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Project Title: SMART PARKING

PHASE-4

i) AI

Smart Parking AI refers to the implementation of artificial intelligence technology in parking management systems. This involves using AI algorithms and sensors to optimize parking spaces, monitor occupancy, and improve the overall efficiency of parking operations. It can help drivers find available parking spots quickly and reduce congestion in busy areas. Additionally, it can provide valuable data for urban planning and traffic management

ii) **ADS**

In the context of Smart Parking, Data Science could be used to:

Predict Parking Availability: By analyzing historical data, machine learning models can predict when and where parking spaces are likely to be available.

Optimize Parking Space Allocation: Data Science can help in determining the optimal allocation of parking spaces based on usage patterns and demand.

Site Planning: CAD software helps in designing the layout of parking facilities, including the placement of parking spaces, driveways, and access points.

Dynamic Pricing Models: Data Science can be used to develop pricing models that adjust based on real-time demand and availability.

User Behavior Analysis: Understanding how users interact with parking systems can lead to improvements in user experience and system efficiency.

iii) DAC

In the context of Smart Parking, integrating DAC could involve:

Access Authorization: Utilizing digital credentials (such as RFID cards, mobile apps, or biometrics) to grant or deny access to parking facilities.

Security Monitoring: Employing digital sensors and cameras to monitor and record activities within the parking area.

Remote Management: Allowing administrators to control access permissions and monitor the system remotely through a digital interface.

Audit Trails: Keeping a digital record of access events, which can be useful for security purposes or for tracking usage.

By incorporating DAC into a Smart Parking system, you enhance security, control, and flexibility in

iv) IOT

Here are some key aspects of Smart Parking IOT:

Sensor Deployment: Sensors are placed in parking spaces to detect whether they are occupied or vacant. These sensors can use various technologies like ultrasonic, infrared, or magnetic.

Data Collection and Transmission: The sensors collect real-time data on parking space occupancy and transmit this information to a central system via the internet.

Centralized Control: A central management system processes and analyzes the data received from the sensors. It can then provide information to users through various channels like mobile apps or signage.

User Interface: Users can access information about available parking spaces through mobile apps, websites, or digital displays near parking facilities.

Optimization and Efficiency: By providing real-time information about available parking spaces, Smart Parking IOT systems help drivers find parking spots more quickly, reducing congestion and emissions.

Data Analytics: The collected data can be used for analytics purposes, helping to optimize parking operations, plan urban infrastructure, and improve user experience.

Overall, Smart Parking IOT aims to enhance the efficiency and convenience of parking by leveraging IOT technology to provide accurate and up-to-date information to both drivers and parking operators.

V)CAD

Site Planning: CAD software helps in designing the layout of parking facilities, including the placement of parking spaces, driveways, and access points.

Sensor Placement: CAD can assist in determining the optimal locations for sensors that monitor parking space occupancy.