What
WE DO

We are a limited liability partnership company from Kolkata, India. From the beginning, we are blessed with dedicated, enthusiastic, and ambitious employees who propelled the company to where it is now.

We have correlated ourselves all across the globe as proud partners. European manufacturers who work tirelessly with us to serve the customer with state-of-the-art pieces of equipment. The trust, reliability, and hard work of our partners helped us enormously developing our customer base.
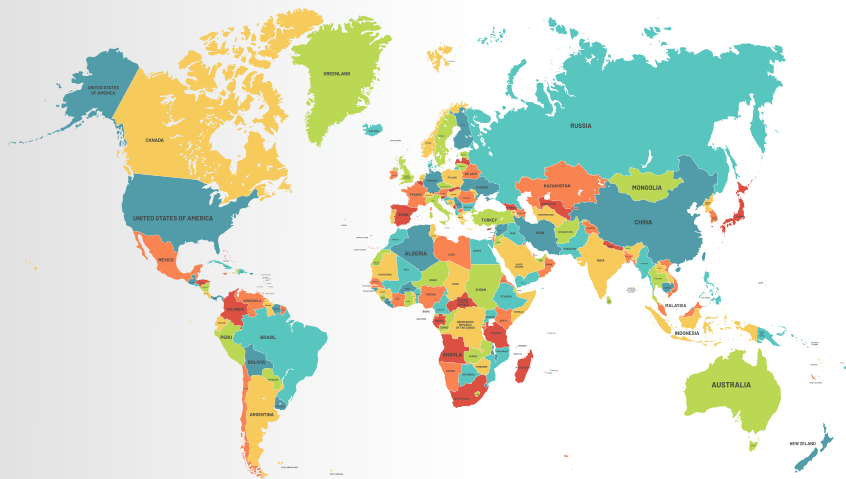
We have in our credit for running our projects with countries like Italy, France, London, South Africa, Dubai, Bangladesh, Nepal, Sri Lanka and Vietnam.

Our company is primarily focused on providing turnkey based business solutions and also consultation services. Turnkey business solution refers to a product or service that is complete and ready to use upon delivery without any interruption. We undertake all necessary activities needed for the project and provide a complete solution to our clients so that they are ready to turn the key to start their business ventures.

GPS & RFID - BASED STUDENT MONITORING SYSTEM FOR SCHOOLS

Our Software an important step in that direction, We offers school bus tracking functionality along with smart communication and RFID tracking for students.

GPS-enabled buses ensure that parents are well-informed about their child's commmute schedule to-and from school through live bus monitoring system. The RFID scanners in the buses also enable automatic attendance when the children board and deboard the bus. The web app is operated by school admin while the mobile app is for the mentors, parents and bus drivers.

For Admins   **For Parents**   **For Drivers**   **Smart Communication**   **RFID Attendance**

BENEFITS OF GPS & RFID TECHNOLOGY FOR SCHOOL

Track bus movement on the fly

Track Student attendancein bus using RFID Technology.

Automate school attendance & save teachers time.

Generate automatic attendance reports using software

RFID tracking helps in keeping a close watch on student movement within the school premises

FACE RECOGNITION SYSTEM

AI Based Identity and safety Implementation Solution

We Offers ai Based automated monitoring solution, Face recognition system, which is appropriate for a wide Range of applications making the world safer, smarter and convenient.

Our Facial Recognition System outperforms human performance enabling uncon-strained/non-voluntary real-time detection and recognition of multiple faces. Performance-optimised algorithm processes the data in fraction of seconds that can be used in any verticals to supervise data remotely.

Facial Recognition System is capable of identifying and verifying the identity of a

person using a digital image or a video frame. We use AI-based techniques for facial comparison and indentification. The geometry of the face is captured and compared with the information in the database of known faces to find a match. With this teach-nique, application uses data captured from faces and then, accurately identifies the target individuals

HIGHLIGHTS OF FACE RECOGNITION SYSTEM

Multi-face detection feature

Easy integration with your existing system

Works in the vehicles on the move as well as within premises

Accurate and fast identification of human face with images and videos

Large storage capacity of databases

Efficient and reliable performance

Unlimited face recognition

Capability to handle multiple personal presence in a single frame to ensure quick processing during real life scenarios

AI BASED DRIVER DROWSINESS DETECTION SOLUTION

We have developed AI based Driver Drowsiness Detection solution that recognises signs of possible drowsiness, alerting the driver of their condition.

One of the major reason for motor vehicular accidennts is the driver drowsiness, which puts life of both driver and the passengers at risk. Fatigue in drivers can be caused due to lack of Sleep, overtime, night trips which causes body to react inefficiently, reducing both reaction time and wakefulness.

The solution helps to monitor all potential symptoms of a fatigue i.e. closing the eyelids, slow eye movements. if it exceeds predefined thresholds, an alarm/buzzer is raised to warn drivers that they need rest or break and at the same time the information will be passed to command center of the predefined hierarchy.

HOW IT WORKS

it's a dash cam with edge computing, which can be installed easily and starts sending alerts for sleepiness and drowsiness once the car starts moving

INSTALL THE DEVICE

WHEN INSTALLED IN THE VEHICLE

MONITORING FATIGUE SITUATION

START GENERATING ALERTS

FEATURES

AI based dynamic calibration which can fit all human be

Automatic alerts based on facial patterns

Works under both natural lighting conditions and dark

Works with drivers accessories like glasses, hearing aids/ cap

Rporting for all events i.e. device boot up, sleepiness, drowsiness, out of frame, keep alive, camera removal

GPS BASED VEHICLE TRACKING & MONITORING SYSTEM

VEHICLE LOCATION TRACKING

SPEED MANAGEMENT

ROUTE PLANNING

DRIVER MANAGEMENT

SOLUTION OVERVIEW

One of the major concern of the logistics and e-retail industry is tracking the flow of goods from manufacturers to warehouses and warehouse to hubs. A perfect GPS based vehicle tracking and monitoring solution which helps fleet managers plan and track the trasportation needs of business in more efficient way.

We offers an easy-to-use, reliable, and comprehensive solution for the logistics/transportation industries. Our software for tracking vehicles works on IoT solutions and supplement advanced technologies.

Our innovative software pushes the boundaries of fleet management to improve productivity, efficiency and transparency.

FEATURES

Real time Vehicle Location Tracking

Over-speeding/ de-routing Alerts

Route Replay – Replay the entire trip from origin to destination and compare with planned route

Create/Update the Trip Planner

Master data configuration – Addition/Updation and Deletion of records i.e. vehicle , route etc. and role

Compliance : Vehicle & Driver

Vehicle Maintenance and Expense Management

Feedback and Performance Analysis

Customized Report

KEY FEATURES

Real Time Tracking

GPS Tracking devices are enabled with real-time monitoring.

Location of the vehicles is tracked on the map as it moves from point to point.

The GPS location of your vehicle is displayed on a map along with vehicle speed if the vehicle is moving.

The current state of the vehicle like moving, parked since or idle is shown using map markers.

Trip History

You can track all the trips made by the vehicle graphically on the map.

Information such as kilometres travelled, stoppages, idling, and average speed is displayed.

Over speeding stretches are highlighted on the map and option to replay the entire trip.

Alerts

Depending on requirement there are several alerts that can be configured:

- Idling Alert
- Route Deviation/Off-route
- Stoppage Alert
- Over-speeding Alert etc.
- Tampering Alert

Geo Fencing

Can create geographical boundaries called Geo fences on the map around a landmark.

Historical Reports and Dashboard summary

For most businesses where medium to large fleets involved, access to location and event reports provides high ROI.

Fleet managers can track and analyse information on their vehicles up to 90 days in the past and make informed decisions that could positively impact their business.

Comprehensive set of graphical reports.

Customized reports etc.

Driver Performance Analysis

Report can be used for such analysis

Safety: Speeding, hard braking, harsh acceleration etc

Economy: Unproductive idle time and unnecessary fuel used etc

Productivity: Late start, late/early on delivery site and time on site etc

THE FACTORS THAT HELP IN GAINING ROI FASTER ARE

- Track and avoid driver's unauthorised trips
- Effective route management
- Effective resource management
- Tracking total Idling time
- Over Speeding
- Avoid fuel theft
- Improved Fleet Operations
- Timely service / inspection of vehicles helps to avoid vehicle breakdown
- Effective use of vehicles
- Timely vehicle maintenance increases the vehicle life span

SMART PARKING MANAGEMENT SYSTEM

INTRODUCTION

Operating a managed, busy parking lot can pose significant challenges; especially where there are limited parking slots available. Common parking complexes are normally providing parking facility only to registered vehicle.

The common pain area in parking facilities is to identify the owner's vehicle.

Security person at the gate need to manually identify the owner/employee and the vehicle. If identified, the gate will be manually opened for parking the vehicle inside the premises. This manual identification is a time consuming process and at times can cause misidentification. Security person has to remember the vehicle registrations numbers also.
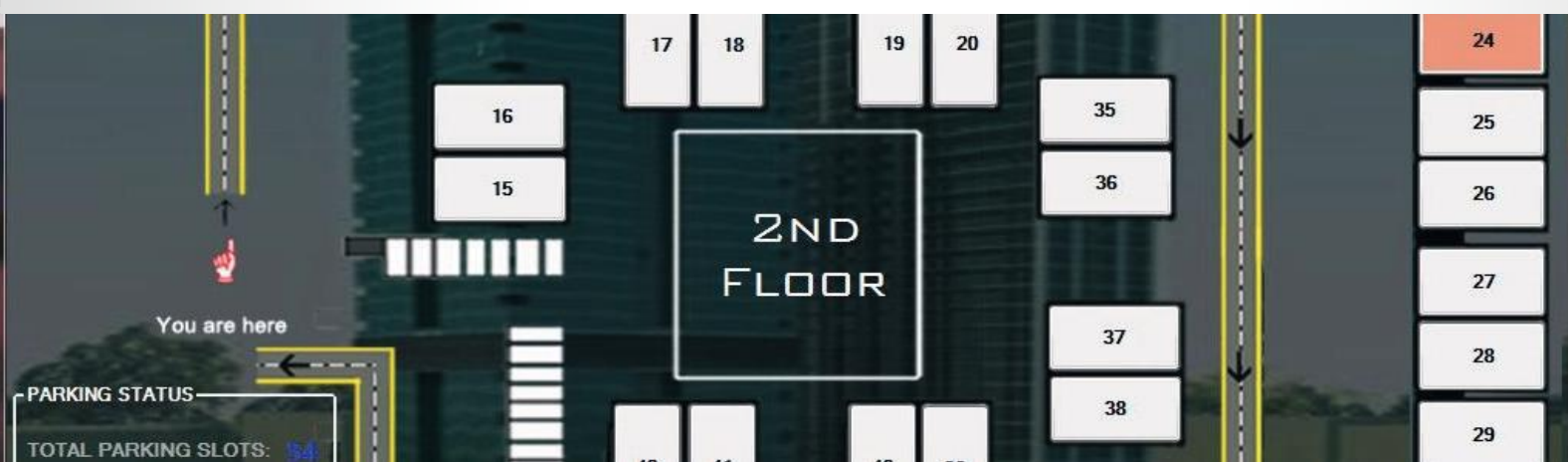
FEATURES OF PROPOSED SOLUTION

SECURITY:

Role based Accessibility
Encrypted Password Management
User Rights Management
User Based GUI

OPERATIONS:

Quicker access
Fraud resistant
Shift management
Pass Management

WHAT IS GUIDEPARK, PARKING GUIDANCE SYSTEM

Guide Park Parking Guidance system is used to assist the drivers in parking their vehicle inside a parking lot. It present drivers with dynamic information on parking within controlled areas. The systems combines traffic monitoring, communication, processing and variable message sign technologies to provide the service.

HOW GUIDEPARK WORKS?

GuidePark is the guidance system for multi-level car parks. It utilizes ultrasonic detectors to sense the occupancy of a parking lot and occupancy is indicated by a red/green signal indicator. These sensors are connected to zonal controllers and zonal controllers are connected to GuidePark server through a Master controller in between. Master controller also connects the LED VMS displays to display the parking availability information.

Immediate report on car park occupancy, guiding the user quickly and efficiently to a free space inside the car park.

Signs: Inform and direct users to the floor or area with the most free spaces.
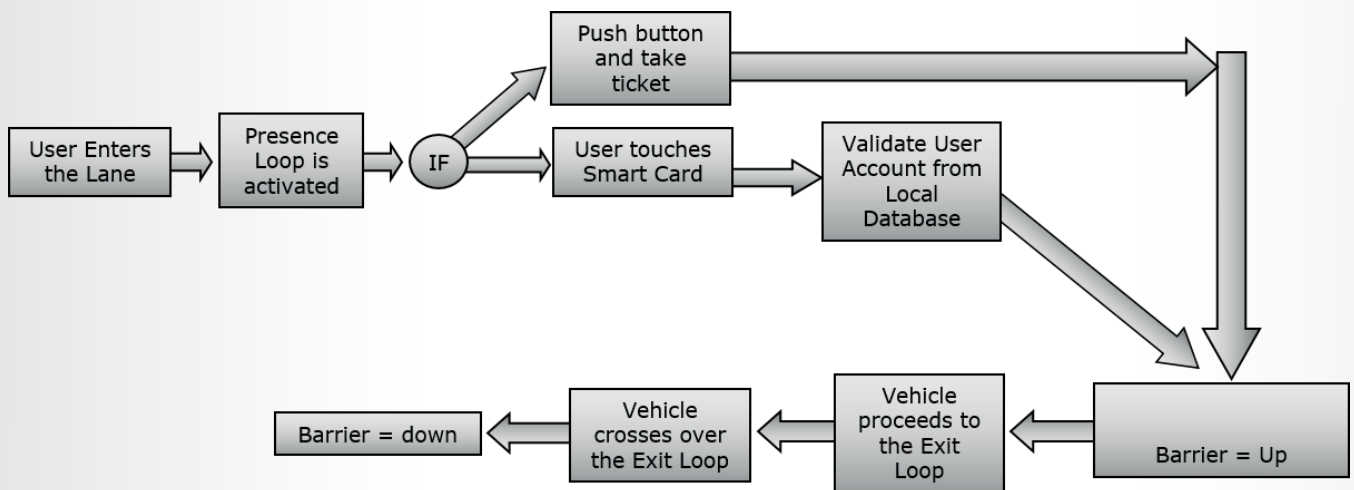
Sensors: Detect when a car enters or leaves.

Signals: Communicate status of parking space
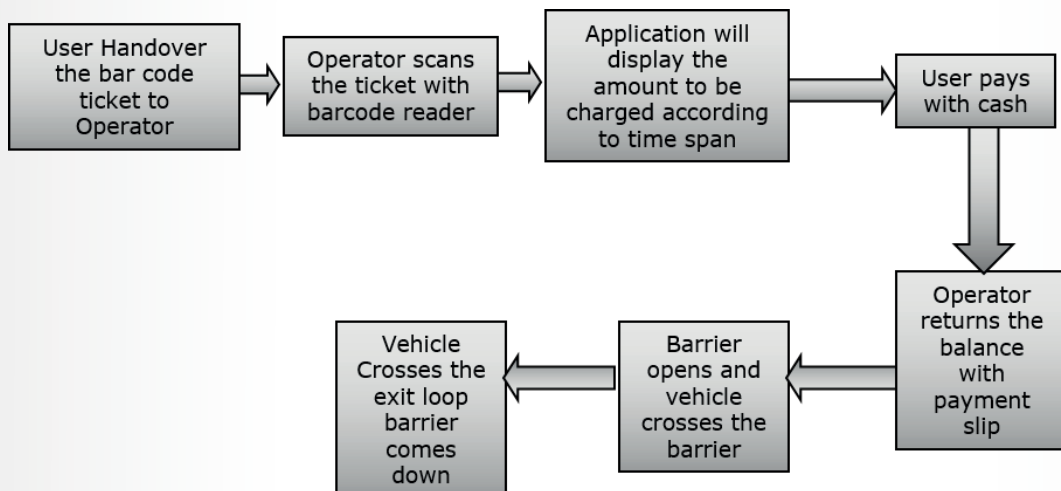
AUTOMATIC TICKET DISPENSING MACHINE

An automated fee collection and ticket dispensing machine includes printers to produce receipts or passes for services or activities. These receipts and passes may be printed for each specific user, and may feature a machine-readable bar code. The device is provided with networking means, to allow central control and monitoring of the device.

PROCESS FLOW - ENTRY LANE

```
User Enters the Lane → Presence Loop is activated → IF
IF → Push button and take ticket → Barrier = Up
IF → User touches Smart Card → Validate User Account from Local Database → Barrier = Up
Barrier = Up → Vehicle proceeds to the Exit Loop → Vehicle crosses over the Exit Loop → Barrier = down
```

PROCESS FLOW - PAYMENT

```
User Handover the bar code ticket to Operator → Operator scans the ticket with barcode reader → Application will display the amount to be charged according to time span → User pays with cash → Operator returns the balance with payment slip → Barrier opens and vehicle crosses the barrier → Vehicle Crosses the exit loop barrier comes down
```

VEHICLE ANTI THEFT DETECTION SYSTEM
(A SMART WAY TO MANAGE PARKING)

INTRODUCTION

Nowadays, quick and easy transport has been an essential part of our daily life. As the dark side of this phenomenon, vehicle theft has become one of the costliest property crimes of modern society. In modern society, vehicle theft has become an increasing problem to the general public.

Deploying onboard anti-theft systems could relieve this problem, but it often requires extra investment for vehicle owners. The indirect charge is even much more expensive. To every one of us, it is a numbers game where one has to pay thousands of amounts each year in higher insurance premiums.

With the help of ad hoc authentication, the system can identify vehicle theft and send out timely alarm and tracking messages for rapid recovery. The realistic experiments running on Android smartphones prove that our system can detect vehicle theft effectively and locate a stolen vehicle accurately, with average errors less than the sight range

THE COMMON SCENARIOS AT THE GATES

- Gates are open which leads to entry of all kind of vehicles inside the premises.
- Security guards are ineffective to allow selective vehicles inside the premises due to lack of proper identification system
- The system of opening the gate is manual and dependent on the availability of the guard Intercom for customer support
- Payment Mechanism
- Smart card offers very low read range.
- The proposed solution can definitely address and rectify the above men

REQUIREMENT SUMMARY

Identify if a Car is not being driven by its Legitimate Owner

Inform the Security Gate and Owner About the car being Stolen

Raise Alarm, when the Car Reaches the Security Gate

PROPOSED SOLUTION - RFID

Proposed Intelligent Gate system consists of RFID based cards and long range RFID readers with a read range of at least 5 to 7 meters. RFID Tags will be fixed on the vehicle windshield which will be encoded with the vehicle identity. This will work as a wireless name plate and will transfer the vehicle identity to the long range reader installed at the gate. Reader will transfer the identity to the application software and instructs the boom barrier/gate to open or close accordingly. In case the vehicle is unauthorized, a light or audible alarm can be generated.

Vehicle Tagging

Each authorized vehicles will be provided with a RFID tag encoded with the vehicle identity. This will be fixed on the windshield of the vehicle.

Vehicle Identification

Long range RFID reader installed at the gate reads encoded data on tag and passes to the application software.

Automatic Boom barrier Operation

Each authorized vehicles will be provided with a RFID tag encoded with the vehicle identity. This will be fixed on the windshield of the vehicle.

MIS Reports

Application software can generate different kind of MIS reports to analyze the movement of vehicles and payment collection.

DEPLOYMENT

PREPARE

Installation and Distribution of RFID TAGS

Record Keeping of the TAGs and Owners Details

CONFIGURE

Installation and Cabling of Surveillance Hardware

Software configuration and Integration

ROLLOUT AND SUPPORT

Unit test/System Integration Test and Rollout

Post Implementation Support and Maintenance

PROPOSED SOLUTION - ANPR

Automatic Number Plate Recognition (ANPR) system is based on real time Optical Character Recognition (OCR) for vehicle monitoring based on automatic umber plate recognition (ANPR) or License plate recognition (LPR) for tracking and identification of vehicles.

Arete ANPR captures an image stream from the camera and processes the same analyzed image stream for automatic number plate recognition (ANPR) function. The processed vehicle license plates are stored in database and can be verified against number of user- defined criteria. It can be deployed at Border check- posts, Toll Gates/Booths, society Entry/Exit, Traffic Surveillance, Traffic law enforcement applications and hot-listed/stolen/suspected and barred vehicle as part of city surveillance solution.

DEPLOYMENT

PREPARE	CONFIGURE	ROLLOUT AND SUPPORT
Installation of ANPR Camera	Installation and Cabling of Surveillance Hardware	Unit test/System Integration Test and Rollout
Data Capture and car number plate registration with App	Software configuration and Integration	Post Implementation Support and Maintenance

PROPOSED SOLUTION - QR CODE

Apart from the registered owners or employees (in case of corporate), there will be a registration counter at which visitor will register their details and get a barcode ticket. This ticket will be scanned at the entry and exit, in order to allow the visitor vehicle.

QR Code on Phone

Each Resident vehicle will be registered on the mobile app and will generate a barcode on the app, which will be scanned at the entry to allow the resident vehicle inside the premises.

Vehicle Identification

Omni-directional barcode reader installed at the gate reads encoded data on barcode slip and passes to the application software. Identity of the vehicle will be verified and open signal will be sent to the boom barrier

Automatic Boom barrier Operation

On receiving the signal, gate will be opened to allow the authorized vehicle to pass. It closes automatically when the vehicle passes the gate.

MIS Reports

Application software can generate different kind of MIS reports to analyze the movement of vehicles

DEPLOYMENT

PREPARE

Installation and Distribution Mobile App.

Data Capture and car number plate registration with App

CONFIGURE

Installation and Cabling of Surveillance Hardware

Software configuration and Integration

ROLLOUT AND SUPPORT

Unit test/System Integration Test and Rollout

Post Implementation Support and Maintenance

FEATURES OF PROPOSED SOLUTION

SECURITY:

Role based Accessibility

Encrypted Password Management

User Rights Management

User Based GUI

OPERATIONS:

Quicker access

Fraud resistant

Shift management

Pass Management

MOBILE APP FOR CONTROL

Along with the RFID system there will be a mobile app given to the users.

Using this app user can anytime lock unlock their car.

If a car is locked it will not be allowed to exit the premises even if its RFID tag is valid.

This can be done on click of a button on the app and it will reflect onto the system on real time basis.

**Biometric /
Cloud Integration**

Parking Planning

FUTURE ENHANCEMENTS

**GPRS Surveillance /
DMV Integration**

**Integration with
Building Management System**

TECHNOLOGY
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Your partner for electronic
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AreteInfo
Technologies

+91 8470 043 448
+91 8347 356 452
+91 7711 035 353

info@marseilleholding.com

www.marseilleholding.com

ASO-111, 1st Floor, Astra Tower, Plot No-2C/1,
Action Area 2C, New Town, Rajarhat,
Kolkata - 700 156, India