



The proposal of payment and control of parking
on open parking



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Introduction

The purpose of this document is to propose a way of payment and control of parking for parking services, and municipalities that want to implement NOVOMAX SMS parking solution.

○ **Parking zones**

As parking places where parking service charges are not equally charged (loaded), it is necessary to in some way separated and protected most loaded parking (for example, in the narrow center of the city with less parking places) of the medium and smaller loaded, for example, edges of the city center with more parking places.

For this purpose all the parking lots are organized in the so-called parking areas, except that the capacity differ by several other factors, the most important

- time limit on the length of parking
- Price of parking

Usually, the numbers indicate the zones 1, 2, etc. where the counting starts from most loaded (charged) zone.

Also, each zone would be next to Number names should be marked with different color, for easier end-user orientation.

E.g.

- Zone 1 (red)
- Zone 2 (blue)
- Zone 3 (yellow)

these colors should be used for marking the street signals.

E.g. Characters in the first zone of the red, blue, etc. in the second.

Areas with the highest loads should have a time limit parking. E.g.

- Zone 1 (red) - max 60 minutes
- Zone 2 (blue) - max 120 minutes
- Zone 3 (yellow) - no restrictions

So that the user is not allowed to stay, and pay for parking, more than the maximum allowable time. This (in addition to meat protection policies), and further protect and unload most loaded parking.

In areas without restrictions, which generally are not burdened, it is possible to buy the ticket for next hour or allow the purchase of daily tickets for parking, and so facilitate the users to have a ticket paid for car parking during the day.

Price daily parking tickets can / should be less than the sum of the appropriate number of parking tickets for one hour.

The prices of tickets and defining parking zone should be define by professional services of parking service, and according on decision on the basis of its municipal authorities.

In addition to overloading the parking lot of criteria in determining parking zone should be taken into account the criterion of easy control of charge, so to avoid that one controller during control transitions from one zone to another, or to have as little transition from one sector to another, because it is so increases the efficiency of control and reduces the possibility of errors when writing additional tickets. (More about controlling the billing and sectors in the coming chapters)

▪ **Sectors (Micro zones)**

In addition to daily parking tickets that are one hour, it is necessary to provide a parking ticket for a



longer period of time, especially for tenants who live in the parking zone.

How parking zone can be a great concept is introduced in the division zone micro zone, or sectors, so that tenants have the right of parking (at privileged prices) only in the sector and not in the entire zone.

As parking areas may be large usually more controllers are control in the same zone. The ideal situation is to define the sectors so that each controller has its own sector in the control, so that the sectors are defined by a motion zone of controller.

- **Parking charge**
 - **SMS**

The basic advantage of pay parking via SMS messages in relation to the traditional parking payment systems such as scratch cards and parking machines is that the user can pay for parking and that is not physically present at a certain place (parking machines, kiosk, or in addition to your vehicle).

Parking is reduced to sending registration plates (number of digits and letters, without spaces or special characters) in a short number that corresponds to the parking area. For each zone is free to define a special short number (preferably the same for all operators) even though it is possible (if mobile operators allow more different prices on one short number) have a number for all zones and zone run through a short code that is in the message sent to the registration.

- **Scratch card**

Scratch tickets are purchased in newsstand or corner shops and are a traditional way of paying parking.

User scratch on scratch ticket parking starting time (month, day, hour, minute), and set ticket to the front of your vehicle so that the controller can perform a visual check.

Each scratch ticket has a unique serial number that controllers can enter in the system with time entries and receive information is that a valid scratch ticket.

Entering ticket unique serial number into the system to prevent the subjective impact of controller in determining the validity of scratch ticket time and with the ability to prevent fraud and the use of the same scratch ticket several times.

Scratching cards (tickets) are similar to short numbers in the sense that for different zones are different scratch cards.

They are a nice way of payment of parking if it is important to provide an alternative for users who may not use SMS.

Also, if the SMS system for some reason does not work (a problem in the operator or service provider) to have a good alternative method of payment and refer customers to him.

"Service is currently unavailable, please use scratch ticket for parking."

- **Subscription card**

Subscription cards are cards that people buy for a longer period

- Monthly
- quarterly



- 6-monthly
- year

and they apply to the specific parking

- at the level of sector
- at the level of zone

Tenants are usually able to buy subscription tickets by privileged prices, with the attached appropriate documentation on the vehicle and address.

▪ **Other alternative method of payment**

NOVOMAX SMS parking system except scratch cards currently do not support more alternative ways of payment, but it is possible to upgrade additional modules in order to support other methods of payment.

It is possible, for example. Allow controllers to work in addition to control and sell parking tickets, so that in addition to the controller, working as a collector and at the end of shift hand money.

○ **Control**

Checking is done by simply entering a registry number of vehicles that after query, server returns the appropriate response.

If the user does not have a payment or subscription ticket and ended the period of tolerance and meet the conditions for writing the penalty. Controller submitting additional ticket in the system.

Tolerance is the period that user have to make payment. If, for example, defined by the tolerance of 15 minutes and controller make the first identification of vehicles without payment to 10:52 additional ticket can only write from 11:07, and if the user in meanwhile did not make payment. In the meantime, all additional observes give message that the user is in the period of tolerance and it is not possible to write the penalty.

▪ **Penalties (Additional tickets)**

Control after entering the account to pay additional tickets to the portable printer printing information that adds to account for the payment

Account for writing additional cards are the following information

- (unique) account number
- Registration number of vehicles
- Vehicle brands
- Zone
- Town of writing / street number
- identify the first time without a ticket
- the time of writing the penalty (additional tickets)
- The price of additional tickets
- Code of controller

If payment is not received on a time for the account on the address of the owner of the vehicle is send a warning to pay additional tickets.

For these purposes should be made a connection to the central register of owners of vehicles and license plates to receive the requested information.



- **Equipment**

Parking service to provide equipment

- the number of desktop computers for their work administration
- any new generation of computers
- Internet connection
- the number of PDA computer controller to work
- Windows Mobile 6 operating system
- IP64 specification for the resistance of the device
- Bluetooth for wireless connection to the printer
- GPRS or 3G Internet connection

that NOVOMAX with IT administrators of Parking service configured for the adequate operation and access to the system.

- **Operational functions**

Not entering in the structure of parking service companies and systematization of working places, which may vary from municipality to municipality try to identify the operational functions and duties related to them. Some functions could be one person while the individual features can be organized to more individual work.

- **IT Administrators**

IT administrators monitor and manage the work of system parameters (via the administrative panel), helping other employees, concerned about the functioning of equipment and keep training for the proper handling PDA devices and other equipment.

NOVOMAX is primarily focused on the training of IT administrators so later they can solve possible problems in the work of other employees in the parking service (controllers, customer support and other operators)

- **Controllers on the ground**

Controllers in the field do check if the vehicle found in the car park has paid ticket or not. Controllers are supplied small PDA computer which is by wireless Internet connection connected to the central server.

If the controllers works in several shifts it is possible to use the same device, only in this case is necessary to provide additional batteries...

- **Support**

Customer support communication with end users, answer questions and solves appeal. To that, end user has access to the history of parking modules, subscribers and additional tickets.

Customer support is usually selling and management of subscriber cards, although this may be separate functions.



- **Operators for additional tickets**

If payment is not received on a time for the account to pay additional tickets, at the address of the owner of the vehicle is sent a warning to pay additional tickets.

For these purposes should be made a connection to the central register of owners of vehicles and license plates to receive the requested information.

System for the purposes of generating a file with the required registration marks in a format that is required in the central register and submit the required protocol (via the Internet or to person's USB flash memory).

On the basis of this central register file generates a document with information about the owners of vehicles that are inserted into the system, and on the basis of which is generated by notice in a format adapted for printing.

If after a certain time does not follow the payment by or warn, legal service of Parking service initiate a complaint on the competent court and the owner in addition to the cost of additional tickets also risk to pay warning ticket and court costs.

- **Other features**

In addition to these functions, it is necessary to have people who will focus on monitoring and analysis of statistical data on the system and on the basis of the suggested changes in business processes and software.

NOVOMAX is ready to work on further development of the system, through the development of new modules and generating new types of statistics and reports, and export data for other systems in the parking service.

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