**CHAPTER 4**

**ANDROID SOFTWARE IMPLEMENTATION**

**4.1. Introduction**

In this chapter, android system, java language and android software implementation of the system will be explained in some details. Android is mobile operating system developed by Google, based on a modified version of the Linux kernel. Java is a programming language created by James Gosling from Sun Microsystems (Sun) in 1991. Android Studio is the official integrated development environment (IDE) for Google's Android operating system. XML stands for Extensible Markup Language. Robotic Arm Controller application is the android software used to control the robotic arm via Bluetooth.

**4.2. Android Platform**

Android is mobile operating system developed by Google, based on a modified version of the Linux kernel and other open source software and designed primarily for touchscreen mobile devices such as smartphones and tablets. In addition, Google has further developed Android TV for televisions, Android Auto for cars, and Wear OS for wrist watches, each with specialized user interface. Variants of Android are also used on game consoles, digital cameras, PCs and other electronics. Android has been the best-selling OS worldwide on smartphones since 2011 and on tablets since 2013.

4.2.1. Android Architecture

Android operating system is a stack of software components which is roughly divided into five sections and four main layer. They are

* Linux Kernel
* Android Libraries
* Android Runtime
* Application Framework
* Applications