**Features Of Smart Parking System**

1. Sensors: The system would require sensors to detect the presence of a vehicle in a parking space. This could be done using a variety of technologies, such as ultrasonic sensors or infrared sensors.
2. Cameras: Cameras could be installed to provide a visual representation of the parking area. This could be useful for monitoring traffic flow, identifying parked cars, and detecting any potential security issues.
3. Communication network: A communication network would be required to allow the sensors and cameras to transmit data to a central server. This could be a wired or wireless network, depending on the requirements of the system.
4. Central server: The central server would receive data from the sensors and cameras and process it to provide real-time information about available parking spaces.
5. Mobile app: A mobile app could be developed to allow users to search for available parking spaces, reserve a space, and pay for parking.
6. Payment system: The system would need a payment system to allow users to pay for parking. This could be done using a variety of methods, such as credit cards or mobile payments.
7. LED displays: LED displays could be installed to provide real-time information about available parking spaces. This could be useful for drivers who are looking for a parking spot.

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**Modules Of Smart Parking App:**

1. User Authentication: This module would allow users to create an account or sign into an existing account to access the app's features.
2. Search and Navigation: This module would enable users to search for available parking spots near their current location or at a specific location. It would also provide navigation directions to the selected parking spot.
3. Reservation: This module would allow users to reserve a parking spot in advance, so they can be sure of finding a spot when they arrive. However, the user will only be able to book a slot for 2 hours, after which the booking will be cancelled.
4. Payment System: This module would enable users to pay for their parking either before or after parking their vehicle. It would also provide payment history and receipts.
5. Real-time Monitoring: This module would allow users to view real-time information on the availability of parking spots in the parking lot. It would also enable them to receive alerts when a spot becomes available.
6. Parking Guidance System: This module would provide users with information on the location and availability of parking spots within the parking lot. It would also help them navigate to the available spot.
7. Security and Surveillance: This module would provide users with a live video feed from cameras installed in the parking lot to ensure their safety and security.
8. Feedback and Rating: This module would allow users to provide feedback on their parking experience and rate the parking lot's facilities and services.

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**IOT And App**

IoT (Internet of Things) and smart parking apps can work together to create a more efficient and convenient parking experience for users. Here's how they can work together:

* IoT sensors and cameras installed in the parking lot can detect the presence of parked vehicles and transmit real-time data to the smart parking app.
* The smart parking app can then use this data to display the availability of parking spaces to the user in real-time, allowing them to find an available spot quickly and easily.
* The app can also use the data to allow users to reserve a parking spot in advance, ensuring that they have a space available when they arrive.
* When a user arrives at the parking lot, they can use the app to navigate to their reserved spot, or to find an available spot using the app's navigation feature.
* The app can also integrate with a payment system, allowing users to pay for their parking directly from the app.
* IoT cameras can be used to monitor the parking lot for security purposes, providing a live video feed to the app, which can alert users to any potential safety or security issues.