Date:16.10.2023

Project id:proj\_223339\_team\_12

Project title:smart parking

Application Layer:

# AI&DS

The application layer is the top layer of the architecture stack that allows the partici-

Pants to interact with the system that they use, the mobile application (i.e., Android and

iOS), or the Web application. Here, as highlighted by Yang et al. [23], users are capable of

searching for their preferred parking locations, and they can make reservations. Similarly,

the parking services provider can send parking-related information, e.g., parking space

availability, to the providers and the offers to the integrated systems. Since the users

interact with the integrated system directly, the layer delivers the end-users’ final service.

## Network layer:

The network layer ensures seamless communication among the various parking cen-

Ters, integrated systems, and users. The user and parking center data are transmitted to the

Integrated system through a layer. The layer contains the different types of communication

Technologies that may include LAN and WAN, which are used by the users, parking

Service providers, and the IoT devices related to the parking systems (e.g., the parking

### Physics layer:

The physical layers deal specifically with the mechanisms and the electronic anchorage

of the system. The physical layer is based on the set of the physical sensors and the data

received from the entities collected that are analyzed and used to manage the entities.

The different types of sensors are the significant elements of the layer.

Transaction layer:

This is the layer that is mandated to transact the nodes in the network. The users and

the various parking centers exchange the data more securely through the smart contract

and the consensus mechanisms. The parking center also updates the public ledger through

the layer. The transaction layer preserves the transparent quality of the transaction and the

security of the data transmission without trusted third parties, especially if they rely on

Blockchain systems

# 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.

# 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 3uhdata received from the sensors.

User Interface: A user-friendly interface is provided t 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.

# 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!