Abstract

Recent researches have implemented a lot of IoT. The problem that is often faced is IoT end devices are still not user friendly in its configuration. There are still many device configurations are located at firmware level and only developers have access to firmware level and configure it. The user is still confused in configuring IoT end device. This researches proposes to apply pairing to IoT end devices. Pairing has been used by several IoT end device that are already on the market but can still be developed. Therefore, researches have been directed to designing a system that makes pairing IoT end devices easier. So that the configuration is not done at firmware level but at the application level. Users can pair an Android smartphone with an IoT end device and configure such as choosing Access Point in application. Application use proximity authentication, where pairing authentication is obtained by analyzing movements that affect RSSI variation. In addition, the system also implements dynamic device pairing to make pairing easier by viewing connection history. For determining the connection between an Android smartphone and an IoT end device, a Decision Tree is used. By using these systems and methods, accuracy obtained is 92.19%.

Keywords: pairing, authentication, proximity, RSSI, decision tree.