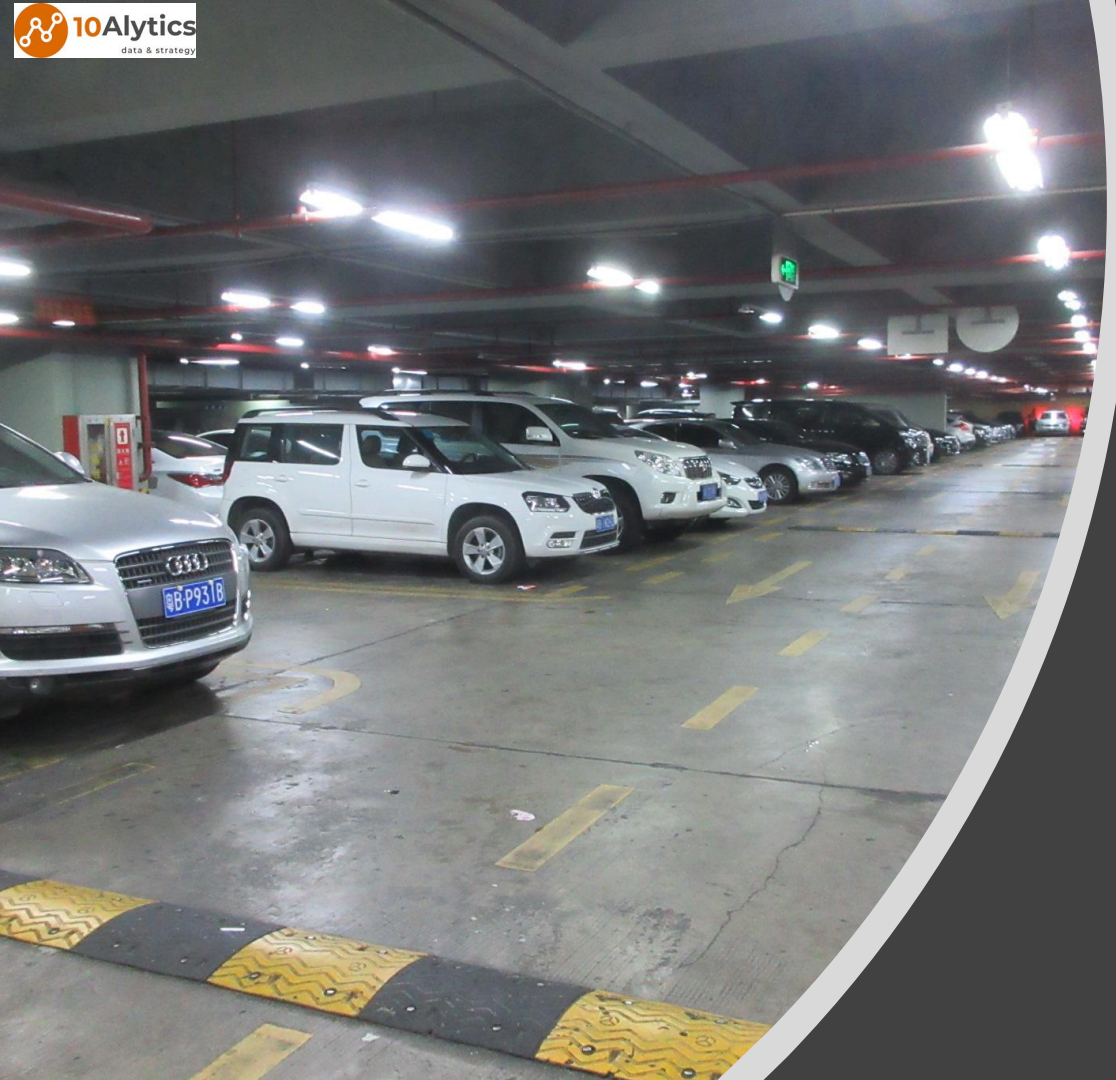
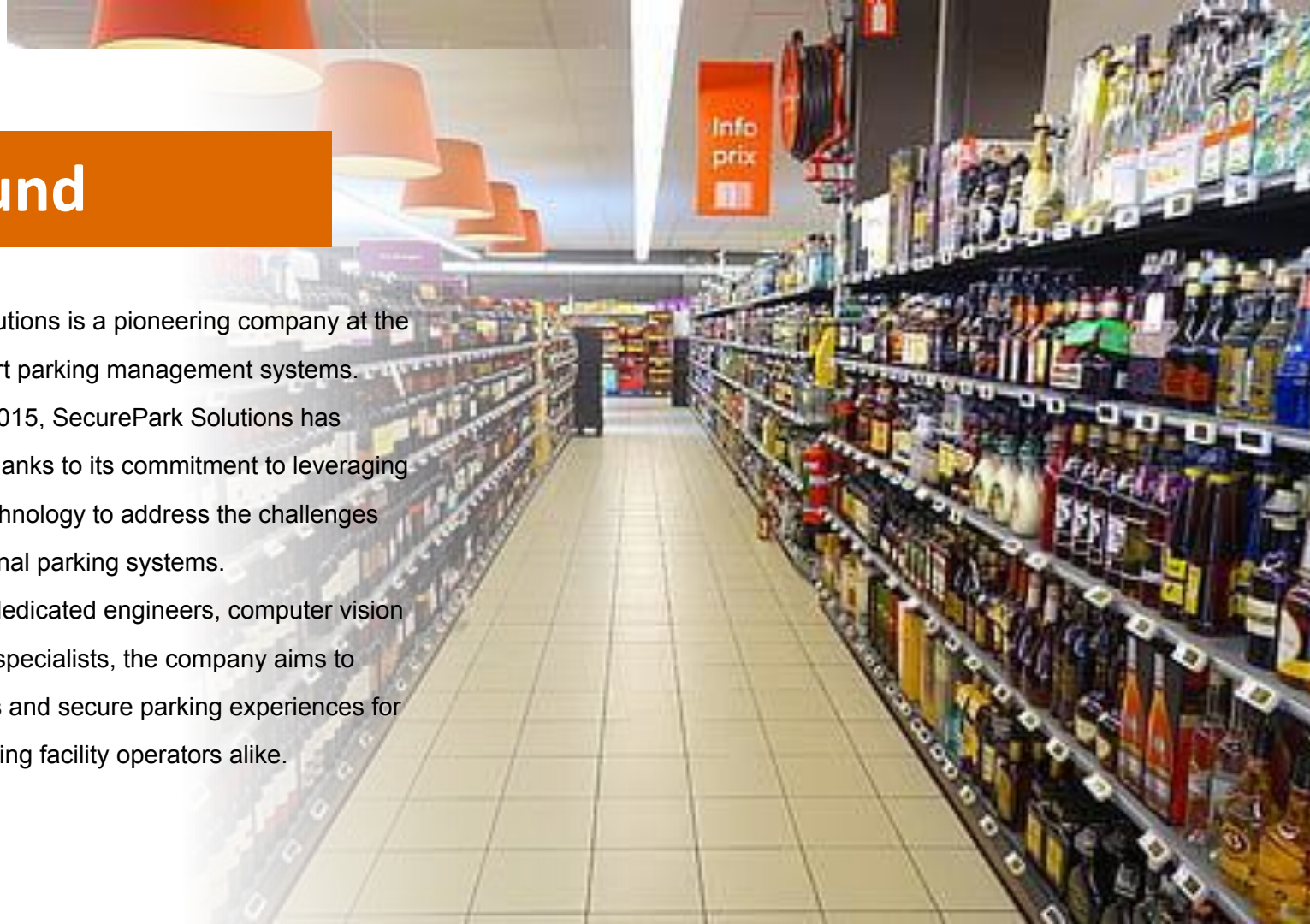


Case Study: SecurePark Solutions

Background

- SecurePark Solutions is a pioneering company at the forefront of smart parking management systems.
- Established in 2015, SecurePark Solutions has grown rapidly, thanks to its commitment to leveraging cutting-edge technology to address the challenges faced by traditional parking systems.
- With a team of dedicated engineers, computer vision experts, and AI specialists, the company aims to create seamless and secure parking experiences for drivers and parking facility operators alike.



Problem Statement

- Urbanization and the increasing number of vehicles have led to significant challenges in managing parking spaces efficiently.
- Traditional parking systems often suffer from issues such as unauthorized access, inefficient space utilization, long wait times for drivers, and security concerns.
- To address these challenges, a comprehensive smart parking system that leverages advanced computer vision and QR code technologies is needed.
- This system aims to automate the entry and exit processes, enhance security, and improve the overall user experience.

Task

1. **Plate Number Detection and Extraction:**
    - Capture images of vehicles at entry and exit points.
    - Detect and extract plate numbers using computer vision techniques.
2. **QR Code Generation and Display:**
    - Generate QR codes containing the plate number and entry time.
    - Display the QR code for drivers to scan upon entry.
3. **QR Code Decoding and Verification:**
    - Decode the scanned QR codes at exit points.
    - Verify the plate numbers to ensure they match the ones in the QR codes.

Dataset

SecurePark Solutions have provided you with some images of cars to build your first prototype.