

PORTING ANDROID TO MIPS ARCHITECTURE

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Abstract: In recent years, Android has become more and more common on the mobile market. Due to the easily adaptable capability of Android, it is able to operate on many platforms (ARM, x86, MIPS...). However, the most used platform of Android is ARM, which shows a great performance in mobile devices such as mobile phones, tablets. Another platform that is also very popular, especially, with electronic household products is MIPS. The goal of this thesis is to study Android and MIPS architecture, and then apply the knowledge to implement porting Android to MIPS. Since the lack of a real MIPS kit, QEMU is a substitute to carry out the task. A little research about the QEMU is also mentioned in the thesis. The use of QEMU can be a good option because of low cost, easy implementation, and convenience for software developers. In my thesis, the porting task is done by two main steps. The first step is compiling Linux kernel and the latter one is compiling the system file. Both steps are completed by a crosscompiler in the MIPS toolchain. Finally, as the evidence of success in porting to QEMU, I try running a very simple application on the emulator.

Keywords: MIPS, Android, QEMU.