Automated Wireless Asset Tracking for Underground Mines

Version 1.0

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 10/15/14 | 1.0 | Created use case. | Philip Kurowski |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Table of Contents

1. Brief Description 1

2. Participating actor 1

2.1 User 1

2.2 Coordinator 1

3. Entry conditions 1

3.1 User authenticated 1

3.2 Network implemented 1

4. Flow of Events 1

4.1 Start up 1

4.2 Input Dialog Window 1

4.3 Alarm saved 1

4.4 Coordinator receives alarm 1

5. Exit Conditions 1

5.1 The Coordinator received alarm 1

5.2 The Alarm is saved 1

6. Quality requirements 1

6.1 <Quality requirement one> 1

# Brief Description

Alarms are received by miners on their end devices. This use case allows the user to define alarm contents and conditions for which the coordinator will send an alarm to miners.

# Participating actor

## User

The TMS system user.

## Coordinator

The central node of the ZigBee network. The coordinator contains all information of routers in the mine and is able to return their location and end device connections.

# Entry conditions

## User authenticated

The user has logged in to the system.

## Network implemented

The coordinator and routers are placed throughout the network.

# Flow of Events

## Start up

* The user initiates the use case by pressing a Create Alert option.

## Input Dialog Window

* An input dialog window appears
* The user enters the conditions of the alarm
  + Enters specific router, time, or sensor value
* The user enters the alarm message content

## Alarm saved

* The alarm contents are saved to the TMS database for use in message details reports.

## Coordinator receives alarm

* The coordinator receives the packet containing the alarm data and generates the appropriate functions to set the alarm.

# Exit Conditions

## The Coordinator received alarm

The coordinator is now prepared to sound the alarm at the appropriate conditions.

## The Alarm is saved

The alarm is saved to the database.

# Quality requirements

## <Quality requirement one>