

# Survey of Proximity Based Authentication Mechanisms for the Industrial Internet of Things

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## ABSTRACT

In this paper we present an overview of the various proximity based authentication mechanisms that can be used in the Industrial Internet of Things (IIoT). We seek to identify and highlight from a holistic point of view which mechanisms can enable proximity based authentication for the Industrial Internet of Things. In addition, we identify which upcoming proximity authentication mechanisms are most important for the proliferation of the Industrial Internet of Things, and highlight major obstacles that remain unsolved with regard to authentication. In answering this, we present seven mechanisms for proximity based authentication (i.e. wire, radio, acoustics, light, image, gesture and biometrics) and discuss each mechanism in perspective of their vulnerability to different kind of attacks (such as eavesdropping, impersonation and denial of service attacks etc.) and their usability (such as proximity range, hardware requirement and ease of use) in terms of the practicality in IIoT environment in the light of which we present two typical IIoT use cases that require proximity based authentication.

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Research Interests: Authentication; Industrial Internet of Things; Proximity base authentication and security

**All are welcome!**



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