



GadgEon

Engineering Smartness

SCHOOL EMERGENCY COMMUNICATION SYSTEM

School Emergency Communication System



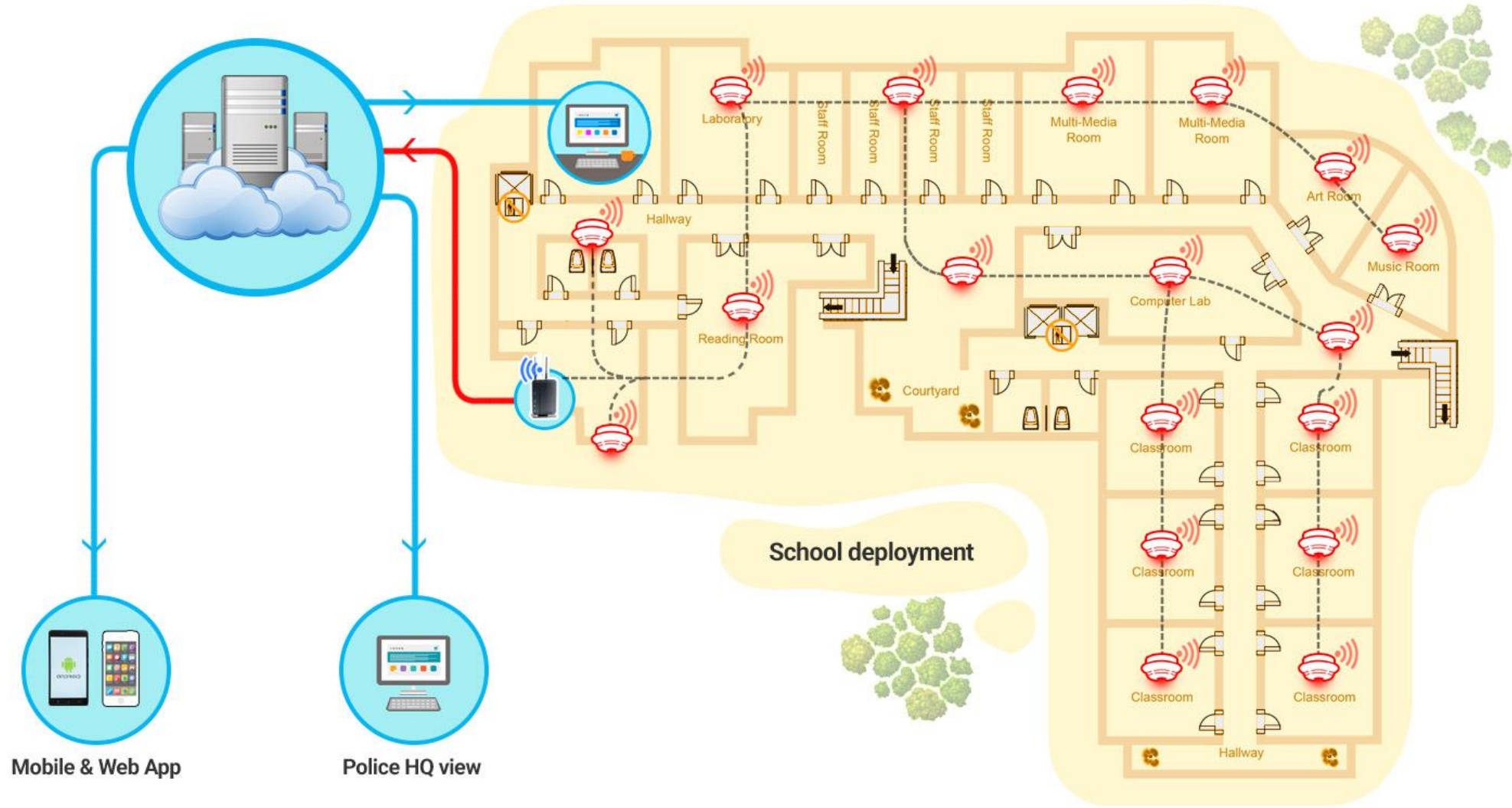
Our Customer Wanted a reliable communication system so that events leading to emergencies can be monitored and responded at schools

Results / Outcomes

- Instant communication of events throughout the school buildings of several hundred classrooms using multiple communication technologies. A ZigBee based large mesh network propagates events to hubs located throughout the facility to give audio and visual alerts.
- Mobile apps help staff members to receive instant updates on the situation and has walkie talkie type voice communication facility.
- Provides accurate location of the person in the floor plan of the school for emergency responders to reach the event location.
- System can be customized to generate different audio and visual alerts based on the requirement of the school. System can integrate with intercom or other existing facilities in schools.
- Desktop apps to view the alerts in real time and aggregated view for police headquarters.



System Overview



ZigBee mesh Hubs deployed throughout school for coverage and location identification



System Description

The alert management system consist of various components to achieve the desired benefits

Cloud application

Customized DelCloud application manages provisioning of multiple Gateways and associated Hubs and badges. The application coordinates the communication between Gateways, mobile apps, desktop apps and web applications. MQTT protocol is used as communication protocol between cloud and gateways. REST API and Websockets are used to interact with cloud and client applications.

Web application supports various functionalities like administrate schools, alert classification, user management, firmware upgrade etc. Web application also supports viewing the current status and statistics of the systems. Web UI can used for viewing, generation, escalation and closing of alerts.

When an event is generated from the users badge/app, the floor view provides the exact location of the event in a school floor plan, so that emergency responders can locate the person quickly. The features like walkie talkie and integration with schools existing alert management system will help to take quick action during alert events.

Desktop app

The windows application is a client application which runs on a Windows desktop. The application is used for getting notifications during alerts. User can view the alert details from the notification received. It is a C# application using WPF framework.

The Mac OS desktop application has the similar functionalities of windows application. It is developed using cross platform electron.js and angular frameworks.





System Description

Gateway

Customized DelEdge based Gateway application, which manages hub Zigbee mesh network on one side and communicates with cloud application over MQTT on the other side. Cc2538 based dongle is used for ZigBee functionality.

Hub

Microcontroller based ZigBee hubs form a large mesh network throughout the school to propagate the alerts. The Hub also provides audio and visual alerts to students and staff. Hub also has BLE interface for receiving alert initiated from badges used by staff members.

iOS & Android mobile apps

Alerts staff members on new events as they happen. Staff members can also generate alerts, escalate and close alerts. Walkie-talkie based emergency communication from mobile and web, between responder and crisis management team.

THANK YOU



For More Details, Let's Connect



Gadgeon Systems Inc.

881 Yosemite Way, Milpitas, CA 95035, USA

CONTACT - USA

Mani Ram - Vice President - Solutions and Technology

☎ +1-678-900-0874 | ✉ mani.ram@gadgeon.com

Gadgeon Smart Systems Pvt Ltd.

VI 405/E1, Fathima Tower, Maleppally Road, Thrikkakara PO,
Kochi, Kerala, PIN: 682021, India

CONTACT - INDIA

Hari Nair - CEO: +91 9895 01 58 80

☎ +91 989-501-5880 | ✉ hari.nair@gadgeon.com

Gadgeon Europe

Antwerpsesteenweg 124/54, 2630

Aartselaar, Belgium

☎ +32-475-233-947 | ✉ europe@gadgeon.com

✉ sales@gadgeon.com