



Pay by Licence Plate

Experiences from the Front Lines

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Agenda

- Who is Tannery?
- What do we do?
- Pay by License Plate (PBL)
- Our new Handheld for PBL
- Experiences from the Front Lines of PBL



Who is Tannery, What do we do?

- Who is Tannery?
 - Canadian company located near Toronto
 - Specializes in parking automation and enforcement (software and hardware)
- What do we do?
 - Digital chalking
 - Scofflaw
 - Permits
 - Pay by Plate



Tannery's Products

- autoChalk comes in:
 - Vehicular mounted
 - Handheld (Samsung Android phone)
 - Fixed cameras (parkade)



autoChalk Mobile PBL in Action



autoChalk scans 20,000 vehicles (and plates) per day in Calgary (population of 1.1 Million) for the ParkPlus PBL parking system.

ParkPlus, a proprietary solution, offers pay by cell, pay on the web, pre booking, zone pricing, and street kiosk payment.





New Handheld for PBL

- Samsung Android Smart Phone
- Built for PBL
- Connects to EMS via 4G/LTE
- Fast plate/paid session lookup
- Integrated with Digital Payment Technology's Luke II & EMS

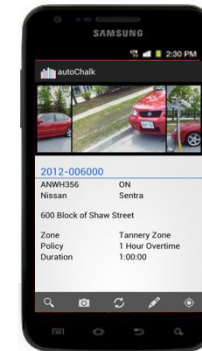



Plate A57417



Expired
Zone PayByPlate
Expired 6+ Hours ago

More Details

[Started](#) Fri Jun 01 12:19:04 EDT 2012
[Ends at](#) Fri Jun 01 13:19:25 EDT 2012
[Purchased](#) Fri Jun 01 12:19:04 EDT 2012

Session History



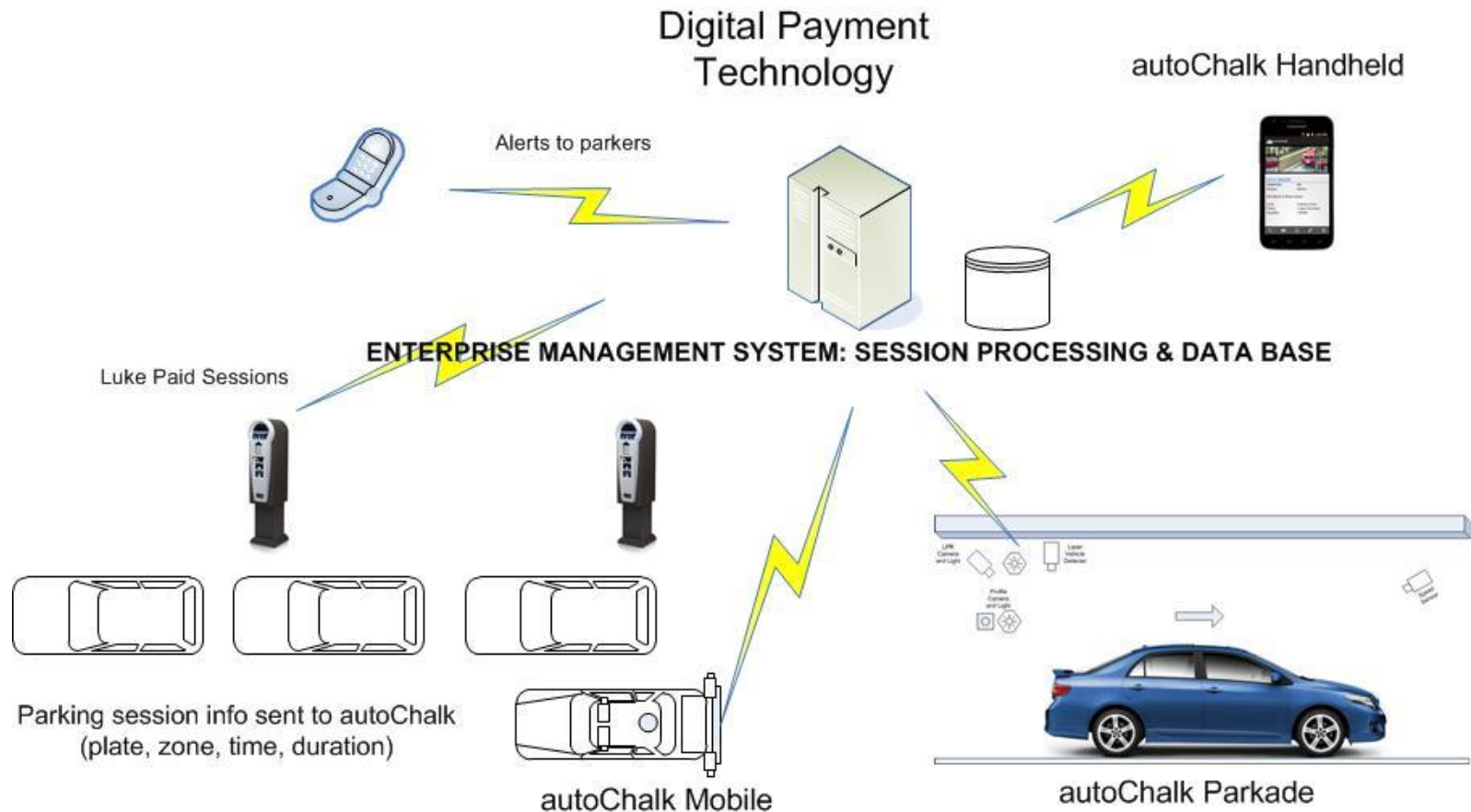
Pay-by-Plate Operation

- Replaces pay & display
- No need to go back car to display receipt
- Parker enters license plate value & pays
- Plate info, time, duration, Luke ID sent to central server (Enterprise Management System: EMS)
- autoChalk receives notice of these sessions
- autoChalk LPR scans at 25 mph checking for valid paid sessions



Overview

OVERVIEW OF PAY BY PLATE AUTOCHALK ENFORCEMENT FAMILY





Pay by Plate Advantages

- For Parkers
 - Pay only, pay slip on vehicle dash not needed
 - Notification of parking expiry & can extend time
 - Initiate sessions via cellphone
- For the City – enables, facilitates
 - Enforcement 3x faster
 - Non-stop enforcement with mail-out tickets even faster
 - Zone pricing
 - Block face marking (5% more parking than individual stalls)
 - Use plate (PBL) for hourly, daily, monthly & yearly parkers
 - Green parking (e.g. small cars get parking rate incentives)
 - Gateless garages
 - Pre-booking for premium spots
 - Excellent parking utilization data



Case Study: Flint(1)

- 29 Lukes (solar powered)
- Connected via WiFi
- This is a real time PBL operation
- About 300 parking spaces
- Parking was free before this (2 hour max)
- Hence
 - Free => paid parking
 - New high tech PBL
 - Parkers have lots of adjusting to do!



Flint(2): Connectivity

- Transactions typically take 30 seconds to complete over Wifi
- But network performance can vary
- autoChalk MUST have accurate records for PEO to correctly cite vehicles
- Hence
 - Network needs careful planning
 - Test each Luke over several hours and days by actually performing real live cash and credit card transactions



Flint(3): Handling Off-line Lukes

- Occasionally a pay station goes off line
- Pay station may contain legit paid sessions that have NOT been forwarded to EMS
- autoChalk ascertains non paying stations and
 - autoChalk's accurate GPS maps pay station location
 - Ignores or warns PEO to NOT cite for vehicles within 30 yards of off-line pay station
 - Significantly reduces chance of issuing citations to paying parkers



Flint(4): Other PBL Concerns

- User remembering plate
 - Flint parkers catching on fast
 - Pay station close to their vehicle so easy to check
- User mistyping plates
 - autoChalk matches on 4 digits so unlikely to have all digits messed up
- Enforcing unreadable plates
 - autoChalk detects all vehicles - plate readable or not
 - Check for every “nth” unreadable vehicle



Flint(5): Grace Periods

- Some initial concern that autoChalk would catch people who have not paid yet
- Actual experience is PEO stops and visually checks two nearest pay stations
- If someone at Luke pay station, PEO waits until they are done + 2 minutes
- If session still not reported then cite



Flint (6): Performance

- Vehicles scanned at about 20 mph
- 300 to 600 vehicles checked per hour including issuing citations
- Non readable vehicles are still regularly checked hence cheaters will get caught
- Percentage of parkers paying is increasing significantly
- Awareness of autoChalk enforcement is increasing compliance



Summary

- autoChalk Mobile optimal scanning large areas
- autoChalk Handheld ideal for smaller deployments
- All autoChalk products interoperable
- PBL deployments are creating innovation and opportunity for new services, revenue and parking behaviour analysis



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