

IoT

Telematics System for Excavators

Solution Design

Device Development

Controller Software

Data Collection & Analysis

Realtime Dashboard



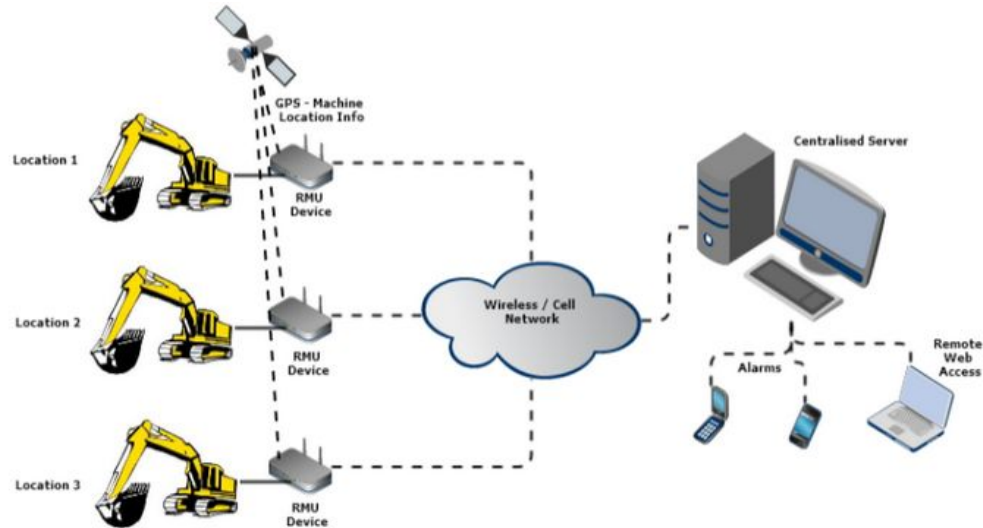
Integra Micro Software Services

About Client

Client is an industry leader in the engineering, manufacturing, and marketing of heavy construction equipment including excavators, wheel loaders, articulated dump trucks (ADTs), and attachments. Client is also a manufacturer of global logistics equipment, as well as engine-type forklifts and electric forklifts, excavators etc.,

Existing Approach

Currently facility exists to automatically log critical information of the equipment /usage /breakdown etc. Information has to be downloaded onto a computer by physically connecting to each individual machine's serial port available in operators cabin and is processed and analyzed offline post collation. This is a time consuming, expensive and error prone process



Challenges with Existing Approach

- Excavators are relatively expensive equipment, owned and maintained by large corporations
- Heavy duty equipment that need regular monitoring and preventive maintenance
- Nature of work it is deployed for & non stop usage results in frequent breakdowns
- Equipment are mostly deployed for service in remote locations
- These equipment are leased or rented out to smaller construction companies or individuals on an hourly basis
- Keeping track of the exact usage, monitoring of varied parameters for maintenance, attending to breakdowns is a time consuming, tedious task and highly dependent on manual methods & manually maintained logs, prone to human errors
- Most times maintenance engineers will have to personally visit the remote sites to collect and collate this information.
- Instances exist when machines have been moved to unauthorized locations, fuel has been pilfered etc.
- Remote diagnostics is a challenge in the event of a breakdown
- All the above factors result in a major revenue loss to the owners of these machines
- The problem is compounded when there is a need to monitor multiple machines, across multiple clients, operating in multiple remote locations

Delivered Solution

- Integra (in collaboration with Caftius & Doosan technical teams) have designed and developed a comprehensive solution to address the above issues
- Integra designed and developed a device which can be fixed on the machine and connected to the serial interface in the operator's cabin
- Data from the EPOS via the serial interface have been reverse engineered, control mechanisms understood implemented via controller software
- Values of Varied attributes from the EPOS are read at a fixed configurable frequency, processed and transmitted via GPRS to a centralized Linux server
- This includes machine location information from a GPS module on the device
- A robust application has been created to process & analyze relevant information. The application provides an information dashboard, alerts on attribute thresholds, location information, wide variety of reports, movement information, fuel usage and a whole lot more

- All of the above information can be obtained in the convenience of an office in real time from multiple sources

Salient Features

- Compact Squirrel-9 board (ARM9 - Linux) device with facility for multiple analog channels and digital channels
- GPRS Modem (Using TCP/IP data connectivity) inclusive of antenna (internal or external)
- On board memory - SD Card/NAND
- RS232 port for local configuration
- Capability to store the captured data locally and send it to the server at a later scheduled time or when there is connectivity
- Comprehensive web based application provides an information dashboard, alerts, location information, wide variety of reports, movement information, fuel usage etc.

More Info on IoT Services from Integra
integramicroservices.com/offerings/iot

Shorten the development life cycle

For more information, reach us at enquiry@integramicro.com or integramicroservices.com/contact



Integra is a leading provider of software services specialising in BPM, FinTech, IoT, Mobile Communications and Enterprise Mobility. With a strong track record across these domains, proven expertise and knowledge, we are an ideal partner for technology and solutions development.

Copyright © 2014 Integra Micro Software Services Pvt. Ltd., Bangalore, India. Integra believes the information in this publication is accurate as of its publication date. Such information is subject to change without notice. The presentation material provided does not imply any express warranty on the deliverables unless mutually agreed between the two contracting parties. Integra acknowledges the proprietary rights of the trademarks and company names mentioned in this document.

Stay Connected

