesis defense for
Master of Science
degree in
Computer Science

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GMCS 405

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Smartphone and Android Internals

Abstract

This thesis is focused on a detailed study of smart phones with Android operating system in particular. It is focused on Android, covering its history, basics, various features, architecture etc. Not only professionals but every tech. literate person are using smart phones and rely on them for their daily tasks. Android operating system has created a benchmark for smart phone operating systems. This is clearly depicted in recent surveys on market domination among smart phone Operating Systems. Android applications are cataloged for general use on an online market place and can be downloaded via a web connection by owners of Android Smartphone. The numbers of applications are increasing rapidly. The main reason behind its success is that Android is open-sourced and its programming is highly leveraged from Java.

The research work has been presented in an easy to understand and lucid manner and requires no pre-requisite knowledge about Android OS. This thesis attempts to introduce new Android developers to different Android flavors, its features and Android architecture. It also provide detailed assistance in certain areas such as Android boot up process, radio interface layer, Attention Commands, logging and debugging mechanism, and upgrade for the Android devices. At this time, there is a paucity of texts to perform these functions.

This thesis is very useful, for those who are not familiar to Android. It introduces Android as a benchmark among other mobile operating systems, Android versions, and the different software layers interacting within the device. Nowadays each smartphone has an upgrade ability. We discuss different types of upgrades and their working mechanisms. We have tried to provide further details informing the consumers as well as developers about the process of analyzing an issue or a flaw detected during test procedures and how logging and debugging methods related to android would be helpful in finding the root cause of the error.

Thesis Committee

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