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ReSEARCH Dialogues Conference Proceedings ReSEARCH Dialogues Conference Proceedings  
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## Unlocking the secrets of RF-DNA fingerprints

Ahmed Ibrahim

*University of Tennessee at Chattanooga*

Alissa Coleman

*University of Tennessee at Chattanooga*

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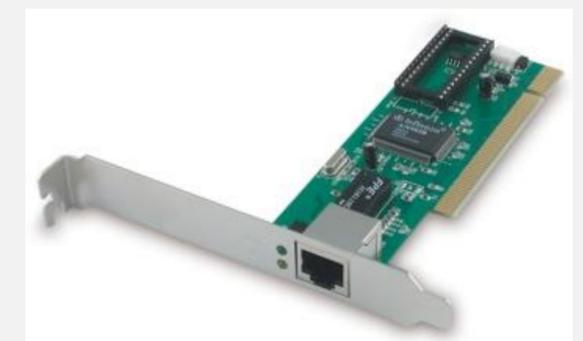
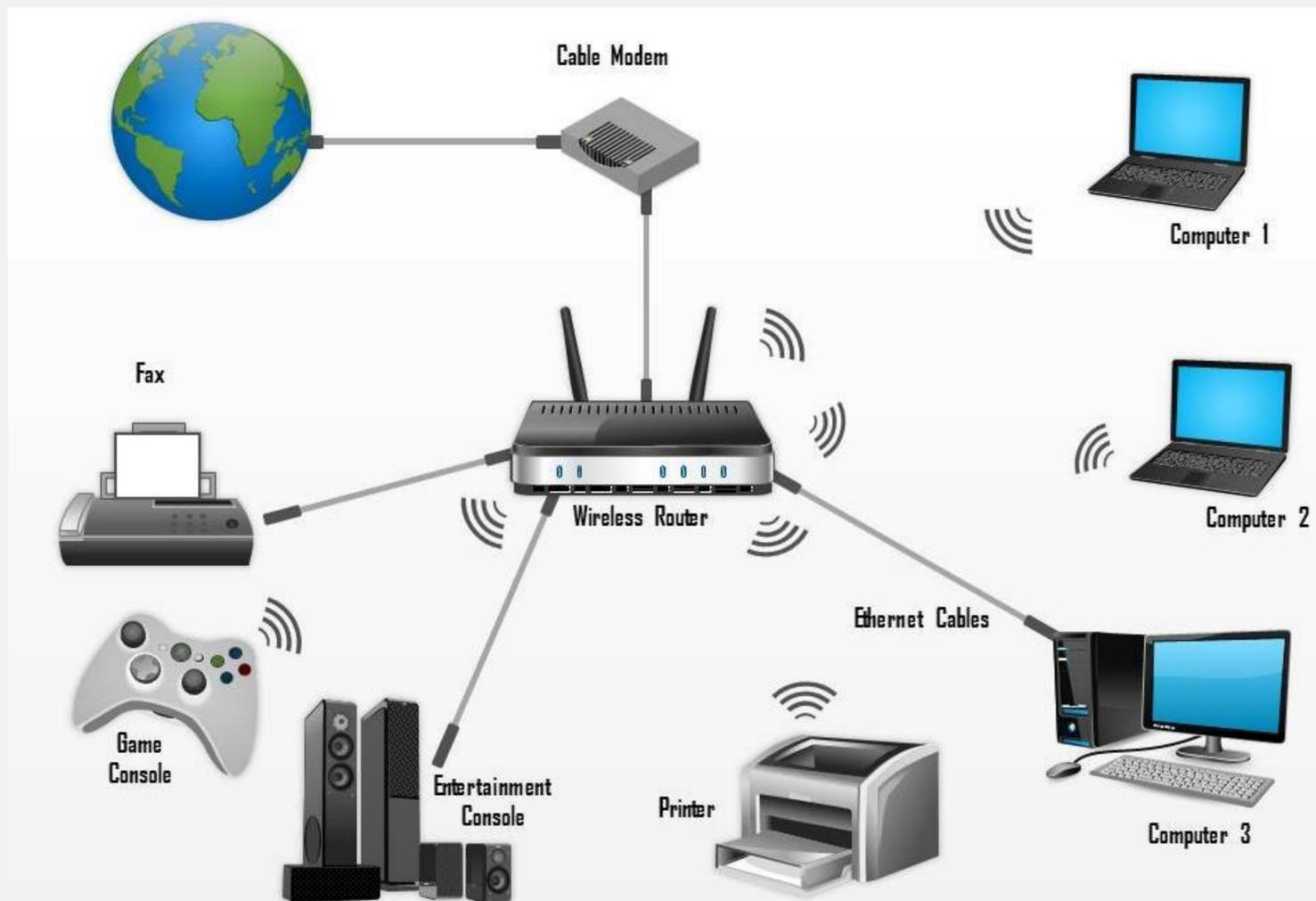
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### Recommended Citation

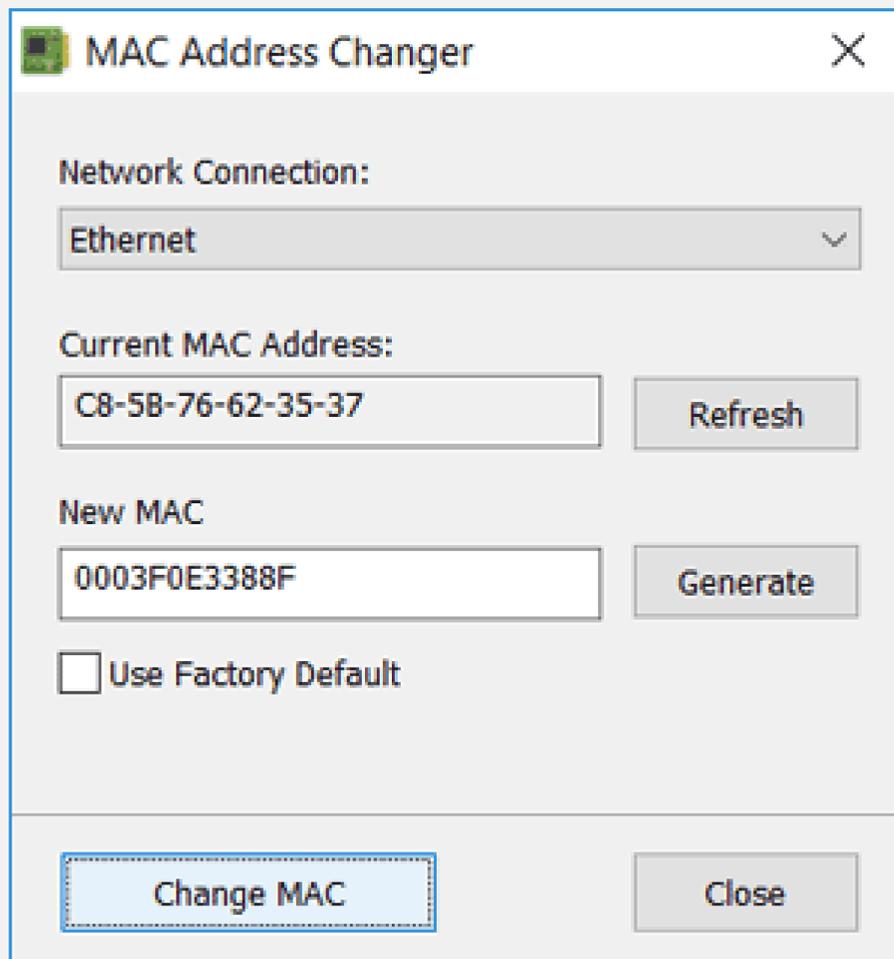
Ibrahim, Ahmed and Coleman, Alissa, "Unlocking the secrets of RF-DNA fingerprints". *ReSEARCH Dialogues Conference proceedings*. [https://scholar.utc.edu/research-dialogues/2020/day2\\_presentations/61](https://scholar.utc.edu/research-dialogues/2020/day2_presentations/61).

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- Your daily internet activities as shown in this home wireless network diagram
- There is an unique ID built inside device network card used to secure your communication ( like the driving license)

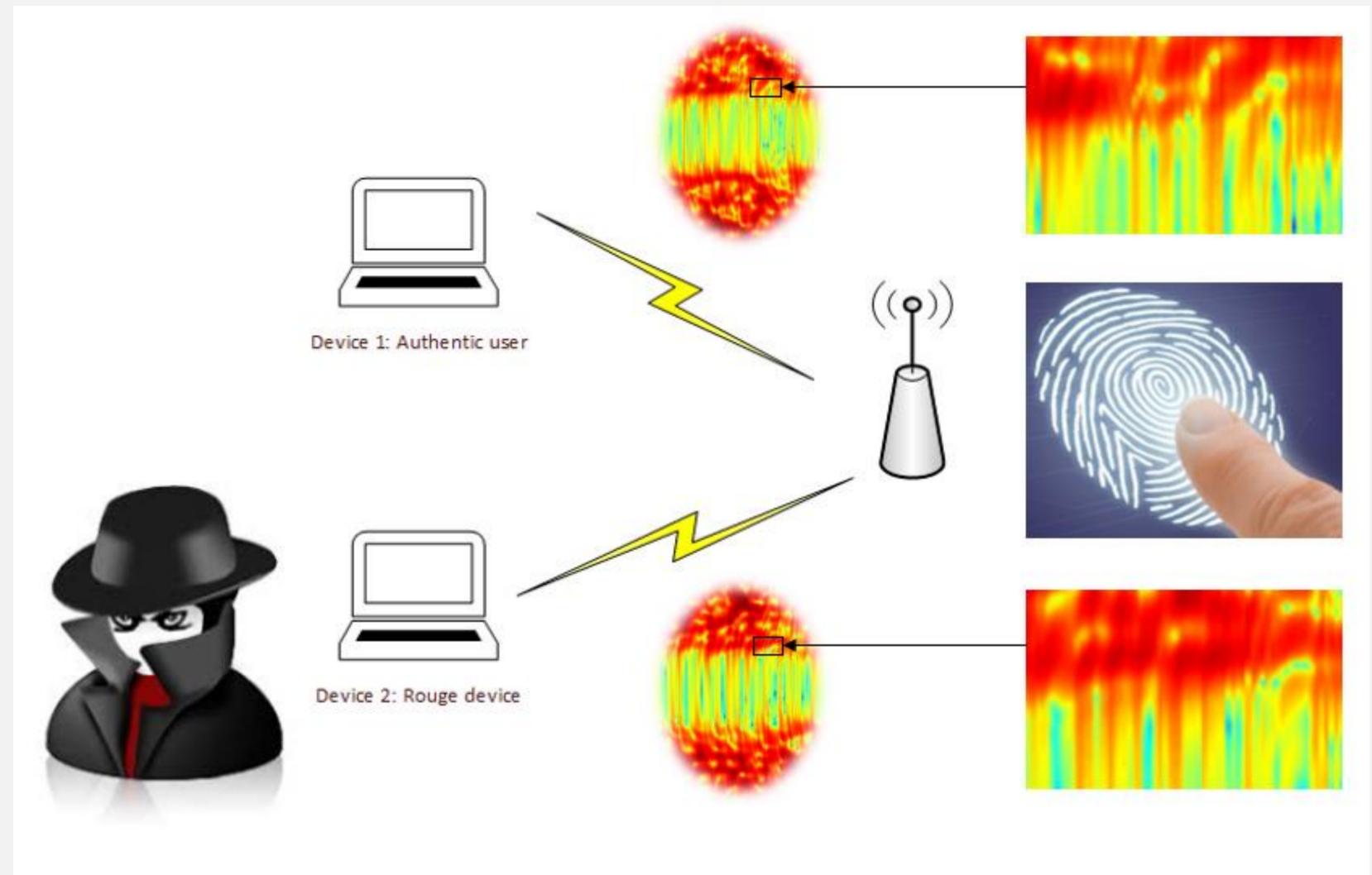


- Device 1 is transmitting its ID (MAC address):  
0003F0E3388F



The screenshot shows a window titled "MAC Address Changer" with a close button (X) in the top right corner. The window contains the following elements:

- Network Connection:** A dropdown menu currently set to "Ethernet".
- Current MAC Address:** A text box containing "C8-5B-76-62-35-37" and a "Refresh" button to its right.
- New MAC:** A text box containing "0003F0E3388F" and a "Generate" button to its right.
- Use Factory Default:** A checkbox that is currently unchecked.
- Change MAC:** A large button at the bottom left.
- Close:** A button at the bottom right.



- **The problem**

- There is an **urgent need** to augment existing bit-level network security mechanisms (the MAC ID shown previously) to leverage useful discriminating information that can be used to identify a possible rogue device.

- **Objectives**

- (i) Exploit** physical attributes to augment traditional Security mechanisms
- (ii) Enhance** authentication and rogue rejection