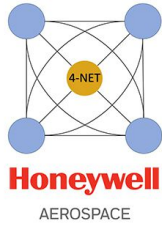


# 4-NET



by

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# IoT Mesh Network Asset Tracking System



A local network tracking system that improves supply chain logistics by **tracking** item and **sending** information.



## Intro:

Design a mesh network tracking system that improves supply chain logistics by:

- Tracking inventory items labeled with Radio Frequency Identification tags
- Sending information over a scalable and dynamic network to a server that can be accessed by a user.



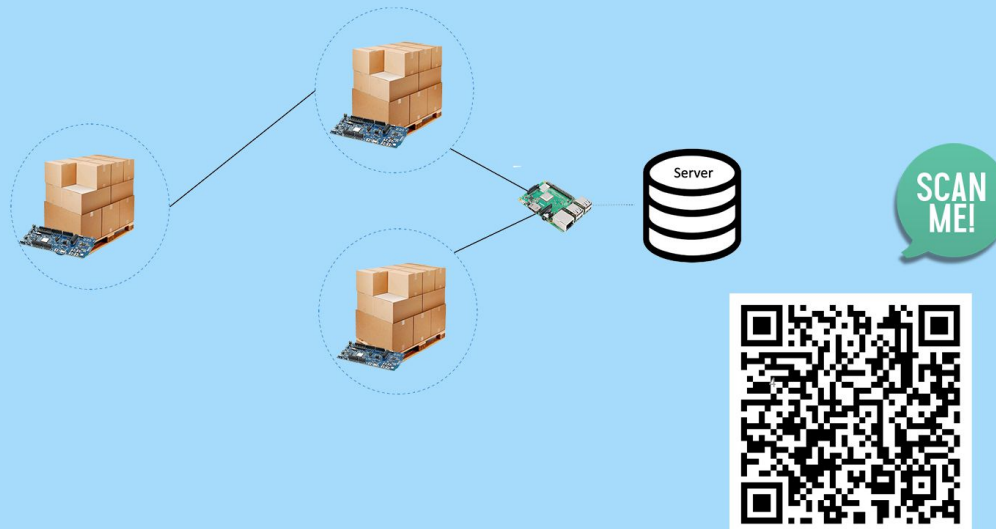
## Methods:

1. Create nodes that will interact with an RFID Reader, Processing Unit and Communication Module.
2. Assemble several nodes together to form a Mesh Network.
3. Each node is wirelessly connected to other nodes in the network and a collection point is connected to the network.
4. The collection point relays information to a server and produces inventory report.



## Testing:

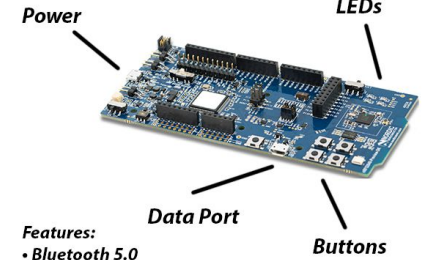
1. Database:
  - Setup
  - Add/Remove items from database
  - Input/Output results
2. Create Inventory Report
3. Simulation
  - Sending data to mesh network
  - Receiving simulation data
4. Node Range
  - Direct light
  - Thin Walls
  - Light obstacles



Figures:

## Node

Nordic nRF52840 DK

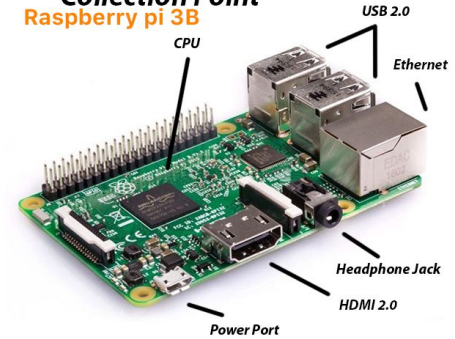


Features:

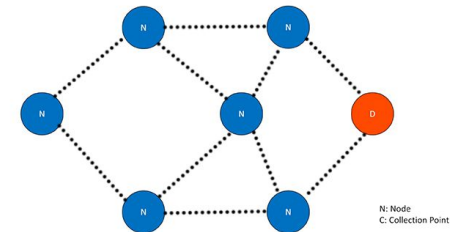
- Bluetooth 5.0
- Zigbee & Thread Support
- 2.4 GHz and BFC antenna

## Collection Point

Raspberry pi 3B



## Mesh Network



One node fails, other nodes connect  
No single point of failure