Ultra Wide Band (UWB)

1. It is more complicated than Bluetooth LE but also more accurate and advanced.

2. Attach UWB tags to the equipment. Each tag should have a unique identifier associated with the specific equipment it is attached to.

3. Deploy UWB anchors throughout your package centers, both indoors and in the yard and connect to power source.

4. Establish a robust UWB infrastructure by configuring and connecting the UWB anchors to a central server or network. This infrastructure will facilitate communication between the UWB tags, anchors, and the application.

5. In our project application, utilize the user's location information from their mobile device to filter and display equipment results within their geographic location.

6. Locate Equipment: Implement the functionality to provide directions to the equipment's location based on the user's current location and the equipment's recorded location obtained from the UWB tags.

7. To locate equipment indoors, use the UWB infrastructure to calculate the position of the UWB tags within the facility. This can be achieved by triangulating the UWB signals from multiple anchors.

8. Integrate the mobile application with the UWB infrastructure and backend systems to enable real-time tracking and accurate positioning of the equipment.

    - Identify the data elements you need from the UWB system, such as equipment location, tracking updates, or proximity information.
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    - Define the integration points within your application where UWB data will be consumed or displayed, such as search functionality, equipment details, or location mapping.

    - Identify the communication methods or protocols provided by the UWB system manufacturer or SDK/API documentation. Common communication methods include MQTT, RESTful APIs, or WebSocket connections.

- Implement the necessary communication channels within your application to connect with the UWB hardware or software components. This may involve configuring network connections, API endpoints, or message queues.

Backend Integration:

- Set up endpoints or listeners to receive UWB data updates from the UWB system. This may involve subscribing to MQTT topics, listening for incoming API requests, or polling for data updates.
- Process the received UWB data in your backend application logic. Extract relevant information such as equipment locations or tracking updates and store them in your application's database or data storage system.