



Bluetooth Trust Models of Electric Scooters and Bikes

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Motivation

Electric personal mobility – it seems to be everywhere these days. Especially on campus, you can walk a hundred meters without being overtaken by a scooter or electric bike. But – did you know that many of these devices come with Bluetooth support? We are interested in the risks of that.

If I can use an app to lock my scooter, can *anyone* use an app to lock my scooter? When I buy my scooter, and never use its Bluetooth functionality, is it still enabled? If yes, who can use it? How? Do scooter users know that their device has Bluetooth? If so, do they use it, or secure it?

These are some of the questions you would be looking to answer in your thesis. You will survey popular brands, and analyze and classify their Bluetooth functionality and trust models. You will also survey users of electric scooters and bikes about their use of the Bluetooth functionality.

Goals and Tasks

-  Research popular brands
-  Evaluate their Bluetooth functionality
-  Survey users



But does it have Bluetooth?

Literature

- > [M. Casagrande et al.](#)
E-Spoofing: Attacking and Defending Xiaomi Electric Scooter Ecosystem
ACM WiSec '23
- > [A. Barua et al.](#)
Security and Privacy Threats for Bluetooth Low Energy in IoT and Wearable Devices: A Comprehensive Survey
IEEE Open Journal of the Communications Society 2022

Courses & Deliverables

- Introduction to Scientific Working**
Short report on background
Short presentation
- Bachelor's Thesis**
Project code
Thesis
Final presentation

Recommended if you're studying

- CS
- ICE
- SEM

Prerequisites

- > Interest in working with users
- > Passion for categorizing and classifying

Advisor Contact

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