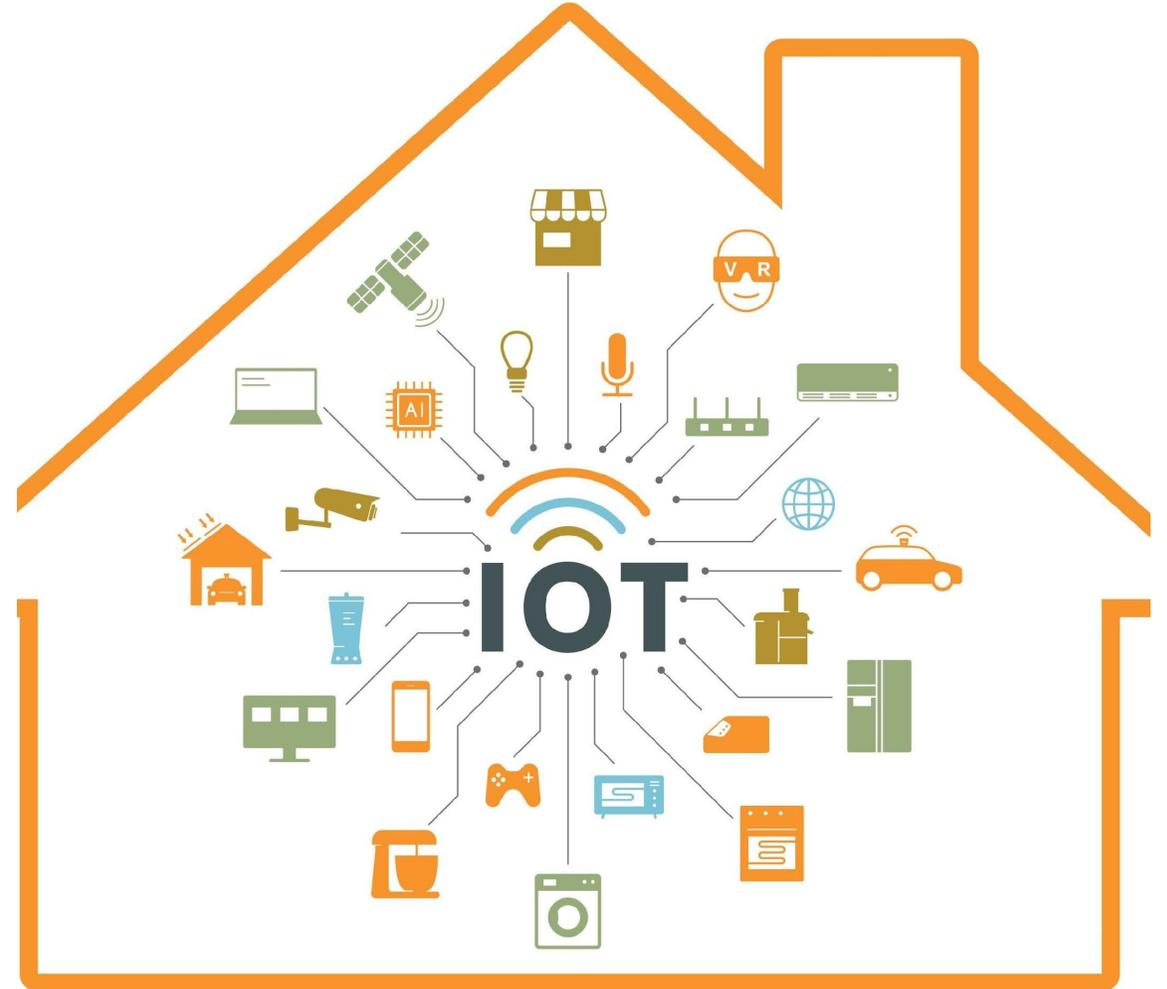
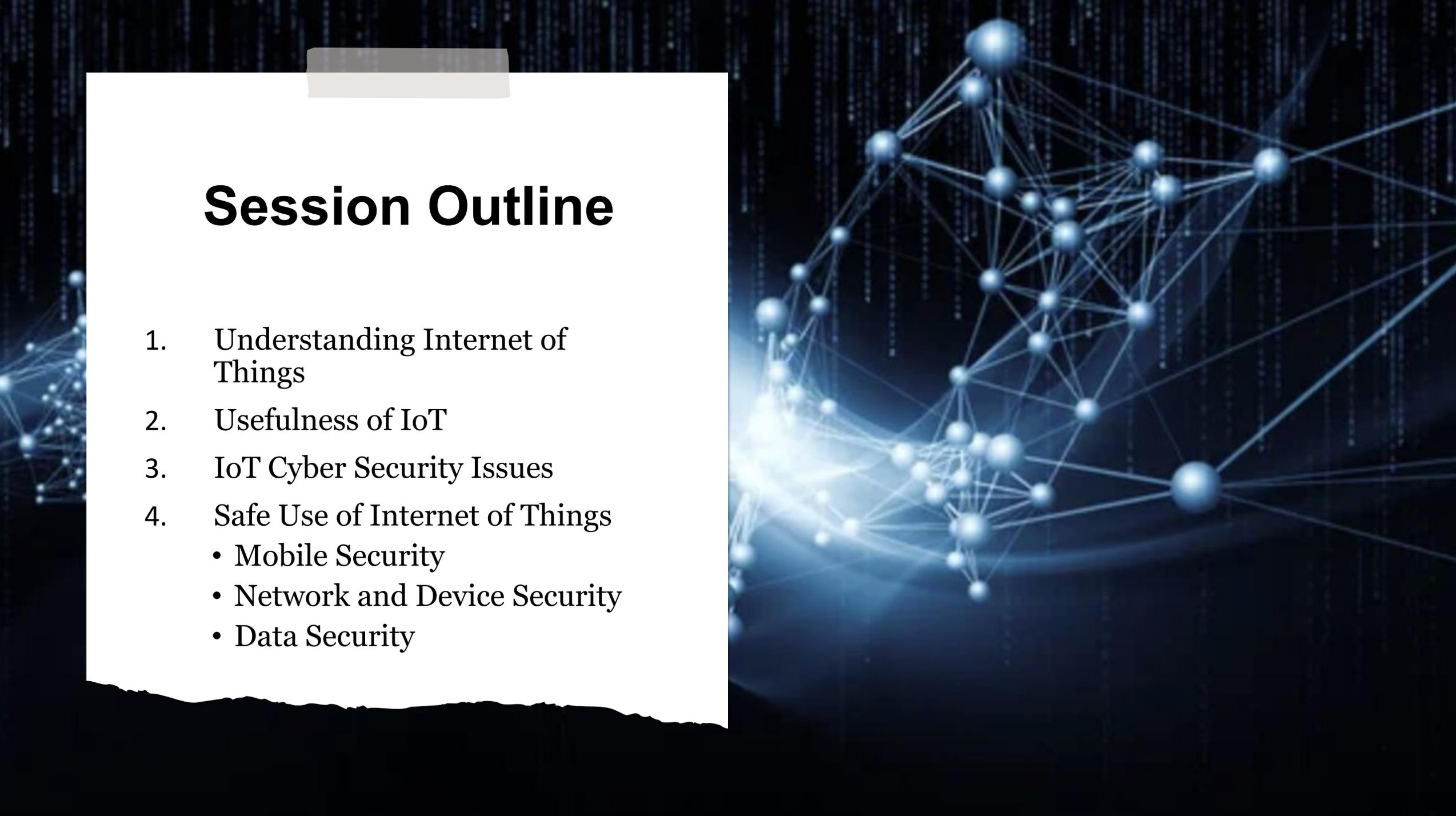


Internet of Things (IoT) & Mobile Security

Indian Cyber Crime Coordination Center,
Ministry of Home Affairs

Date : 04-09-2023





Session Outline

1. Understanding Internet of Things
2. Usefulness of IoT
3. IoT Cyber Security Issues
4. Safe Use of Internet of Things
 - Mobile Security
 - Network and Device Security
 - Data Security

A real Problem....



Travel Time 2 Hours : Switch ON and OFF the Motor

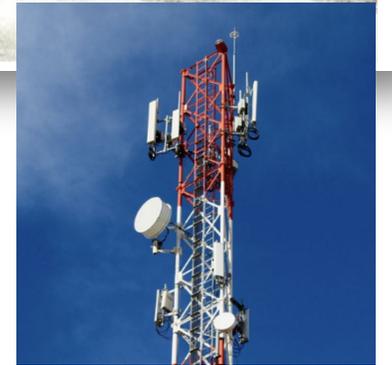
Solution - IoT



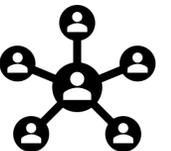
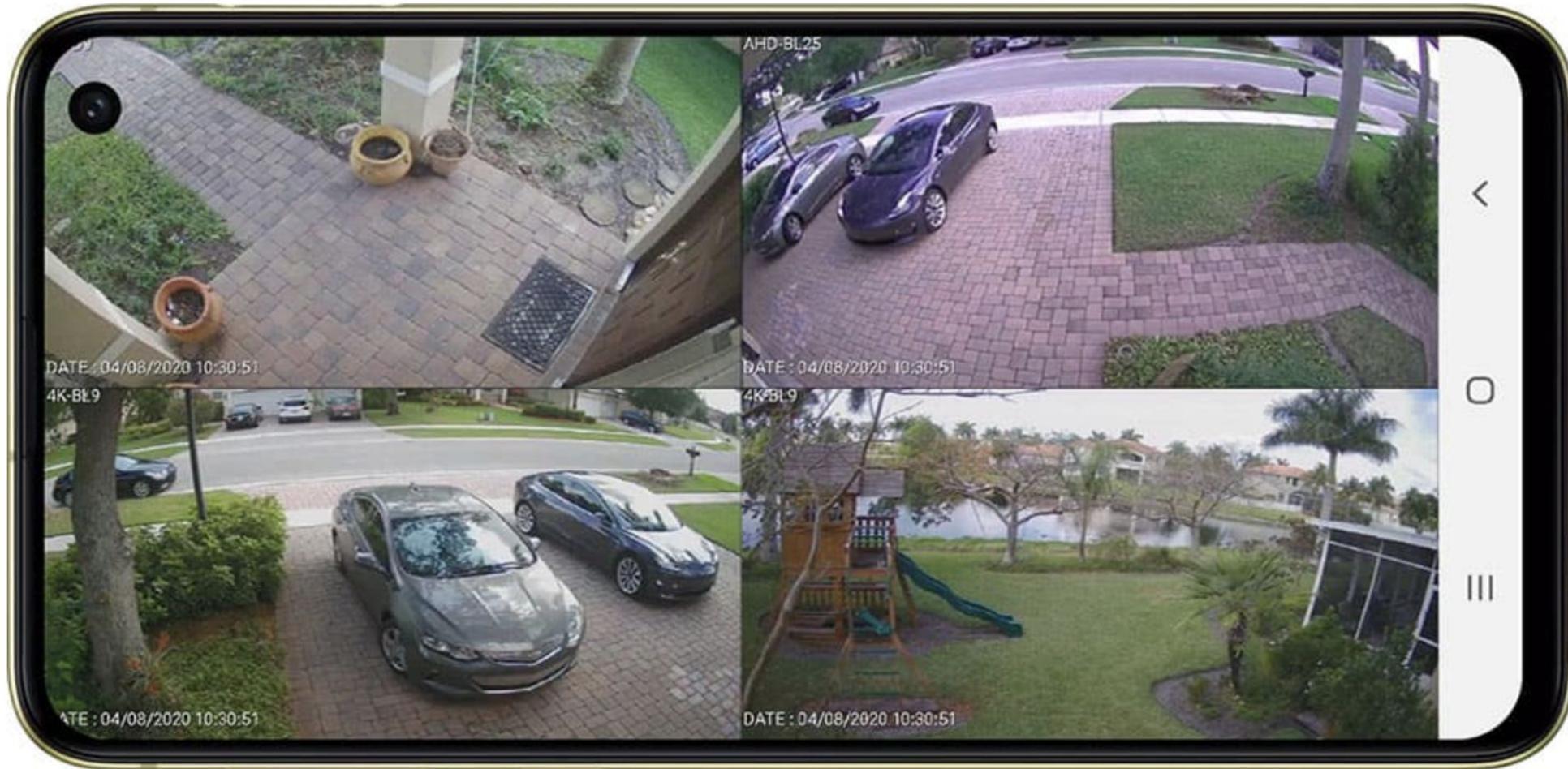
Mobile App to control Motor



Internet (Mobile Data) connected Motor



IP Cameras : Convenient, Economic





IoT : Affordable and widely used (Demo)

Home & Kitchen › Home & kitchen | Prime shopping days › Prime Units › HI



6 VIDEOS



Wipro 16A Wi-Fi Smart Plug, Suitable for Large Appliances like Geysers, Microwave Ovens, and Air Conditioners, Energy Monitoring, Wireless Control, and Voice Control (Pack of 1, Polycarbonate, White)

[Visit the wipro Store](#)

4.2 ★★★★★ 14,352 ratings | 590 answered questions

1K+ bought in past month

Deal of the Day

-56% ₹999

M.R.P.: ₹2,290

✓prime One-Day

Inclusive of all taxes

Apply now and get Amazon Pay credit card in 60 seconds. Prime members can get 5% back (Rs.49.95) on orders.



Offers

No Cost EMI

Bank Offer

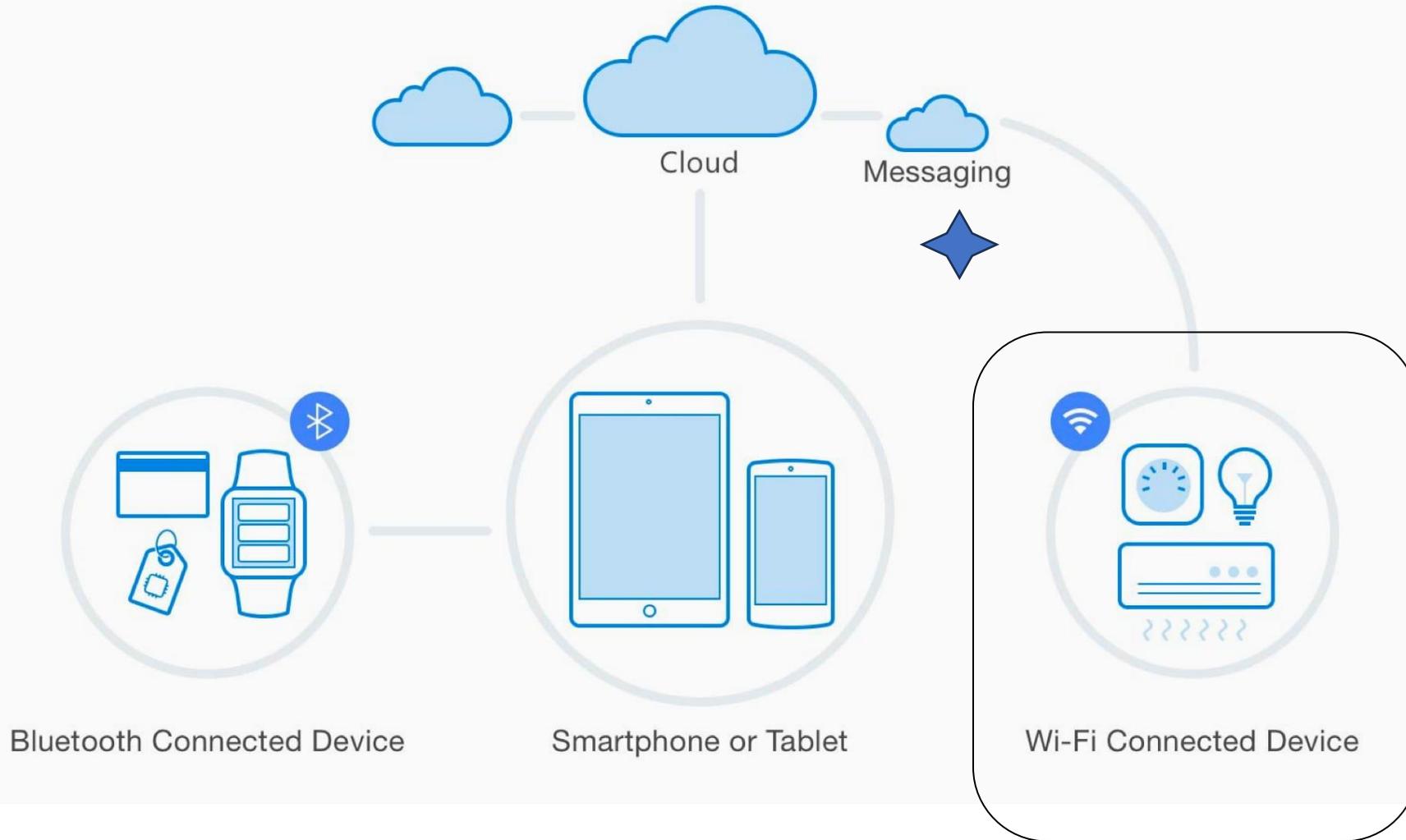
Cashback

Partner Offers



Home

How does IoT Work ?



1. Things (Devices)

- Camera
- Temperature Sensor
- Electrical Equipment
- Cars

2. Connectivity

- Wi-Fi
- LAN / Broadband
- Bluetooth
- NFC etc.

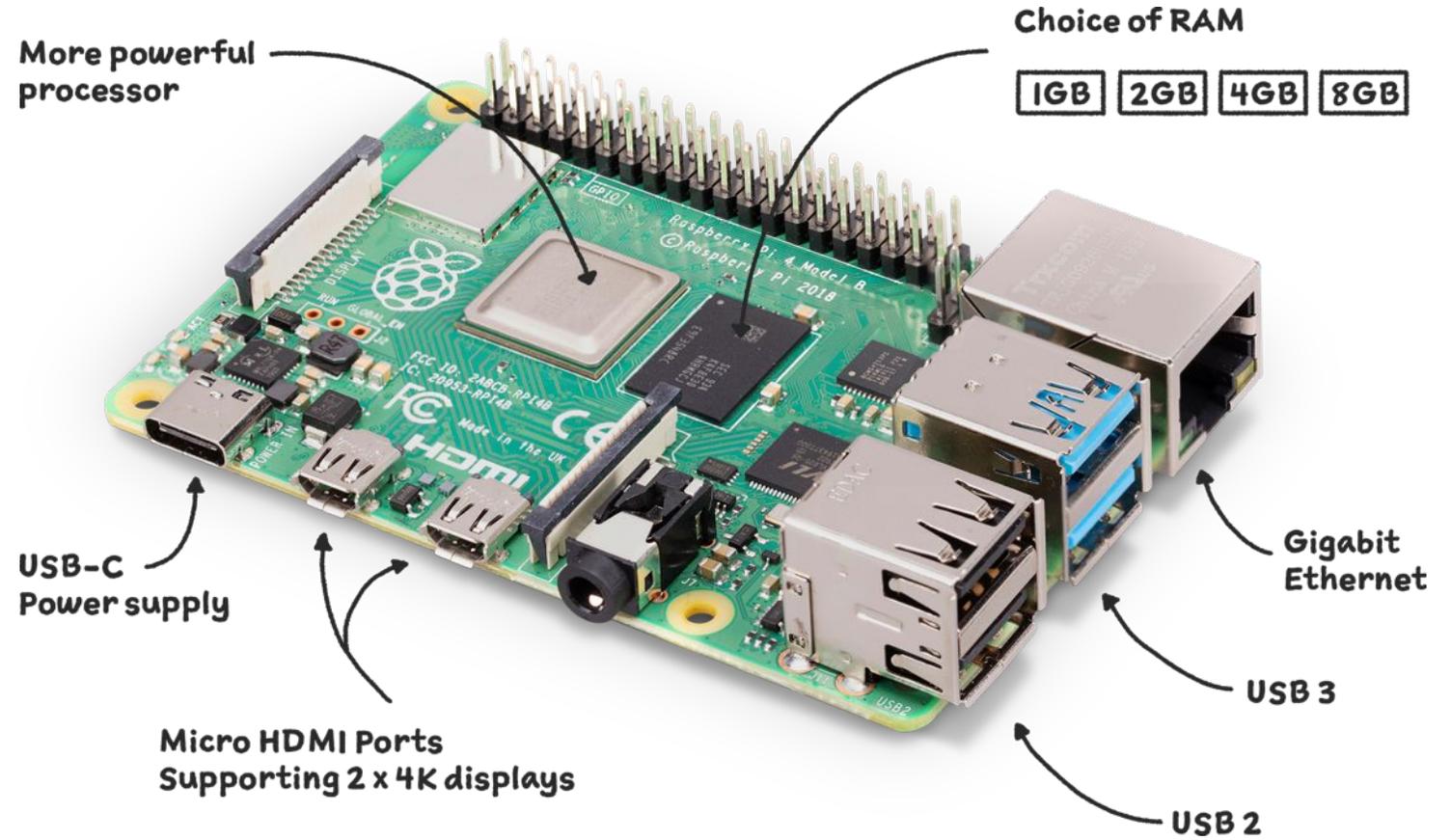
3. Server

- Software to read and process data / signals

4. Mobile App / Software

- Control / Operate IoT Devices.

Raspberry Pi – A Mini Computer.



Make students familiar with IoT



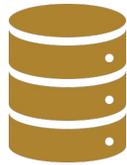
Essential Skillsets

1. Python Programming
2. Linux Fundamentals
3. Networking
4. Basic Hardware

IoT – Cyber Security **Issues**



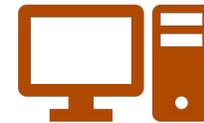
Malware /
Virus



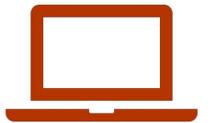
Data Leak



Insecure
Communication



Software
Vulnerabilities



Cyber Attack

Somebody's Watching: Hackers Breach Ring Home Security Cameras

Unnerved owners of the devices reported recent hacks in four states. The company reminded customers not to recycle passwords and user names.

 Share full article  



A family in Mississippi said a man hacked into a Ring home security camera in a bedroom shared by their daughters. Ashley LeMay

Why do you need security ?

Source : NYTIMES

1. Mobile Security

- Large number of IoT devices controlled from Phone.
- If your phone is controlled by someone else, it is a Risk



- Be judicious with Mobile Apps.
- Use Antivirus Software on Phone.
- Buy only trusted IoT platforms / Devices



Add Device



Fan
(BLE+Wi-Fi)



Power Strip
(Wi-Fi)



Switch
(Zigbee)



Universal
Remote
Control



Light Source
(Wi-Fi)



Light Source
(BLE)



Wireless
Gateway
(BLE)



Smart
Camera



Body Fat
Scale
(Wi-Fi)



Socket
(Wi-Fi)



Motion
Detector
(other)

2. Network & Device Security



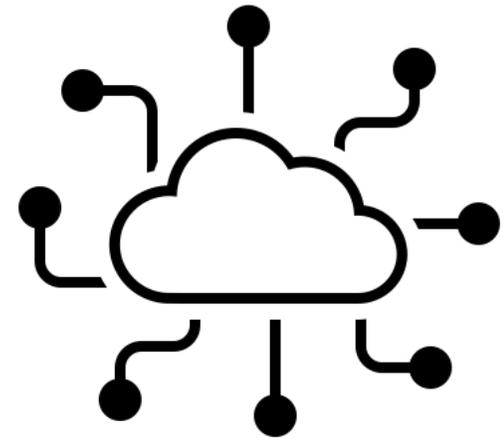
Use Strong Wi-Fi Password.

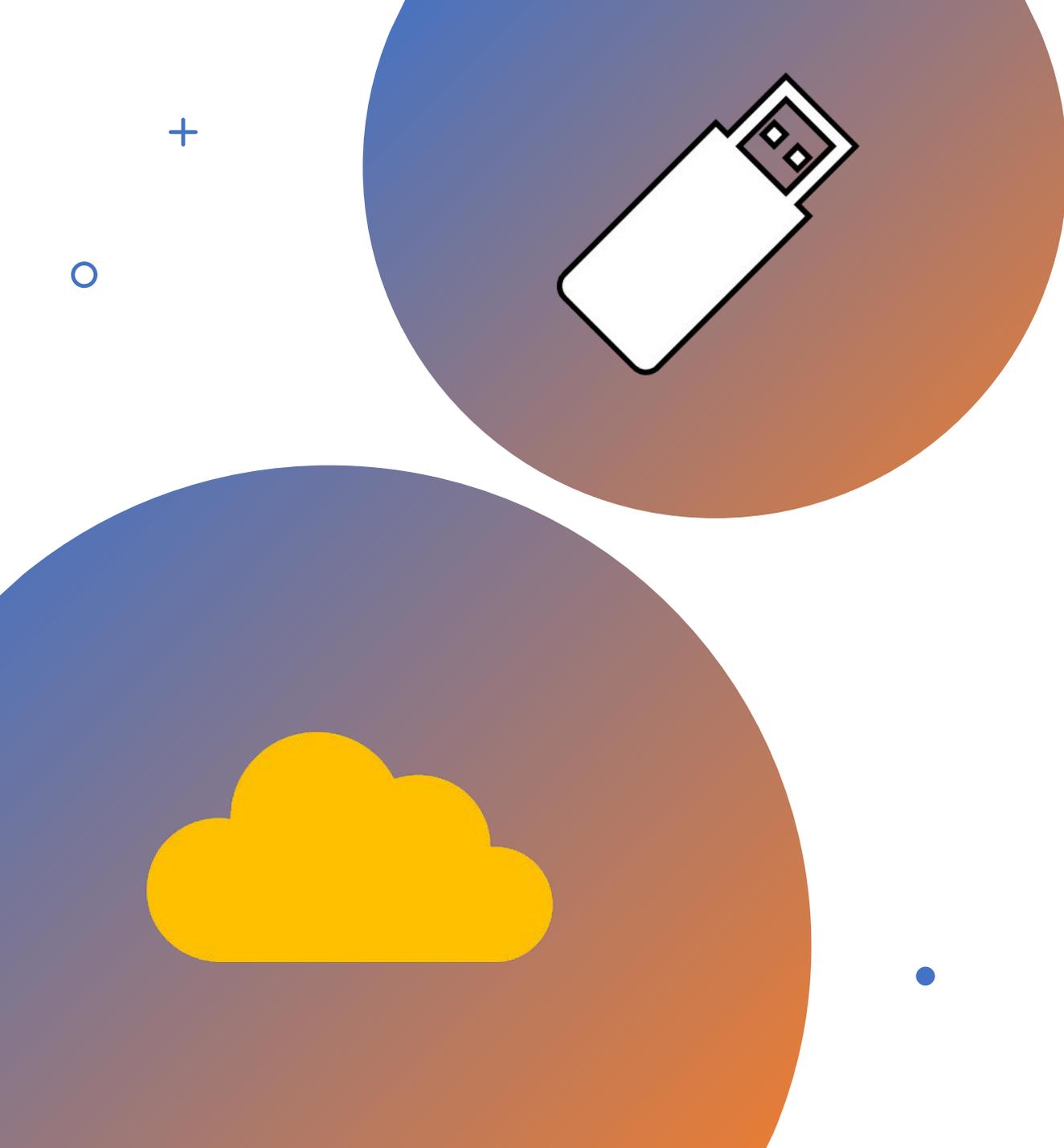


Change default passwords



Regularly update your firmware





3. Data Security

- Backup your data
- **Do not share** any confidential data unless absolutely necessary.
- Lock your device access with strong password.



Be a Cyber Volunteer

- Register on National Cybercrime Reporting Portal (www.cybercrime.gov.in)
- create 'Login Id'.
- Mention name of State/UT of your residence and mobile number
- Enter OTP received on your mobile on 'Login Id' page and 'submit'.
- Registration Step 1” on page “USER VOLUNTEER PROFILE DETAILS”
- Upload resume, ID Proof*, Address Proof* and Passport size photograph.
- Select Type of Volunteer ship:-
 - Cyber Awareness Promoter
 - Cyber Expert
 - Cyber Volunteer for unlawful content flagger

Cyber Dost – Follow on social media

@cyberdosti4c

@cyberdost



The image shows a screenshot of the Twitter profile for Cyber Dost. The profile picture is a circular logo with 'CYBER' at the top, 'DOST' at the bottom, and a central graphic of two stylized figures in blue and red. The bio includes the website 'WWW.CYBERCRIME.GOV.IN' and a description of the organization's role. The page also shows the user is being followed and has 496.9K followers.

CYBER
DOST

FILE COMPLAINT FOR ANY CYBERCRIME AT NCRP

WWW.CYBERCRIME.GOV.IN

... [Message] [Share] **Following**

Cyber Dost ✓
@Cyberdost

cybercrime.gov.in Cyber-safety and Cybersecurity awareness handle maintained by Ministry of Home Affairs, Government of India

📍 India 📅 Joined March 2018

222 Following **496.9K** Followers