Sentient VOC Monitoring System

Shut Down Monitor

Version <3.0>

Revision History

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Use Case: Shut Down Monitor

# Shut Down Monitor

## Brief Description

This use case gives the VOC Monitor Manager the ability to retrieve the embedded VOC system. This will allow the VOC monitor to be reinstalled in a different location.

## Requirements Trace

14.3

## Involved Actors

VOC Monitor Manager

## Preconditions

* The Embedded VOC monitoring system is initialized.
* The Embedded VOC monitoring system is connected to Volatile system.

## Post conditions

* The Embedded VOC monitoring system is disabled.
* The Mobile client is disconnected from the Embedded VOC monitoring system.

## Invariants

* Volatile System’s distance from XBee is less than XBEE\_DISTANCE\_MAX

# Flow of Events

## Basic Flow

This use case starts when the VOC Monitor Manager wants to shut down an embedded VOC monitoring system.

1. VOC Monitor Manager selects ‘shut down monitor’ area
2. See Extension Point *Receive VOC Data from Monitoring System*.
3. Mobile client sends Shut Down packet to Embedded VOC monitoring system.
4. Embedded VOC monitoring system receives Shut Down packet.
5. Embedded VOC monitoring system clears SD card.
6. Embedded VOC monitoring system terminates sensor data retrieval loop.
7. Embedded VOC monitoring system sends Shut Down Complete packet to Mobile client.
8. Mobile Client notifies VOC Monitor Manager of successful shut down of Embedded VOC monitoring system.

## Alternate Course – None

# Extension Points

Use case *Receive VOC Data from Monitoring System*  causes system behavior change at step 1.

# Scenarios

## Happy Day

Assumptions: Data Downloader – Curious George

Max Range: 300 Yards

Current Connection: Connected

Steps:

1. Curious George selects ‘shut down monitor’ area.
2. See Extension Point *Receive VOC Data from Monitoring System*.
3. Mobile client sends a Shut Down packet with destination Zigbee address set to 0xBEE0 and source address set to 0xD00D.
4. Embedded VOC monitoring system receives Shut Down packet.
5. Embedded VOC monitoring system clears SD card.
6. Embedded VOC monitoring system terminates sensor data retrieval loop.
7. Embedded VOC monitoring system sends a Shut Down Complete packet with destination Zigbee address set to 0xD00D and source address set to 0x1015.
8. Mobile Client notifies Curious George of successful shut down of Embedded VOC monitoring system.

## Rainy Day 1 – Shutdown Complete packet not sent by Embedded VOC monitor

Assumptions: Data Downloader – Curios George

Max Range: 300 Yards

Current Connection: Not Connected

New Connection: Connected

Steps:

1. Curious George selects ‘shut down monitor’ area.
2. See Extension Point *Receive VOC Data from Monitoring System*.
3. Mobile client send a Shut Down packet with destination Zigbee address set to 0xBEE0 and source address set to 0xD00D.
4. Embedded VOC monitoring system receives Shut Down packet.
5. Embedded VOC monitoring system clears SD card.
6. Embedded VOC monitoring system terminates sensor data retrieval loop.
7. After 30 seconds from selecting Shut Down area, Curious George notices the Embedded VOC monitoring system has not sent a Shut Down Complete packet nor sent an Shut Down error package
8. Curious George notifies VOC Monitoring System management of shut down failure; manual shut down required.