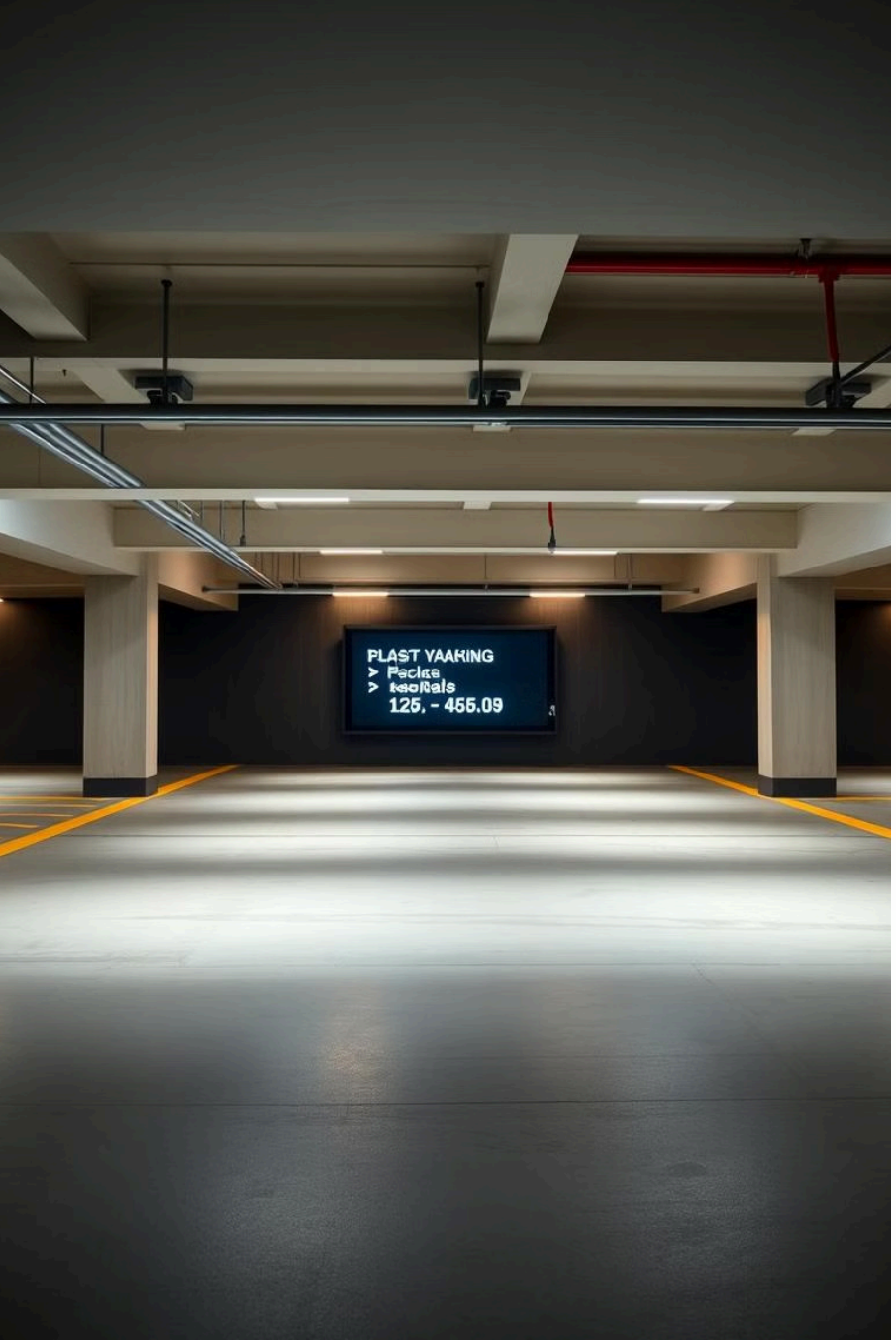


Arduino Parking System

This presentation explores the design and implementation of a parking system using Arduino, a powerful microcontroller platform ideal for embedded applications. We'll cover the key components, code structure, and potential benefits for streamlining parking management.

Made by : Trust sphere.

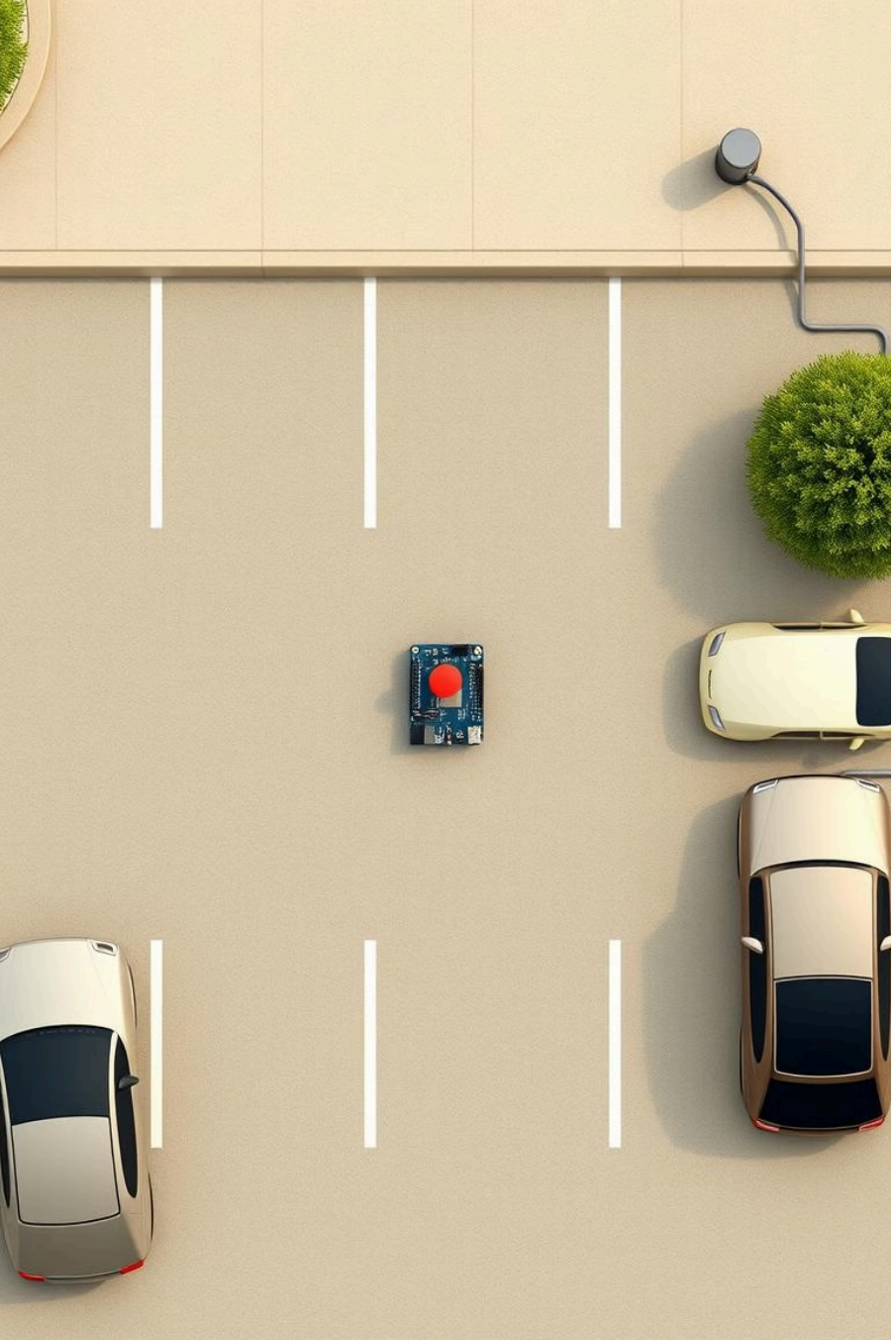
Introduction to Arduino

What is Arduino?

Arduino is an open-source platform based on a simple yet powerful microcontroller. It allows you to create interactive devices that interact with the real world through sensors and actuators.

Why Arduino?

Arduino is a popular choice for hobbyists and professionals because it is relatively inexpensive, easy to use, and has a vast community of support.



Components of the Parking System

Sensors

Ultrasonic or infrared sensors detect vehicle presence in each parking space.

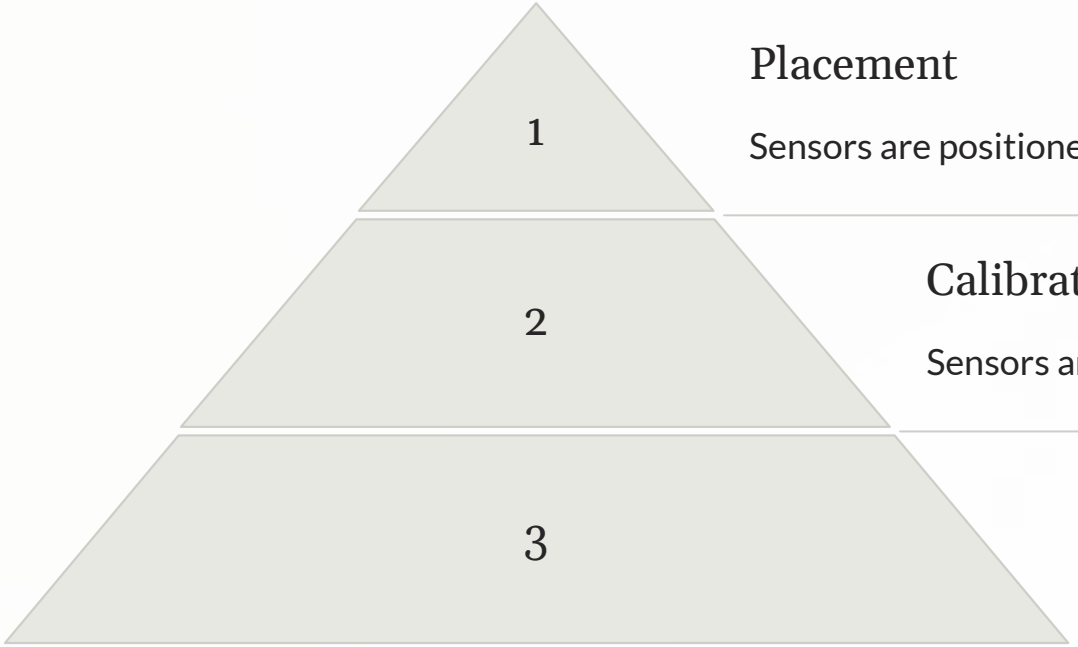
Arduino Microcontroller

The Arduino board processes sensor data and controls the display system.

Display

An LCD or LED display shows the status of available parking spaces.

Sensor Placement and Configuration



Placement

Sensors are positioned at the entrance of each parking space.

Calibration

Sensors are calibrated to accurately detect vehicle presence.

Communication

Sensors transmit data to the Arduino board.

Implementing the Arduino Code

1

Sensor Readings

The Arduino code reads data from the sensors.

2

Data Processing

The code analyzes sensor data to determine space availability.

3

Display Updates

The Arduino code sends updates to the display system.

Displaying Parking Space Availability

Available

Green lights indicate available parking spaces.

Occupied

Red lights indicate occupied parking spaces.

Integrating with Mobile Apps

1 Real-time Updates

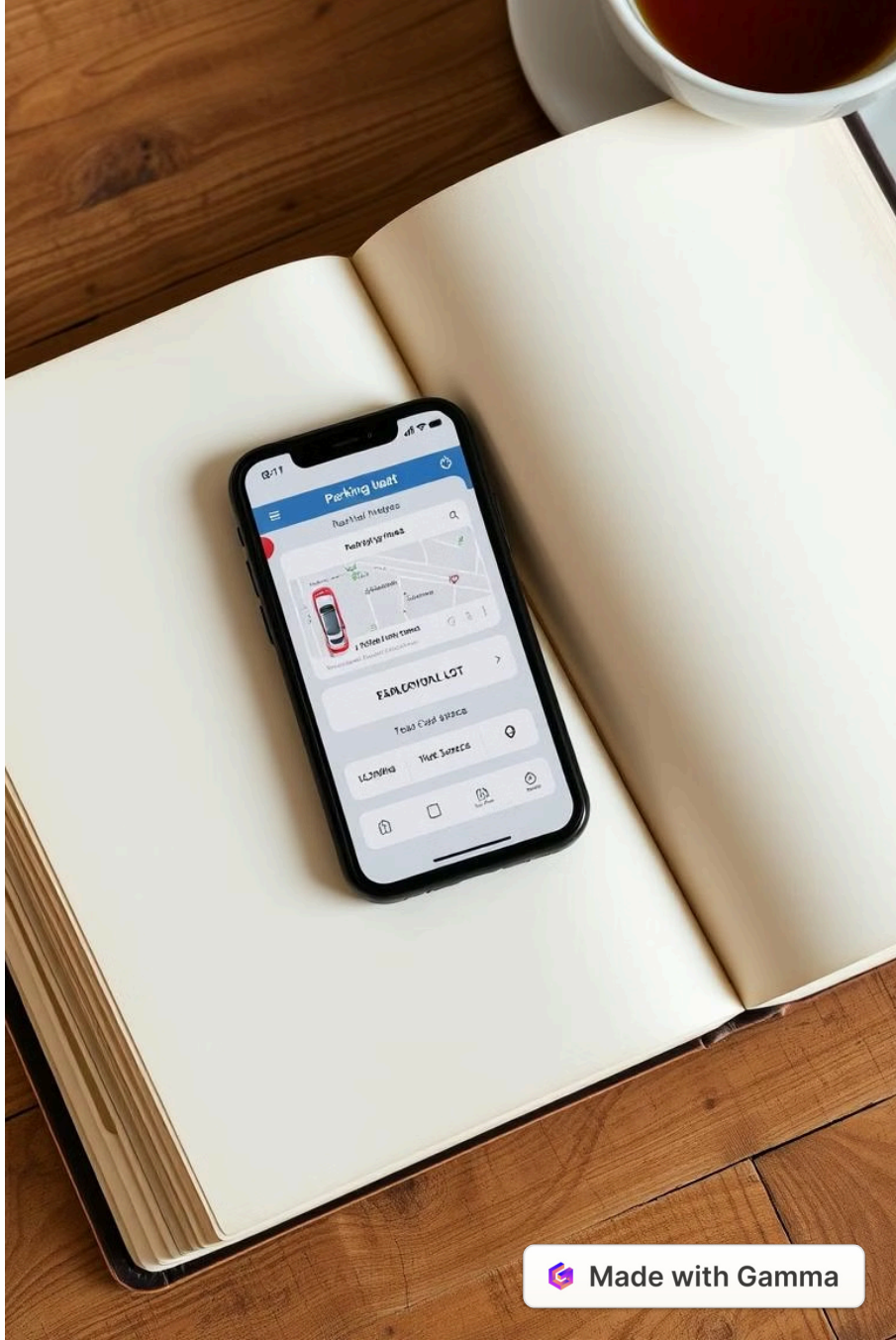
The Arduino system provides live updates to the app.

2 User Interface

The app displays parking space availability and directs users.

3 Navigation

The app guides users to available parking spaces within the lot.



Benefits and Applications

1

Efficiency

Reduced search times for parking spaces.

2

Convenience

Streamlined parking process for users.

3

Sustainability

Minimized traffic congestion and fuel consumption.

Conclusion and Next Steps

An Arduino-based parking system offers a cost-effective and efficient solution for parking management. Future development could include integration with advanced features such as payment processing and reservation systems.