Fig. 1 Current distribution of various versions of Android [5].

1.3   How Android works

The main point of an Android system is its Linux core. The next part is a layer of standard libraries, such as Open SSL, which are "generally available to programmers working in an open-source environment" [2]. On top of that there is the Android framework – a set of libraries which are compatible with Java and can be used to write applications for this operating system. The Android's final layer is the Dalvik Virtual Machine: it runs the applications which were written in the aforementioned Java dialect, then compiled to bytecode and converted from Java Virtual Machine-compatible .class files to .dex files which are compatible with Dalvik. It is also possible to develop applications in C and C++ but it requires the programmers to use the Android NDK (Native Development Kit) and create some Java Native Interfaces as well. Figure 2 presents the above description in a simpler, graphical manner.
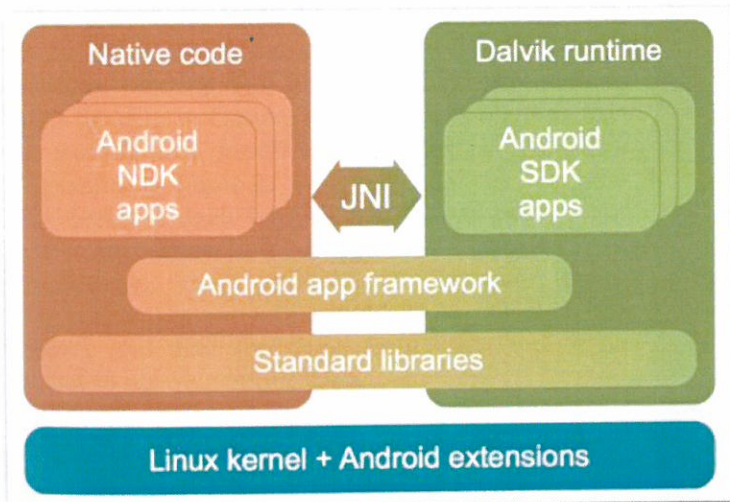

Fig. 2 The structure of Android operating system [2].

1.4   The Android OS in the Worldwide Market of Handheld Devices

The Android operating system is steadily becoming more popular on all kinds of handheld devices – it has already gained more than 40% of the worldwide smartphone market shares which is depicted by Figure 3 and more than 25% of the tablet market