



“Technology Solutions That Make Business Sense”

The Ultimate in Street Parking Convenience & Management

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Our Objective

Offer a Convenient, Practical, Centrally Manageable & Cost-Effective Solution for Street Parking Using Cellular Networks Without Causing a Major Change in Existing Operational Processes

Street Parking: Today

- Mostly Coin Based Mechanical Parking Meters
- Limited Pilots/Field Trials with Pay and Display Systems
 - Installed on Streets to Replace 10 to 20 parking meters
 - Display Receipt on Car Dashboard for Law Enforcement
 - Supports Coins & Credit Cards
 - Credit card authorization is offline.(Prone to Fraud)
 - More Inconvenient Than Mechanical Meters
 - Prone to Damage/Vandalism
 - Installation & Maintenance of Equipment Installed on City Streets

Street Parking: Today

- Limited Pilots/Field Trials with Pay & Go Systems
 - Same as Pay & Display But No Need to Display Receipt on Dashboard
 - Enter Parking Space ID & Car License Plate Number for Parking Violations Citations
 - Less Inconvenient Than Pay & Display Systems
 - Prone to Damage/Vandalism
 - Installation & Maintenance of Equipment Installed on City Streets

Street Parking: Drawbacks

- Labour Intensive & High Cost of Operations (15-20% of Revenues)
 - Coin Collection, Counting, Settlement & Disbursement
 - Lack of Revenue Control
- Unmanageable & Unreliable Law Enforcement
- Inconvenient to Parking Customers
 - Availability of Coins
 - Extending Parking Time

Street Parking Trends

- Evolve Towards Cashless Transactions for Revenue Collection, Disbursement & Clearance
- Automated Transfer of Funds
- Simplified & Effective Law Enforcement
- Simplified/Convenient Parking Process for Customers
 - Parking Space Procurement
 - Payment

The Solution



Bridging The Future

SOLUTION

Darayanet Innovatively Exploited
E-Commerce & Wireless Technologies'
Trends to Provide Convenience to Parking
Customers Complimented by Strategic &
Cost-Effective Management Tools to Street
Parking Operators

Wireless Industry Trends

- **1985:** Cellular service was launched in Canada
- Growing Mobile Phone Users
 - **1995:** Approx 2.5 Million
 - **2000:** Approx 8.7 Million Subscribers
 - **2002:** Approx 12.0 Million Subscribers

Wireless Industry Trends

- **Today** : Nearly 40% of households in Canada have access to a mobile phone
- 1.2 Million **SMS Based Messages** Per Day In Canada
- **Today**: Most Car Owners Carry Cell Phones
- **By 2005**: 50 per cent of all calls in the world will Originate from Cell Phones
- E-Commerce (M-Commerce) on Public Wireless Networks Gaining Acceptance

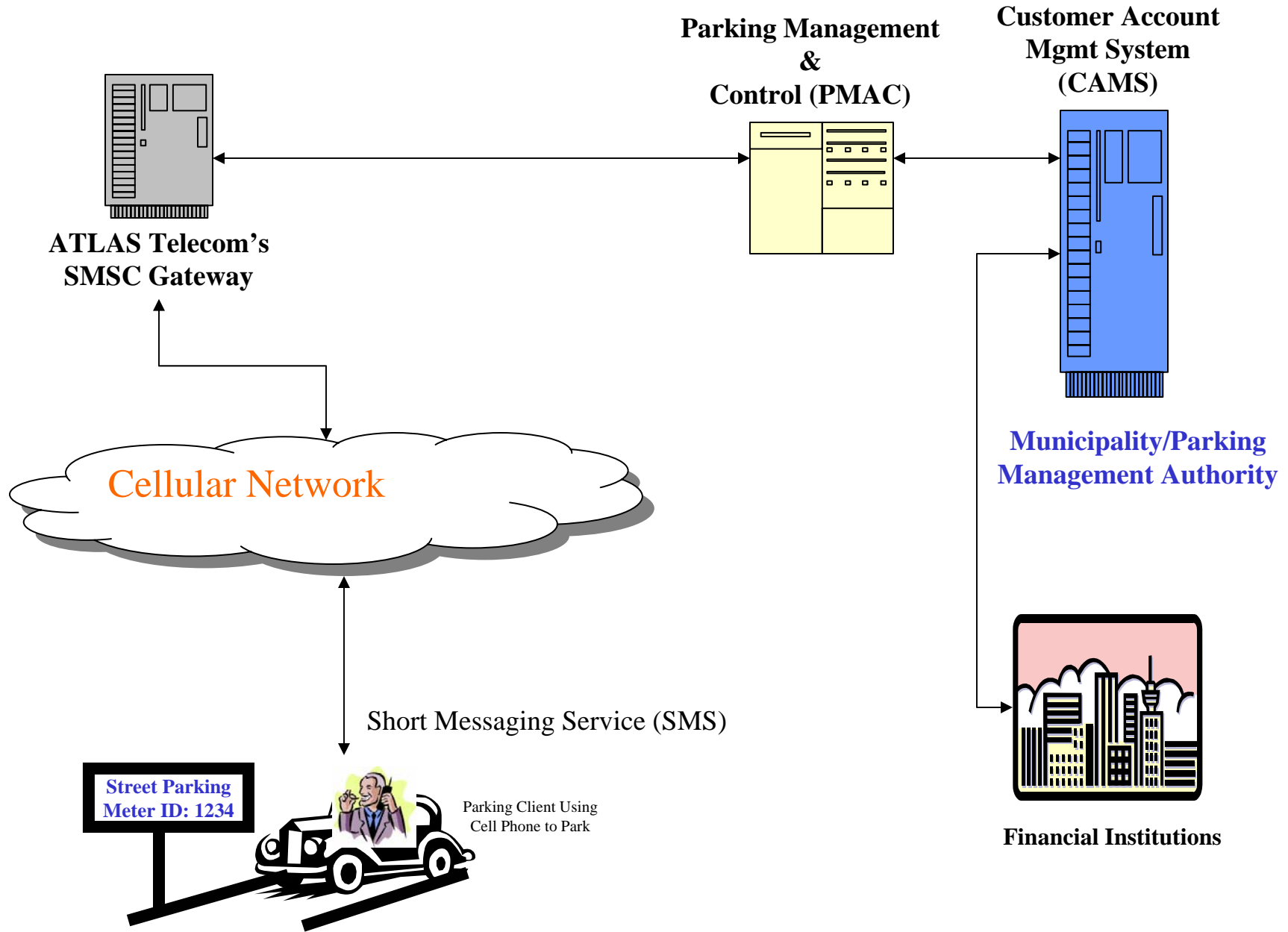
DarayaPark Highlights

- Mobile/E-Commerce Portal for the Parking Industry
 - Parking Access and Transactions Management Engine
 - Front End SMPP 3.4/3.5 (SMS) Communications Interface
 - Parking Rate Table Configuration Module
 - Parking Meter/Space ID Configuration Module
 - Multiple Parking Operators Management Module
 - Parking Infraction Enforcement Module
 - Integrated or Independent Customer Accounts Management Module

DarayaPark Highlights

- SMS Based Parking Access Request to Parking Portal
- Parking Operator Controls Funds (Customer Accounts Mgmt System)
- Seamless Integration with Existing Policies & Procedures
- Seamless Change/Transition Management

Parking Access and Payment Through Cell Phone



How does it work ?

DarayaPark Service Sign Up

- Parking Clients Sign Up with Parking Operator for DarayaPark Service
 - Register Cell Phone(s)-Up To 3
 - Register Car(s)-Up To 5
 - Pre-Pay Parking Fees Deposit (\$ 20, 30, 50, etc.) to Parking Operators Bank Account
- Parking Operator Creates Parking Client's Profile (Pre-Paid Parking Account) in Customer Account Management System (CAMS)
- Customers Use Pre-Paid Parking Account to Park Car
- Pre-Paid Account Debited Each Time Client Requests Parking Using SMS
 - Parking Fees + Surcharge

How does it work ?

Parking Process

- Parking Clients Locate Parking Space/Spot/Meter
 - Each Parking Space/Spot/Meter Uniquely Identified by a Number
- Client Enable SMS on Cell Phone
- Dial the Short Coded Telephone Number (Eg. *7275)
- In the Message Box Enter the Space/Meter ID & Number of Minutes to Park (Eg. MMMMTTT)
MMM=Meter ID; TTT=Parking Minutes
- Client Sends SMS to DarayaPark Portal

How does it Work ?

Parking Authorization Process

- Customer Profile Identified from the Cell Phone Number in SMS Message Sent to DarayaPark Portal
- Portal Determines Parking Fees and Checks with CAMS for Availability of Funds
- Upon Availability of Funds in Customer Account Portal Sends SMS to Client Authorizing to Park
- Authorization Message Includes:
 - Space/Meter ID
 - Authorization Number
 - Balance Remaining in the Pre-Paid Account

Note: Customers not subscribing to DarayaPark service can use existing parking facilities such as Parking Meters, Pay & Display, Coupons, etc

How does it Work ?

Parking Time Extension (Optional Service)

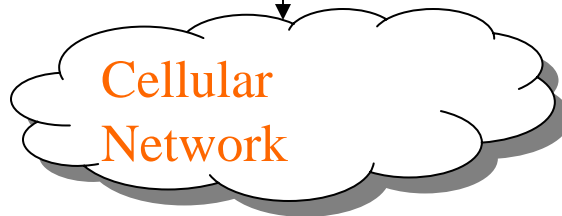
- Client To Subscribe for Value Added Service
- Additional Surcharge Applicable
- Portal Sends SMS Alert Advising Client About Parking Time Expiry in 5 Minutes (Configurable)
- Alert Message Includes:
 - Expiry Time
 - Meter/Space ID
 - Advertisement by Cell Operator or Third Party if Service is Sponsored
- Client Can Increase Parking Time by Sending SMS to DarayaPark Portal

Law Enforcement Process

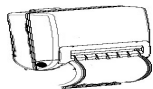
- Officer checks for infractions from wireless PDA Online by entering Meter ID / License
- Can check by Each Meter ID
- Can check range of Meters (Next 20 etc)
- Can Issue Onsite tickets (Wireless Thermal Printer)
- Can update database (Online / Offline)
- No manual entries required

Law Enforcement

Parking Management & Control



PDA



Wireless Printer



© Wiled Computer Graphics, Inc.

Ticket

PARKING VIOLATION	
ZONE: Downtown SECTOR: St. Catherine	
TICKET#: 000106439	
LICENSE PLATE:	JBN 329 MO
VIN:	
PERMIT:	13-G-E1
METER:	MM0002
VEHICLE:	MUSTANG
VIOLATION	
OVERTIME METER	10.00

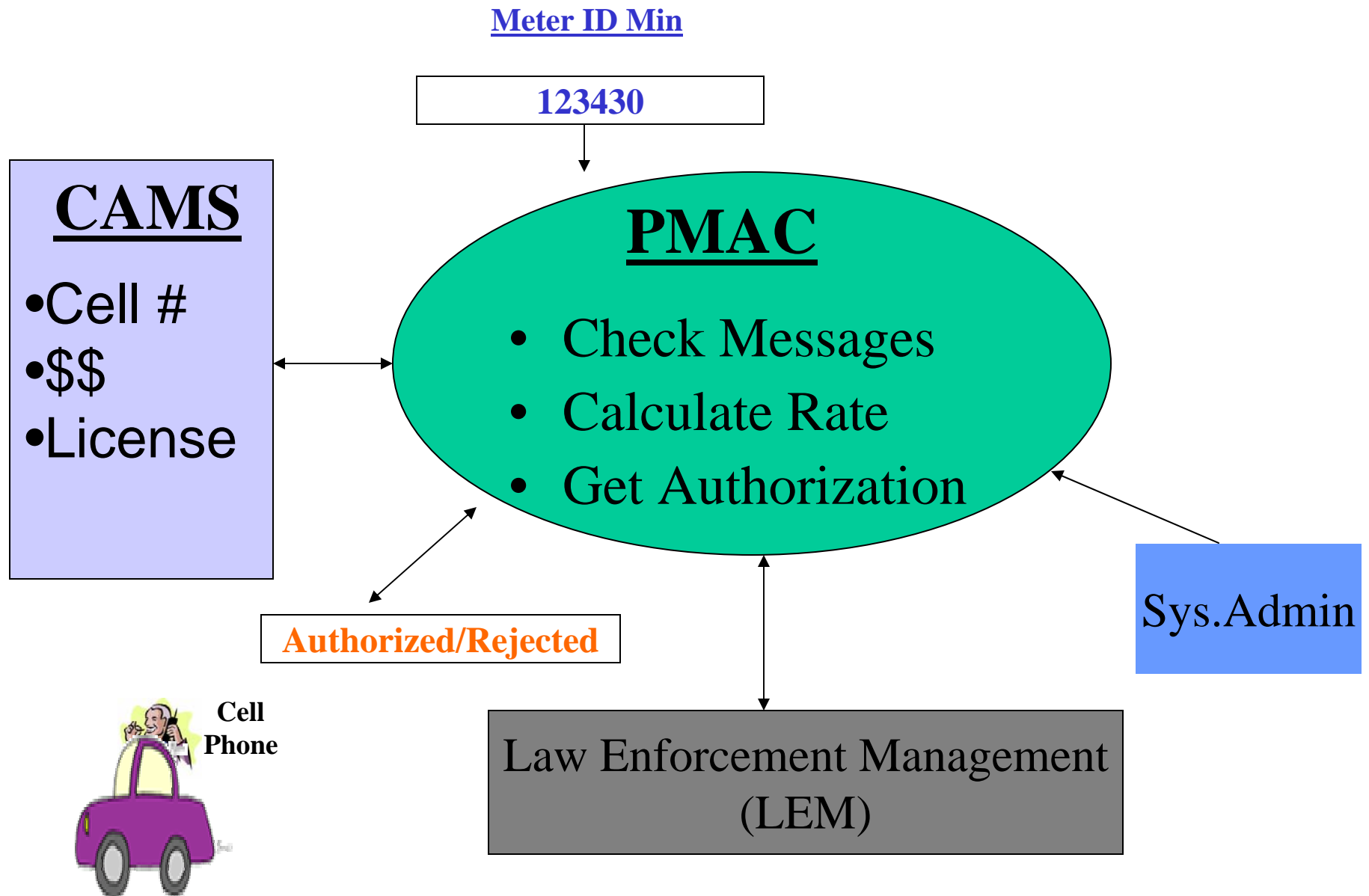
FINE:	\$10.00
LOCATION:	LOT 21
COMMENTS:	VEHICLE NOT REGISTERED

OFFICER:	151
Date:	12/27/2001 Time: 14:02

Customer Information	
Mail to: Cashier's at G-1 Parker Hall	

Officer

DarayaPark Architecture



DarayaPark Architecture Components

- **PMAC (Parking Management And Control)**
 - SMS Communication
 - Rate Definition
 - Facilitates Payments through CAMS
 - Caches information for Law Enforcement Officers
 - Tracks ALL Parking Transactions
- **CAMS (Customer Account Management System)**
 - Customers' Pre-Paid Accounts
 - Financial Transactions Management
- **LEM (Law Enforcement Module)**
 - Parking Infractions Management
- **Cell Phone**
 - Send SMS Messages for Parking by Parking Customer

Benefits to Parking Customers

- Unparallel Convenience
 - No need to carry Coins/Bills/Tickets or Post Stickers
 - Procure Parking Space Without Getting out of the Car
 - As Easy As Dialing a Telephone Number
 - Only a SMS Enabled Cell Phone Needed
- SMS Alert Prior to Parking Time Expiry (Optional)
 - Strategic Parking Infraction Monitoring
 - No need to Rush Back with Coins/Cash for Extending Parking Time
 - Extend Parking Time Using Cell Phone

Benefits to Parking Business Operators

- **Reduction in Operating Expenditure**
 - Coin Collection, Processing, Deposit, etc.
 - Reduction in Parking Infraction Monitoring Service Cost with Parking Time Expiry Alert Service
 - No Need for Manual Data Entry of Infraction Tickets
- **No New Infrastructure Needed to Introduce DarayaPark Service to Parking Clientele**
 - No Need to Deploy & Maintain Systems on City Streets

Benefits to Parking Business Operators

- Eliminate Equipment Tampering & Vandalism
- Improvement in Law Enforcement Efficiency
- Increased Revenues and Profitability
 - Unused Time Cannot be Used by Others
 - Convenience of Increasing Parking Time Increases Parking Revenues for Parking Operators
 - Reduced Operating Cost

Post-Transition Benefits

- Flexibility to offer Variable Rates
- Allows Instant Rate Changes
- Complete View of City Street Parking Status
- Customers could be informed about nearest vacant Parking slot from a given point
- City can offer Services based on this Infrastructure like License Renewal , Car Registration, Loyalty Programs , Advertisements, etc.

Benefits to Cell Operators

- Increased Revenues due to SMS Traffic Without Any Investment
- Short Term Potential Increase in Revenues When Value Added Services are Offered
 - Alert Service
 - Payment of Parking Fees Through Phone Bills
- Long Term Spin Offs
 - Guided Parking
 - Car Registration
 - Driving License Renewal
 - Car Profile Query When Purchasing Cars

DarayaPark

Business Model

- Business Model for Street Parking Revenue Based on Montreal City of Canada

No. of Street Parking Meters: 15000

Parking Rates: \$ 2/hr & \$ 1/hr

Total Yearly Revenues: \$ 25 Million

Average Transaction Value: \$ 2

Average No. of Transactions Per Day Per Meter: 4

Total No. of Transactions Per Day: 60000



Derived From Published Financial Report of Montreal Parking Authority

Cell Phone based parking transactions in 5 years

	Yr 1	Yr 2	Yr 3	Yr4	Yr5
Cell Phone Usage Penetration For Parking	10%	20%	30%	40%	50%
No. of Cell Phone Based Parking Transactions per day	6160	12320	18480	24640	30800

Post-Pilot Responsibility of Parking Operators

- Identify Each Parking Spot by a Unique ID
- Provide Wireless PDA to Law Enforcement Officers
- Centralized Management Station to Monitor Street Parking and Law Enforcement Officers



Minimal Investment

PDA ROI Within 6 Months Based on Automation of Ticketing Process

Thank you



The Ultimate in Street Parking Convenience & Management

The Mobile Commerce Application the Wireless Industry has been Waiting For