

IOT SECURITY

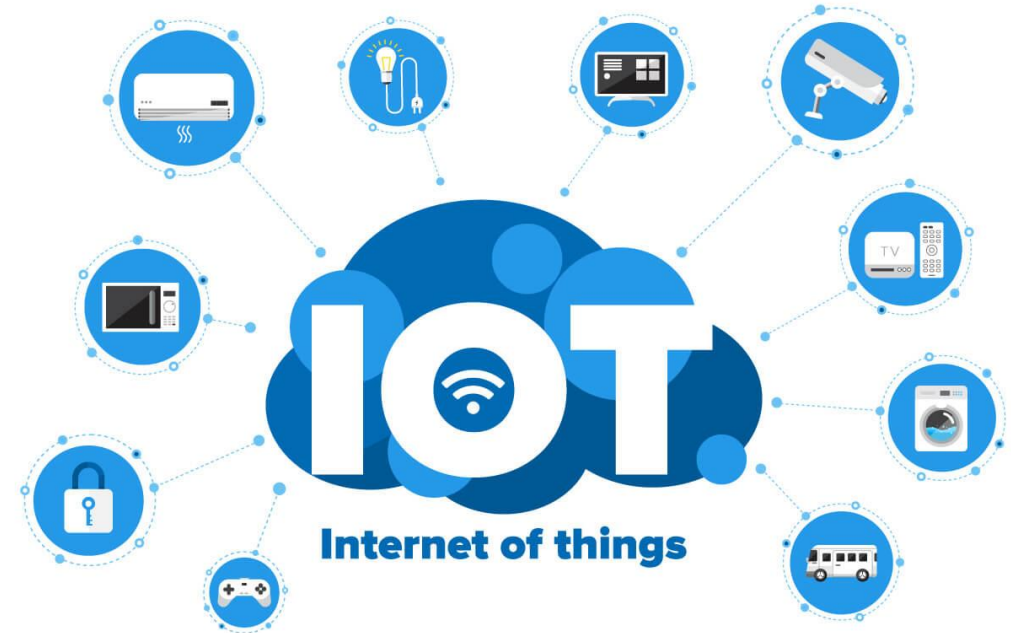


DR. NINAD DILEEP MEHENDALE



WHAT IS IOT

IoT is a network of physical objects that are embedded with sensors, software, and network connectivity to enable them to collect and exchange data.





What is IoT?

IoT
Internet of Things

Is a system of **interconnected devices** that collect data from the surrounding environment to **enable increased reactivity and responsiveness**.

These data help us make **better, and more informed decisions**.



THE INTERNET OF EVERYTHING

I TOLD YOU TO PICK UP MILK ON THE WAY HOME.
DON'T YOU LISTEN TO ANYTHING I SAY??!





*“Bad news - the scale is threatening to cut off
our access to the fridge...”*

SECURING THE INTERNET OF THINGS

- The Internet of Things (IoT) is a rapidly growing network of physical objects that are embedded with sensors, software, and network connectivity to enable them to collect and exchange data. This data can be used to improve efficiency, automate tasks, and make better decisions.
- However, the IoT also has some security challenges. These challenges need to be addressed in order to ensure the security of IoT devices and data.



THE MIRAI

The Mirai botnet: In 2016, a group of hackers created a botnet called Mirai that infected millions of IoT devices, such as security cameras and DVRs. The botnet was then used to launch a series of DDoS attacks against major websites, including Twitter, GitHub, and Netflix. The Mirai attack showed how vulnerable IoT devices can be to cyberattacks.



THE PERSON BEHIND MIRAI: PARAS JHA

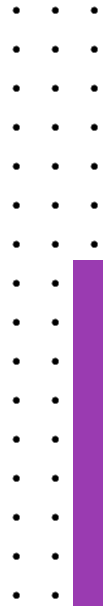


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DIFFERENCE BETWEEN SECURITY AND SAFETY

Security is about protecting from intentional harm, while safety is about preventing accidents.



ATTACK

TAKE CONTROL

STEAL INFORMATION

DISRUPT SERVICES

Controls for smart door locks and lighting systems can be vulnerable.

Malware-infested refrigerators have sent spam.

Door locks have been unlocked remotely.

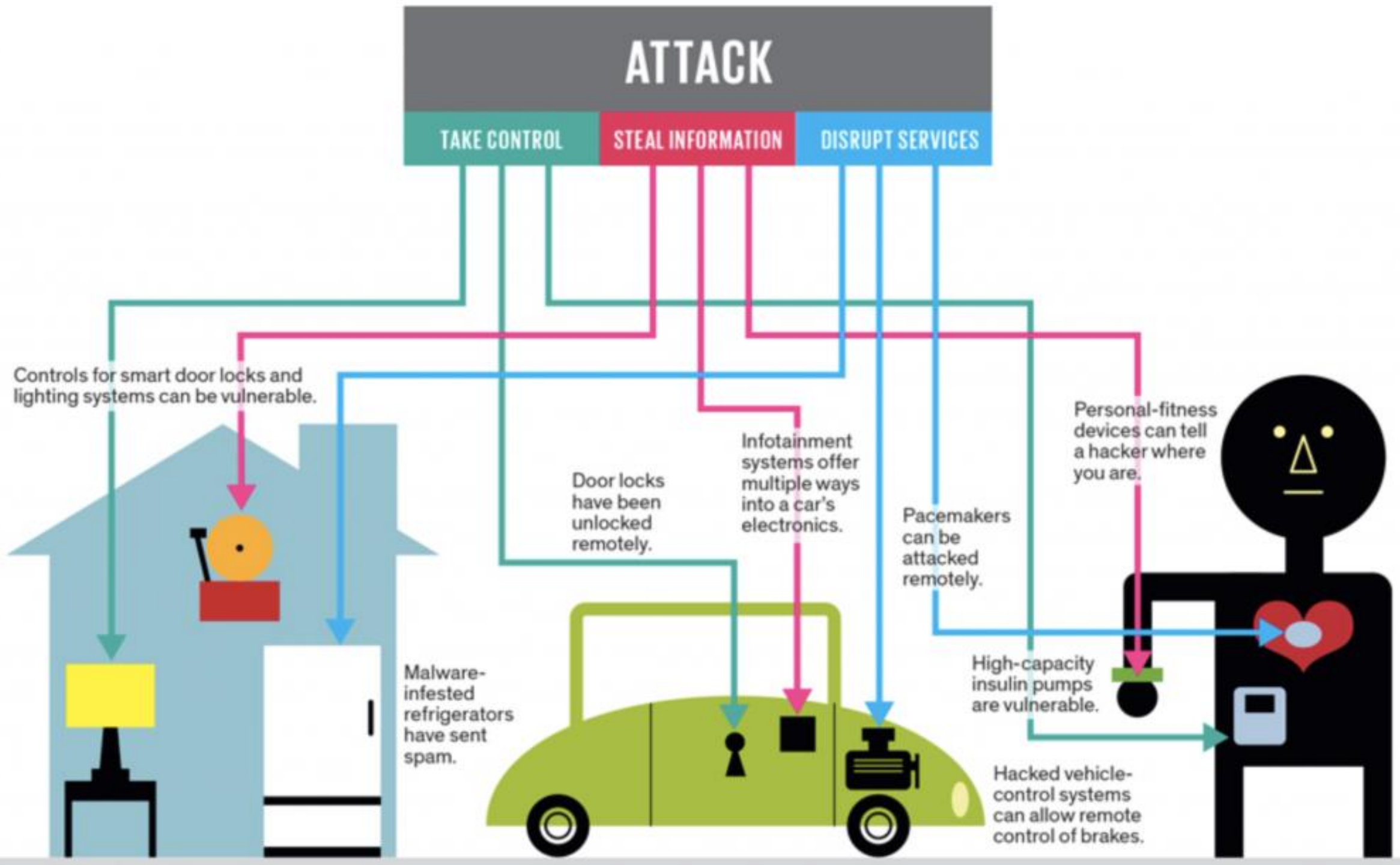
Infotainment systems offer multiple ways into a car's electronics.

Pacemakers can be attacked remotely.

Personal-fitness devices can tell a hacker where you are.

High-capacity insulin pumps are vulnerable.

Hacked vehicle-control systems can allow remote control of brakes.



"Securing the Internet of Things" refers to the process of implementing measures and strategies to protect IoT devices, networks, and data from potential threats, vulnerabilities, and unauthorized access.

IOT Device Security

