Patent Search

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Abstract:

REAL-TIME MONITORING AND INTELLIGENT MANAGEMENT OF SMART CAMPUSES USING IOT–CLOUD TECHNOLOGIES The method for the development of the monito administration of smart campuses has been completely transformed by the combination of cloud computing and the Internet of Things (IoT). The intelligent manager real-time monitoring system for smart campuses presented in this study makes use of IoT–cloud frameworks to improve sustainability, security, and operational effic network of Internet of Things-enabled sensors and devices is used in the suggested design to gather data in real time on occupancy levels, energy consumption, envi conditions, and infrastructure status. A centralized cloud platform receives this data, which is then processed by machine learning and sophisticated analytics algorith predictive maintenance, anomaly detection, and decision-making. Additionally, the system facilitates automated campus utility control and dynamic resource allocati encourages cost-effectiveness and energy saving. Through intelligent access control and real-time warnings, it also improves the comfort and safety of visitors, emplo students. The report emphasizes how IoT-cloud integration may be used to turn traditional campuses into settings that are data-driven, intelligent, and responsive. FI

Complete Specification

Description:Description of the Related Art

[0002] The era of smart campuses has arrived as a result of the revolutionary changes brought about by the development of smart technology. These campuses t advantage of the convergence of cloud computing and Internet of Things (IoT) technologies to facilitate intelligent decision-making, real-time monitoring, and resou optimization. The traditional campus model is changing into a highly connected, automated, and data-driven environment that aims to improve operational efficien sustainability, and the overall educational experience as a result of the quick improvements in digital infrastructure.

[0003] The Internet of Things (IoT), which consists of a network of connected sensors, actuators, and devices incorporated across the campus environment, is at t of the smart campus transformation. Energy consumption, lighting systems, classroom occupancy, air quality, security surveillance, waste management, and transp systems are just a few of the sectors from which these sensors regularly gather data. Institutions can learn more about user behavior and operational performance to this real-time data collection, which makes proactive campus service management and automation possible. IoT is enhanced by cloud computing, which offers sc storage, robust analytics, and ubiquitous access to apps and data. Cloud platforms enable real-time storage, processing, and analysis of massive volumes of sensor generated data. For predictive maintenance, anomaly detection, and effective resource allocation, this makes it possible for educational institutions to implement sophisticated analytics, artificial intelligence (AI), and machine learning (ML) algorithms. Institutions can automatically modify environmental controls, for instance, b examining patterns in classroom occupancy and lighting consumption. This lowers energy waste and enhances comfort.

[0004] Intelligent management systems with centralized control and remote monitoring capabilities have also been developed as a result of the integration of clo IoT technologies in campus settings. In progressive schools, amenities like computerized scheduling platforms, smart classrooms, adaptive HVAC (heating, ventilatic

View Application Status