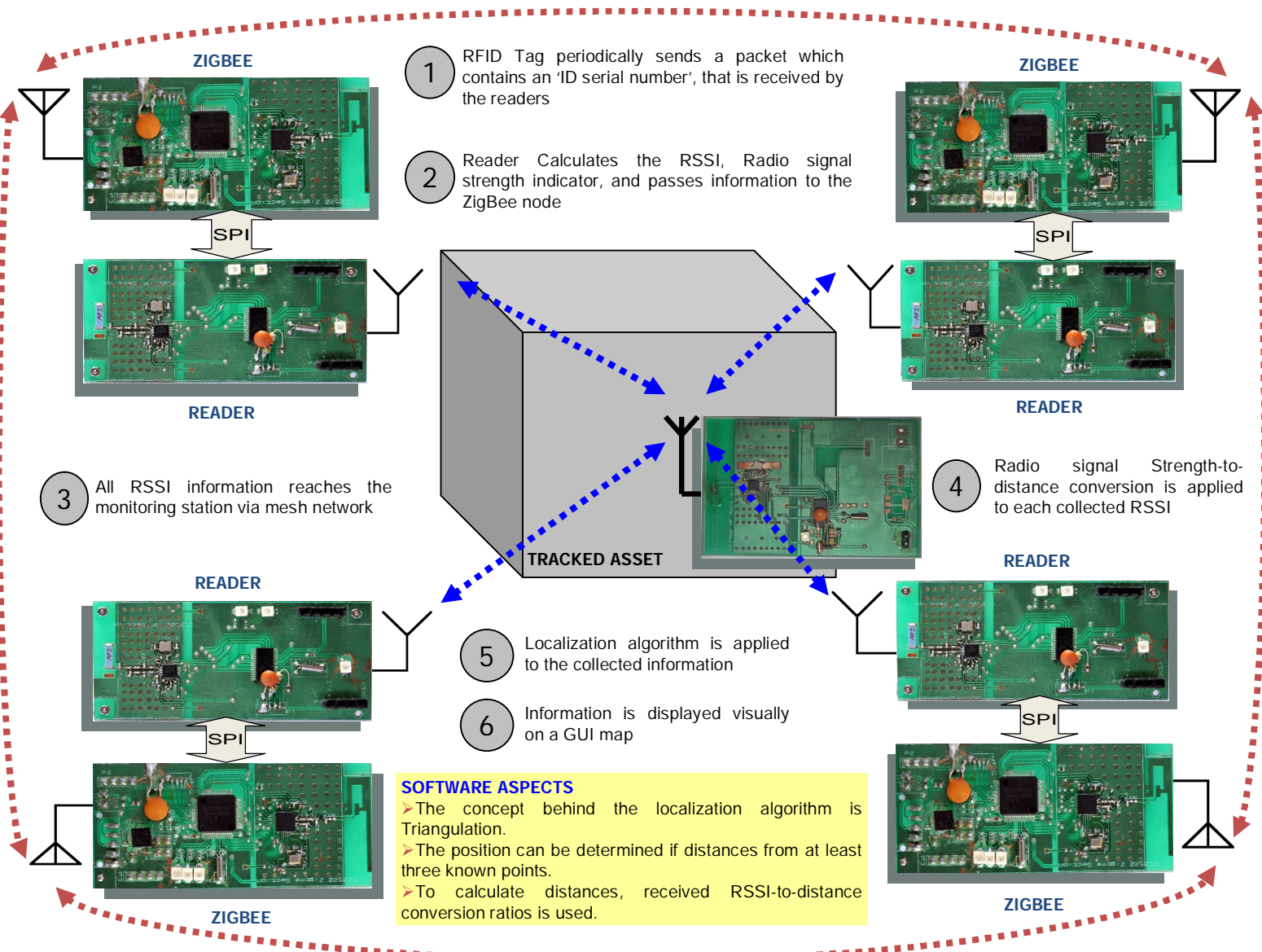


This project is a combination of both RFID, radio frequency identification, and a ZigBee based mesh network to provide wire free tracking of objects. ZigBee, which is an open and global standard for wirelessly networked control and monitoring solutions that is reliable, cost-effective, low-power. ZigBee utilizes IEEE 802.15.4 compliant radios operating in the 2.45 GHz spectrum.



TRACKING STATION

Port Settings: COM5 9600 N 8 1 Handshake: None OPEN

RSSI of NODE1 = 76
RSSI of NODE2 = 43

LOCALIZATION MAP

a: 1 b: 2 c: 2.51
x: 0.75953 y: 0.65

Monitoring Station

USB CONNECTION ZIGBEE CO-ORDINATOR

- ACHIEVEMENTS**
- ✓ Designed the ZigBee boards based on an earlier Clarinox blueprint and has written their firmware.
 - ✓ Debugged and improved the Clarinox RFID active tag and reader circuits, redesigned the printed circuit boards.
 - ✓ Written the monitoring station software and localization algorithm.

- FURTHER WORK**
- ❑ Localization accuracy can be improved.
 - ❑ Multi-Asset tracking can be introduced.



All boards were co-supervised by Clarinox