

# Lesson 5

## Participatory Sensing

# Participatory Sensing (PS)

- Sensing by the individuals and groups of people contributing sensory information
- PS, a process whereby individuals and communities use evermore-capable mobile phones and cloud services
- Collect and analyse systematic data
- Use in discovery of new facts

(a)

**Individuals Data Collectors:** For example communication fire data, waste collection need data

**Group Data Collectors**  
For example traffic lights sending traffic density and parking availability data, Automobiles communicating traffic density at different locations

**Social Sites Data;** Twitter, Facebook, LinkedIn, ...

**Network**

Phase 1: coordination

Identification of Sources

Phase 2: Data Capture

(b)

Phase 5: Analytics and Data Visualization

Phase 4: Data Processing

Phase 3: Data of participants of PS process

Data Store

Knowledge discovery

Phase 6 Applications and Services

# Six Phases PS process

- Phase 1 coordination, in which the participants
- of PS process organise after identifying the sources
- Phase 2 and 3 data capture, communication and storage on servers or cloud.
- Phases 4 and 5—PS data processing and analytics, visualisation and knowledge discovery.
- Phase 6 is for initiating appropriate actions

# Applications of PS

- Retrieving information individual and group of people
- Weather, environment information, pollution
- Information for waste management, Road faults
- Health, traffic congestion and urban mobility
- Disaster management, such as flood, fire and health issues

# Many Challenges of PS

- Security
- Privacy
- Reputation
- Effective incentives to participating entities

# Summary

We learnt

- Sensing by the individuals and groups of people contributing sensory information
- Phases in PS process
- Applications
- Challenges

# End of Lesson 5 on Participatory Sensing