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Project Id:Proj\_223339\_Team\_4

Project Title :Smart Parking

### PHASE-3

#### 1)AI&DS

Smart parking systems utilize Artificial Intelligence (AI) and IOT (Internet of Things) devices to enhance parking management. These systems typically involve various components:

**Sensors:** These can be ultrasonic, infrared, or cameras. They're installed at parking spots to detect the presence of a vehicle.

**IOT Devices:** These sensors are connected to a network, allowing them to communicate with a central system.

**Data Processing and AI:** The collected data is processed by AI algorithms to analyze patterns, predict availability, and optimize parking spaces.

**Mobile App or Web Interface:** Users can access real-time information about available parking spaces through a mobile app or website.

**Navigation and Guidance:** The system guides users to available parking spots through an app, often providing directions in real-time.

**Payment Integration:** Users can pay for parking digitally through the app, reducing the need for physical payment methods.

**Data Analytics:** The system can provide insights into parking usage patterns, helping in long-term planning and optimization.

**Security and Monitoring:** CCTV cameras and other security measures are integrated for safety.

**Feedback and Reporting:** Users may provide feedback or report issues through the app.

Overall, these technologies work together to make parking more efficient, reducing congestion and pollution while improving the overall experience for users. They're particularly valuable in urban areas where parking can be a significant challenge.

#### 2)DAS

Smart parking refers to the use of technology to improve the efficiency and management of parking spaces. It often involves sensors, cameras, and data analytics to provide real-time information about parking availability. Smart parking systems can help reduce congestion, save time for drivers, and make better use of urban space. If you have specific questions or need more information about smart parking, please feel free to ask.

### 3)IOT

These systems employ various sensors, communication networks, and software to provide real-time information about parking availability. Here's a brief overview of how it works:

**Sensor Deployment:** Sensors are installed in each parking space. These can be ultrasonic, infrared, magnetic, or other types of sensors.

**Data Collection:** The sensors collect data about the status of each parking space.

**Centralized System:** The central server processes the best data received from the sensors.

**User Interface:** A user-friendly interface is provided to end-users, typically through a mobile app or a website.

**Navigation and Guidance:** Some systems also include navigation features to guide drivers to the nearest available parking spot.

**Maintenance and Monitoring:** Regular maintenance and monitoring of the sensors and communication network are crucial to ensure the system operates smoothly.

### 4)CAD

It seems like you're looking for information about smart parking cards. Smart parking cards can refer to various technologies and systems used for managing parking, including RFID cards, NFC cards, or mobile apps that facilitate parking payments and access control. If you have specific questions or need more details, please let me know!