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Systematic Review of Security provisions for IoT in Cloud Based Environment

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Aim:

In the recent times, the prevalence of IoT devices has increased many folds and it is going to increase exponentially in the times to come.

The Internet of Things (IoT) enables internet users, computing systems, sensors and everyday objects enormous actuating and sensing capabilities to work with ease, and convenience and provides vast economic benefits. It would allow to track and monitor things, people, health conditions, wildlife, environmental patterns and also enrich our day-to-day life based on smart objects and intelligent sensors.

The security and the risk of these complex and coupled systems have not been investigated with scrutiny.

Despite all these developments happening around us the basic constraints of IoT still remain. There is no standardization in the security rules that IoT should adhere to. Its constraints are low CPU, low battery life, inability to update firmware once deployed, not able to use complex security protocols.

The Systematic Review is part of this bigger research of IoT Security in Cloud based Environment

Research methods:

Research method used in the Systematic review is Qualitative and Comparative it looks at the current security provisions in the following sources: IEEE, IET, ITF, WiFi Alliance, latest PhDs in the area, industry led research by Cisco, Fortinet, Palo Alto and Checkpoint.

According to the literature review done so far there is a need for a standard framework to guide the security of IoT devices. The security of IoT devices should be such that it can work keeping in mind the constraints of IoT devices.

Anticipated impact:

The impact of this Systematic review is far reaching as it would help others coming behind to refer to it as a comprehensive source of information till a certain point in time, as technology changes rapidly and there are several advances happening constantly and such Systematic reviews form a bedrock for researchers.

It feeds into the main research of securing IoT devices in Cloud based environment, which is very relevant in an increasingly connected world where cyber threats are constantly evolving. It will help us negotiate our way through a constantly changing world.