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(57) Abstract :

The present invention discloses an IoT-based smart parking management device (100) comprising parking slot sensors (101), gateway devices (102), a cloud server (103), and a mobile application interface (104). The system enables real-time detection, monitoring, and navigation to available parking slots. It integrates payment and reservation services (105), ensuring user convenience, energy efficiency, and secure data communication. Experimental validation confirms its scalability, accuracy, and effectiveness in reducing traffic congestion and fuel wastage while enhancing overall parking space utilization.

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