SmartCity®

Parking Management

by DTLink Inc. & Partners

Audience
• Municipalities

SMS User Interface
End user interacts with the system using his/her phone device and simple SMS messages

Simplified Procedures
A three step procedure will allow the end user to pay fees. The system will charge users for exact parking usage.

Advanced Parking Query
Drivers coming into the town will be able to query the system remotely and get an exact parking occupancy for a specific area of the town.

Advanced Enforcement
Parking agents, carrying PDAs or mobile phone will be able to control a parking lot and get instant information about illegally parked vehicles.

Advanced Technology
The only parking system to combine: IVR, PDA and wireless networking.

SmartCity® Network
Municipalities using the SmartCity network will be able to transparently integrate the Parking system without any subscriptions to any global networking system. SmartCity infrastructure will allow advanced functionalities like: survey cameras, integrated parking fine printing etc.. GPRS connections can be used in areas where the SmartCity network is not available

SmartCity Parking Management System (PMS)

Municipalities around the world face the parking meter dilemma using a technology that is more than 50 year old. It is time to do something about this!!

SmartCity PMS is proposing a unique and innovative solution based on the latest wireless technology, phone communication (SMS message), a centralized IT management and a customizable prepaid card. The result is a modern solution based on the latest users' needs and the municipality's request for an efficient and easy to deploy service taking advantage of the SmartCity infrastructure.

Easy Experience For The End User
Drivers arriving to a parking place:
- Send a formatted SMS message to the system number
  %Zone,%Parking Card Id,%Plate Numbers
-The vehicle will be legally parked for the maximum stay

Drivers leaving a parking place:
- Send a formatted SMS message to the system number
  %Plate Numbers
- The system will adapt the payment to the effective parking time

Advanced Parking Query System
Drivers heading their destination will be able to query the system and get the parking occupancy of a specific zone or street.

Automated Parking Survey
Municipality agents will be equipped with portable phone devices that will connect to the central database either through the SmartCity WiFi infrastructure or the GPRS network. The agent will be able to verify the legally parked drivers providing the vehicle plate numbers.

Customizable Prepaid Parking Card
Prepaid parking cards will be generated by the municipality at different amount increments. Users will be able to purchase the cards directly from the municipality, kiosks, card dispensers or town merchants. Cards can be refilled and used further by calling a municipality attended service.

Can Co-exist With Conventional Parking Payment System
All municipalities can use the SmartCity PMS with any conventional payment system. Every user will be able to use the payment method of his choice.

SMS Messages To Communicate With The System
End users communicate with the central system through SMS messages only. No Web interface or proprietary systems.

Nothing Left On The Vehicle
The end user does not have to leave any prove of payment on the vehicle. The control is done through the vehicle plate numbers.

Supports External Authentication Methods (option)
External authentication methods can handle multiple municipalities and allow roaming..

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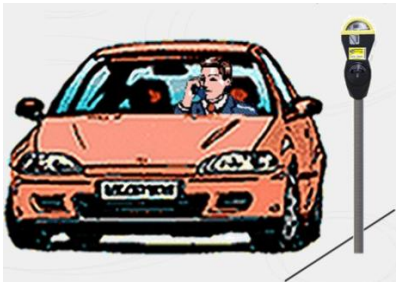
Upon Arrival The Driver Has To Do This..

1

Send formatted SMS message to central number

Zone Number,Parking Card Id,Plate Numbers

The system withdraws the max allowed time/amount from the Parking Card and sends back a confirmation SMS message



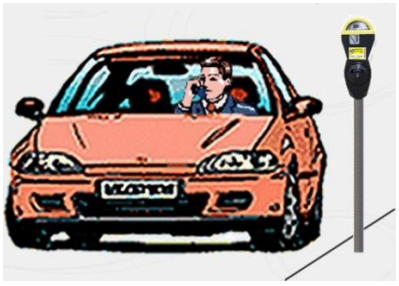
Upon Departure The Driver Has To Do This..

1

Send formatted SMS message to central number

Plate Numbers

The system will adapt the amount withdrawn to the exact time used and sends back a confirmation SMS message.



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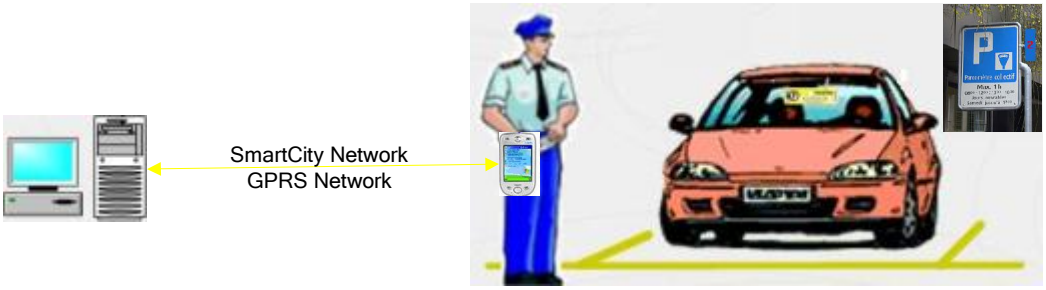
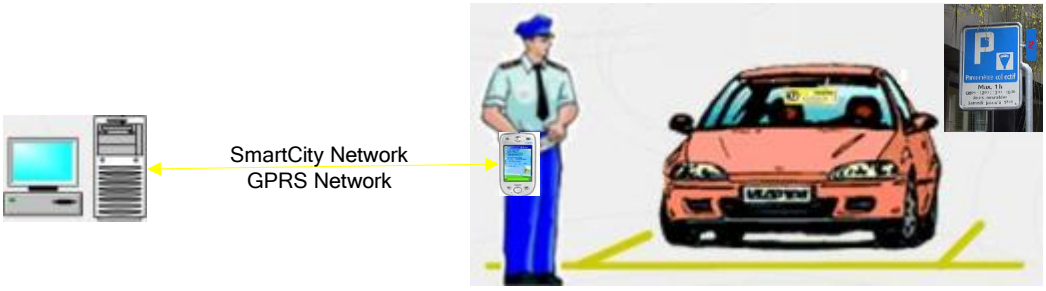
The Parking Officer Will Control Legally Parked Vehicles..

1. He keys the Vehicle Plate Numbers on the PDA device
2. Illegally parked vehicles will show in red



The Parking Office Will Issue A Parking Fine (option).

1. He keys the vehicle data in the PDA device
2. He prints the Parking Fine on the portable printer.
The data is automatically transmitted to the data center



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Advanced Parking Query System

SmartCity PMS incorporates an advanced parking query system that will allow drivers to query for parking availability within a given area of the municipality. The system will respond immediately to the query and will provide the exact occupancy rate and number of free parking places.

The Parking Problem
Municipalities have hundreds/thousands visitors per year. Although adequate parking is available, many visitors cannot find parking places.
To address this problem, SmartCity PMS has developed an Advanced Parking Query System that will automatically gather shared parking occupancy information and transmit information to the traffic control center.

Optional Variable Message Signs
Available parking places can be posted to optional variable message signs and smaller wireless automated parking advisory signs strategically deployed to help motorists find open parking facilities. The signs can display the number of spaces available, and use arrows to guide drivers to open stalls.

Traffic Reduction Tool
Many motorists are driving around the municipality searching a parking place increasing traffic, pollution and feeling of inefficiency. The SmartCity Advanced Parking Query System, although not the absolute solution, will allow drivers to better prepare their itinerary and save minutes of hardship, fuel and municipality traffic jam.

Parking Enforcement Using The Vehicle Plate Numbers
No need for special devices for reading bar codes or RFID devices.
End users do not have to leave any device or card in the vehicle.
The parking enforcement is done through a PDA device or GPRS-enabled device by keying the vehicle plate numbers.

SMS Messages Is The Unique User Interface
The unique interface between the parking users and the system is the SMS message. No Web or other proprietary interface. All operations like: parking zone occupancy, remaining parking card amount, move amount from one parking card to another, details for a specific parking session etc..

Optional InfoView Panel Integration
Large display panels at the entrance of the municipality will inform the drivers on parking availability per area. The SmartCity Parking Management System integrates with the InfoView product allowing the installation of large informational panels within the SmartCity network and the instant retrieval of the parking availability.

The InfoView product will use any type of Windows supported display and can be configured for an indoor or outdoor operation. The system is extremely flexible and will collect information directly from the SmartCity Parking Management System server.

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Benefits Of SmartCity Parking

1. Environmental Friendly Parking Places
2. Easier payment procedure
3. Exact Parking Fees Charged
4. Parking availability On Demand
5. Reduce Search Traffic & Pollution
6. Better Allocation Of Parking Space Resources
7. Facilitates Implementation Of Sustainable Transport Strategies
8. Facilitates The Parking Enforcement
9. Centralized Management Of Parking Places
10. Unlimited Number Of Managed Parking Places
11. Multi-Language Support
12. Easy To Deploy & Maintain
13. Easy To Adapt To New Parking Policies
14. No need for parking cards with bar codes
15. Does Not Rely On Caller Id
16. No Membership Required
17. No Monthly Billing/Statement
18. Completely Managed By The Municipality
19. Prepaid Parking Card With Refill Option
20. High Capacity Management System

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Questions & Answers

Can we use the system for parking buildings?	Yes. A parking building is treated a separate parking zone.
How can users query a parking building for parking occupancy?	A parking building is attached to a unique parking zone. Drivers can query the system for the specific parking zone and get the parking occupancy.
Do we need to number the parking places for adopting the system?	No. The system is based uniquely on parking zones. Parking place numbering is not required.
What is interface used for the parking payment?	SMS messaging
What is the interface used for the parking enforcement?	Simplified Web interface through PDA devices or GPRS-enabled mobile phones.
How many simultaneous calls the system will supports?	It depends on the DiaLogic interface cards. Usually configurations will start from 16 simultaneous lines and will go up to 128.
How the system integrates with existing payment systems?	The users of the SmartCity PMS should only indicate the use of the system with a simple sticker so that the parking officer can use the right interface to control the vehicle.
Should we change the way we print fines?	No. Parking officers will print the fines the same way they have done it always.
Can we get a photo of the illegally parked vehicle and print it with the parking fine?	Yes (option). The agent's PDA device will support a camera. The system can then be configured to receive a photo and integrate it into the parking fine receipt.
How can we facilitate users without a cellular phone?	You can use parking prepaid cards
How can we automate the purchase of a parking card?	You can automate the purchase of prepaid cards through vending machines placed in specified parking areas.
How do you price the SmartCity Parking?	The system is uniquely priced. Please see pricing section
What is the average cost per parking place and technology used?	Usually you should count on the following costs (installation included): Conventional Parking Meters: 500-600 USD Collective Parking Systems: 300-400 USD SmartCity Parking Systems: 50-100 USD
How quickly can we deploy the SmartCity Parking?	A 1000 parking places municipality should consider a deployment period of 3-4 weeks.