



Smart School Bus Monitoring & Student Safety System

Every Bus. Every Student. Every Stop — Tracked.

Prepared by: **Ranatec Technologies Ltd**

Smart Fleet & Vehicle Safety Solutions

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Introduction

Every school's top priority is the safety and accountability of its students — especially during transport. Ranatec Technologies Ltd introduces a breakthrough system that combines GPS tracking, student boarding verification, and real-time alerts for schools and parents.

The Problem

Schools face challenges such as lack of real-time visibility, manual student attendance, delayed communication, and no verification of student drop-off or pickup. This system addresses all these through automation and smart integration.

The Smart Solution

Ranatec's Smart School Bus System integrates GPS tracking for buses and smart identification for students using RFID or low-cost Bluetooth devices. Schools and parents can view real-time updates on where each student is — safely and efficiently.

How It Works

1. GPS trackers send live bus locations.
2. RFID readers or BLE gateways near doors detect student tags.
3. Student IDs (cards or pendants) log boarding and alighting automatically.

4. Notifications are sent instantly to parents and school admins.
5. Data is viewable through mobile or web platforms.

System Components

- 4G GPS Tracker
- RFID or BLE Reader
- Student ID Card / Pendant
- Cloud Monitoring Platform
- Parent Mobile App / SMS Alerts

Key Features

- Real-time school bus tracking
- Student boarding and alighting logs
- Parent alerts for boarding/drop-off
- Route and overspeeding alerts
- Digital attendance reports
- Integration with school management systems

Benefits

- ☐ **For Schools:** Enhanced safety, automated attendance, improved trust.
- ☐ **For Parents:** Peace of mind, live alerts, real-time location.
- ☐ **For Drivers:** Clear routes, less confusion, accurate records.

Illustrative Cost Estimate

Item	Unit Cost (KES)	Description
GPS Tracker + Installation	8,500	Per bus for live tracking
RFID Reader	3,500	Detects student tags at bus door
Student Smart ID / Pendant	500	Unique tag per student
32" Display Screen	20,000	For school transport office
Subscription & Data	500	/month Per bus connectivity
Setup & Training	5,000	System setup and staff training

Implementation Plan

1. System demonstration & site survey – 1 day
2. Hardware installation & setup – 2 days
3. Platform configuration & testing – 1 day
4. Staff training & onboarding – 1 day
5. Go-live & ongoing support – Continuous

Conclusion

The Smart School Bus & Student Safety System revolutionizes school transport by ensuring safety, accountability, and efficiency for every student, every bus, every journey.

Contact Us

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