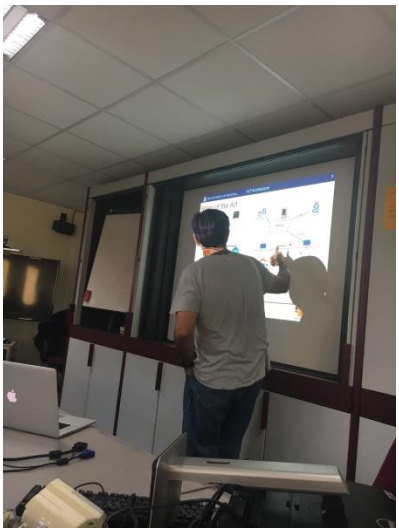
Title: Internet of Things Security Management



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Abstract: The Internet of Things (IoT) connects not only computers and mobile devices, but it also interconnects smart buildings, homes, and cities, as well as electrical grids, gas, and water networks, automobiles, airplanes, etc. However, IoT applications introduce grand security challenges due to the increase in the attack surface. Current security approaches do not handle cybersecurity from a holistic point of view; hence a systematic cybersecurity mechanism needs to be adopted when designing IoT-based applications. In this work, we present a risk management framework to deploy secure IoT-based applications for Smart Infrastructures at the design time and the runtime. At the design time, we propose a risk management method that is appropriate for smart infrastructures. At the design time, our framework relies on the Anomaly Behavior Analysis (ABA) methodology enabled by the Autonomic Computing paradigm and an intrusion detection system to detect any threat that can compromise IoT infrastructures by. Our preliminary experimental results show that our framework can be used to detect threats and protect IoT premises and services.