Essen RFID

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ESSEN

BHARATI SHIPYARD LIMITED

Xtenna™ Integrated RFID Antenna/Reader

Largest Indian private shipyard implements RFID-enabled MANPOWER TRACKING SYSTEM

Automated real-time attendance tracking in and out of the premises

Automated ID verification and alerts

GPRS integration for tracking entry/exit from vehicle

Automated process for emergency response and alerts

TECHNOLOGY

Solution:
EPC Gen2 compliant personnel tracking solution

Tag Type:
Personna™ UHF Passive

Reader/Antenna:
Xtenna™
Xtenna Proximity™

Method:
Multiple Tracking via Integrated Reader/Antenna modules

Integration Platform:
  RFID Middleware:
    Xtenna™ WebToolkit
    Xtenna™ Studio
  Application: Essen RFID's
    Manpower Tracking System
  Database: SQL Server 2005 Exp. ed.

Tag Manufacturer/Supplier:
Essen RFID, with US based chip inlay

Reader/Antenna Manufacturer:
Essen RFID, with US based module

Systems Integrator:
Essen RFID

INSIDE:

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CASE STUDY

KEY REQUIREMENTS:

Bharati Shipyard has a few thousand employees and managing this workforce through a traditional register based system is an inefficient and cumbersome task. Essen RFID offered a RFID-enabled Intelligent Manpower Tracking System and a RFID-based Attendance Tracking System that accurately and instantly tracks the movement of employees without any human intervention, and also sends out alerts to authorized persons when required.

Main challenges in implementation:
• Keeping the attendance record up-to-date for all employees across the shipyard is difficult in the existing manual system.
• Making the absentee report and late-comers report is also a cumbersome and time-consuming process.
• During emergencies, there is need to promptly inform management and track the injured employee and others accompanying him to hospital in the company ambulance.
• There is also a need to track the exact location of the ambulance as it travels from shipyard to hospital, so that all emergency measures are effectively taken.

SOLUTION:

Essen RFID provided RFID technology as an efficient automated solution for attendance tracking. It is also effective during accident emergencies when it enables tracking of the injured employee and other employees accompanying him to hospital.

Locating the position of the ambulance is done through a GPS device fitted in the vehicle. GPRS is used as the communication media for the device. SQL Server is used as the backend database in the manpower tracking system.

IMPLEMENTATION:

Attendance tracking:
Tracking attendance of employees is done through Xtenna™ antenna-readers mounted at the Entrance/Exit gate. Each employee is issued a PERSONNA™ RFID tag. The tags are registered into the employee database using Xtenna Proximity™. A camera is used for capturing photographs of personnel entering or exiting the premises.

Personnel tracking in vehicle (ambulance):
To track persons inside the ambulance, a dual-antenna Xtenna™ is fitted at the door of the vehicle. A GPS device in the vehicle locates its real-time position on the map.

CASE STUDY

WORKING:

Process Flow - Attendance Tracking:

1. Each employee carries an ID with him containing the PERSONNA™ tag that has been registered to him in the database.

2. The Xtenna™ antenna-reader mounted at the Security 'In' gate detects the tag of the employee entering the gate. A camera mounted there captures his photo as he enters. The system uses the tag ID to retrieve his photo recorded in the database, which is displayed alongside the live captured photo on the screen of the security room.

3. The employee's 'In' time gets logged in the database.

4. In a similar process, when the employee exits the premises, his 'Out' time at the 'Out' gate is logged in the database.

5. The Attendance Tracking System keeps a complete date and time record of all employees entering and exiting the premises, which can be accessed in real-time by the management.

Xtenna™

Process Flow - Personnel tracking in vehicle (ambulance):

When any accident occurs on the company premises and an employee gets injured, it is essential to track the injured employee and other employees as they are taken to hospital by ambulance. For this purpose, the ambulance has a Xtenna™ antenna-reader mounted on it, which tracks the personnel inside it. The twin antennas on the device enable the system to monitor whether the person is entering or leaving the vehicle, depending on which antenna detects the tag first.

CASE STUDY

1. When an injured employee is helped into the ambulance, the mounted Xtenna™ antenna-reader detects his tag ID and a 'In' time is logged into the database. The system automatically informs the authorized person-in-charge of the emergency through a SMS sent to him.

2. Other employees accompanying the injured in the ambulance are also detected by Xtenna™ and logged in the database.

3. When the ambulance reaches the hospital and the employees step out of the vehicle, the Xtenna™ detects their tags and updates the system with an 'Out' time.

4. The system admin console displays the movement of the ambulance on the map via GPRS, enabling the administrator to know the exact location of the ambulance at any point of time.

5. As soon as the 'Out' time is logged and the arrival of the ambulance at the hospital confirmed through GPS, the system sends a SMS to the authorized person-in-charge informing him that the employees have reached the hospital.

BENEFITS:

- Provides real-time data as well as issues real-time alerts through automatic data collection.
- Provides comprehensive daily, weekly and monthly attendance reports, late-comers and attendance reports, and summaries of all employees with their working and absence count.
- Easily tracks employees' IN and OUT timings.
- Automated tag ID verification avoids the time wastage of card swiping, card punching and manual register sign-in systems.
- GPS incorporated in the system enables easily tracking the location of the ambulance vehicle on the move.
- Automated process of employee tracking in and out of the ambulance enables efficient emergency response and alerts.

CASE STUDY

LINKS:

Hardware:

Xtenna Proximity™

Xtenna™

Tags:

PERSONNA™

Software:

Xtenna WebToolkit™

Xtenna Studio™

Reference Example:

http://www.essenrfid.com/Mailer/persontracking-flash-demo.pdf