Internet of Things in our daily lives

Ravi Kishore Kodali
ravikkodali@gmail.com
National Institute of Technology, Warangal
Daily routine – activities vary

- Sleep
  - How well and how long
- Fitness and sports
  - How long and burnt calories
- Eat
  - Right quantity?
  - Healthy Diet?
- Commute to work place
  - How long (self driving?)
- Work
  - On time or late
  - meetings, field work, ............
  - scheduling resources
- Commute to home
  - How long
- Shopping
- Entertainment

- Alerts
- Your current location
- Weather Information
- Travel Information
- Health Information
- Safety Information
- Comfort
- Digital/Mobile Banking
3 I’s in IBM’s Smarter Planet

• **Instrumented:**
  • Information captured wherever it exists remote sensors
    • By 2020 30 billion Internet-connected, sensor-enabled objects
    • another 182 billion that could easily be enabled.

• **Interconnected**
  • Information moved from the collection point to consumer

• **Intelligent**
  • Information processed
  • analyzed
  • and acted upon to derive greater knowledge and value.
5 senses
Instrumented

• The world has been getting increasingly instrumented

• IDC (premier global market data intelligence firm)
  • by 2020, 30 billion Internet-connected, sensor-enabled objects
  • and another 182 billion that could easily be enabled.

• Powerful computing capability
  • inexpensively delivered
  • in forms so small that it is being put into things no one would recognize as computers
  • RFID tags in stand-alone products,

• Sensors
  • cars,
  • appliances,
  • rail lines,
  • highways,
  • power grids,
  • golf balls,
  • fitness and health monitors,
  • shoes,
  • and even baby clothes.

• Devices are being embedded across processes and global supply chains and even in natural systems, such as agriculture and waterways.

• These physical objects with embedded devices are the “things” that will make up the “Internet of Things.”
IoT Predictions 2020

Now

10 Billion devices
1.5 /Person

→

Year 2020

50 Billion devices
8 /Person

Automotive $202 Billion
Healthcare $69 Billion
Utilities $36 Billion
Consumer electronics $445 Billion
Better → Health, Safety, Comfort, Convenience, Wisdom
Smartness: awareness and response to the environment

- smartphones, smart watches, smart eyeglasses, smart implants, and so on
- applications like smart homes and cities

What can make computing devices qualify to be smart?

- What makes a fitness tracker smart?
  - A smart fitness tracker “understands” the activity being performed
    - running, swimming, walking, sleeping
    - Anticipates the type of data to be processed for that activity
      - number of steps
      - heart rate
      - Sleep pattern
    - and provides feedback and advice to the user relevant to that activity

A smart computing device

- aware of the context in which it receives information from sensors
- and automatically derives the appropriate response for that context

A smart computing application will

- anticipate the context
- learn from it
- and adapt to the user needs.
Smart Cities and Smart Village clusters

- Smart parking
- Intelligent Transport System
- Smart urban lighting
- Waste management
- Smart city maintenance
- Tele-care
- Citizen safety
- Smart Grid
- Smart Energy
- Water Management
- IoT will be critical in making these cities smarter
Useful links

• http://bhuvan.nrsc.gov.in/bhuvan_links.php
• https://www.flightradar24.com
• https://railradar.railyatri.in/
• https://www.google.co.in/maps
Thank you

My contact:
Ravi Kishore Kodali
ravikkodali@gmail.com
089852 30362