

ABSTRACT

Nowadays advanced technology grows better. One of the factor is the increasing in modernization and the usage of internet. More over, Internet of Things (IoT) era has begun, where machine to machine (m2m) communication no longer impossible to be done with least or no human hands. There's no questioning if almost all of people has their own internet access in their home, offices, or another public places. This advanced technology, allows us to connect wirelessly to internet. Writer will talk more about Wireless Fidelity (WiFi) networks. There're a lot of WiFi users in this world. But, there'll always be risk and problem in something good. One of the risk of WiFi networks is cyber crime attacker (theft identity, physing, etc.). therefore, technologies are equipped with it's own security. One of them is in the form of gateway.

This research will mainly talk about Captive Gateway, where users will encounter a web authentication prompt before they gain access to the network. Web Authentication in general will likely use username and password as pre-assigned users to do authentication, which seem pretty conventional. This authentication method will likely have more risk with social engineering problem where attacker will easily see our typing patterns and predict our credentials to that network and gain an authorized access.

This research talks about a new authentication method in a form of barcode scanner-based web authentication, using mikrotik router, and JavaScript to accomplish the aim. The result of this research enable user to authenticate without typing their credentials. Tests done in the system used 3 devices with 3 different distance between camera and barcode scenarios (10, 15, 20 cm). The results are success probability on barcode scanning, with the highest probability is 96,67% while using device 1 with 16 mp camera in 10 cm scenario, and the lowest probability is 40% while using device 2 with 8 mp camera in 20 cm scenario. Test using device 3 with 2 mp camera couldn't be done, due to the lack of javascript support in that device.

Key Words : Captive Portal, Web Authentication, JavaScript, QuaggaJS