

Smart Parking Systems





❖ System Over View

- Based on TCP/IP network
- Based on Internet cloud database
- Can control the following:
 - In Gates
 - Out Gates
 - Cashiers
 - Servers
 - RFID Access control
 - LPR Camera
 - Long Range Reader
- Can monitor the following:
 - Park Capacity Screen
 - Gates



❖ System Info

- The Application based on win64
- Databased use SQL Server 2014
- Server Specifications:
 - Dell Tower/Rack Server
 - Min 16GB RAM
 - Dual HD 1TB
- Cashier PC Specifications:
 - Dell Tower
 - Processor i5
 - RAM 4GB
 - QR/Line Barcode scanner
 - Receipt thermal printer
 - CDS unit





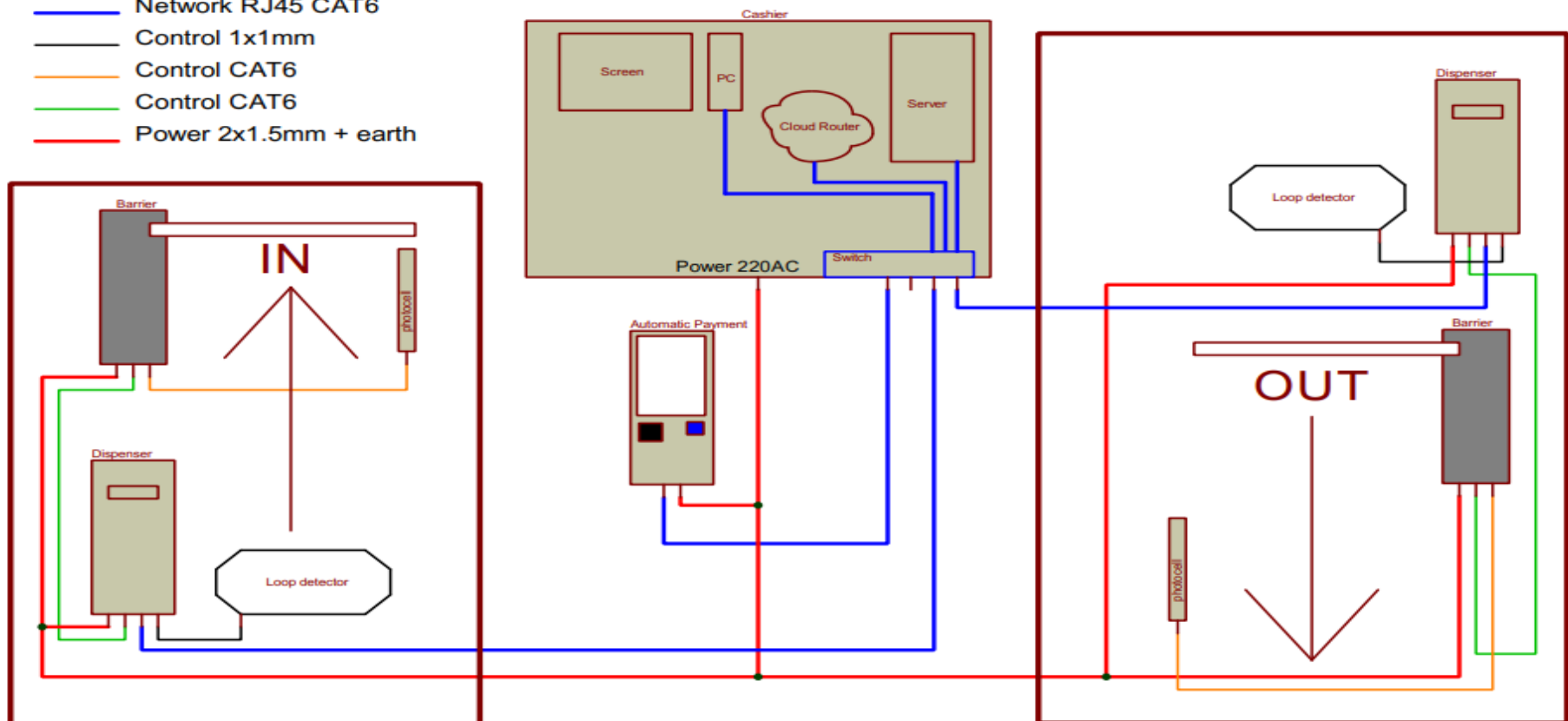
Ticketing Machines

❖ Master wiring diagram

Fully automatic parking system

Smart Life Parking System Wiring Full Automatic

- Network RJ45 CAT6
- Control 1x1mm
- Control CAT6
- Control CAT6
- Power 2x1.5mm + earth



❖ Operation Process

1. Temporary visitors (daily visitor)

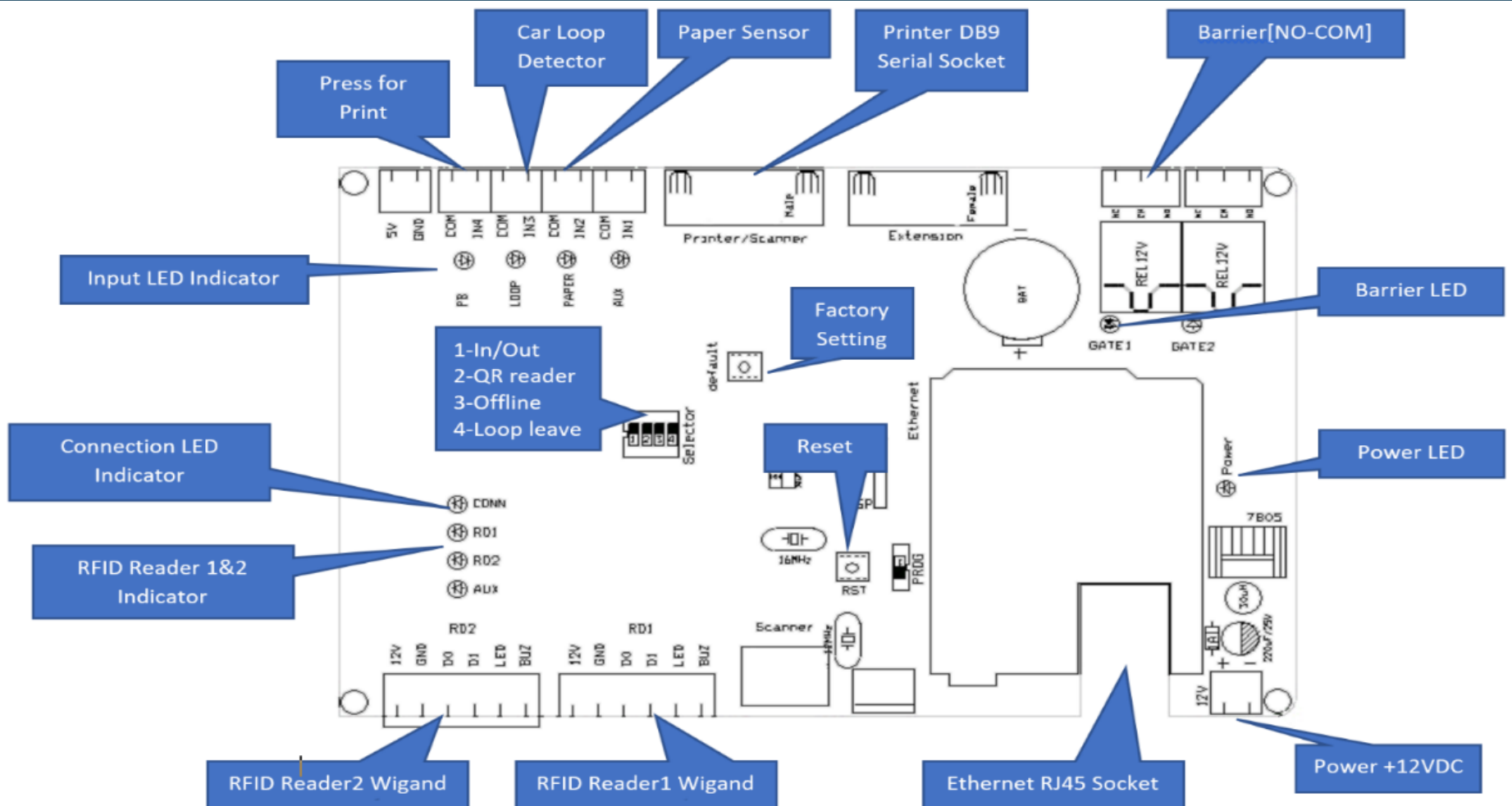
- **Entry lane:**
 - The car must stand on the loop metal detector to activate the request (Led from red to green)
 - Press the green button for two seconds
 - Receipt of the printed ticket by the printer with the serial number, date and time written on it
 - Barrier will open the gate and pass through the gate
- **Cashier room or auto payment machine or mobile app:**
 - Receive the ticket from the customer
 - Read the code through the scanner, and it will show you the waiting period and park fees
 - Receive the money from the customer or pay cash or pay by card then take the receipt
- **Exit lane:**
 - The car must stand on the loop metal detector to activate the request (Led from red to green)
 - Place the ticket on the QR scanner to read the code
 - Wait for two seconds for the system to verify that this code has been validated and ready for exit
 - If he is allowed to go out, the gate will open and pass, if not back to cashier or security to check

❖ Operation Process

2. Monthly and yearly use (owners, tenants)

- **Using a magnetic card or tag sticker or ANPR card plate number**
 - The new record is registered on the system for a specific visitor by opening the subscriptions screen and placing the card on the reader to read the code of the card
 - And the subscription period is determined for a period from date to date, and then renewal takes place according to the need
 - You can select specified days and hours through the day to access on it.
 - At the entrances and exits, the visitor puts the card on the reader or waiting ANPR camera to detect the plate number and waits for two seconds to check whether it is activated for passage or not
 - If activated, the gate will open
 - (anti pass back) function is each visitor is allowed to access in one direction only, to enter and then exit, and so on. As entry is not allowed more than one consecutive time, except for master cards only.

❖ Motherboard wiring layout



❖ Periodic maintenance :

This is very important steps to ensure system efficiency and durability

Title	Periodic check
Check the network efficiency and connectivity between machines, switches, servers and cashier pcs.	daily
Clean and blower the ticket dispenser with an air and cleaning the printer head with dried tissues with a light movement, especially after dust storms.	weekly ,after dusty storms
Clean and blower the dispenser barcode scanner by with dried tissues with a light movement.	weekly ,after dusty storms
Check and refill paper roll	Every 3 days
Check the in lane PB is work properly.	monthly
Examining and ensuring the efficiency and effectiveness of the machines for opening and closing barrier gates.	monthly
Check the barrier springs are tighten correctly.	monthly
Clean and check the photocell is fixed probably.	monthly

❖ Troubleshooting:

1-Printer doesn't print ticket at Entry:

Anomaly	Procedure
Network problem "connection led off"	Check network cable or reset Mother Board
Printer get error "red led"	Restart printer
Printer paper jam	Open printer and clean up
Paper out	Refill the paper roll
Metal Detector does not work	Check if car is above the loop and the detector module is on and detect correct
Unconnected	Check the Rj45 cable is connected to the mother board

❖ Troubleshooting:

2-Scanner doesn't open Exit gate:

Anomaly	Procedure
Network problem "connection led off"	Check network cable or reset Mother Board
Scanner lamp off	Scanner power off or damaged
Loop Detector does not work	Check if car is above the loop and the detector module is on and detect correct and lamp indicator is green
Unconnected	Check the Rj45 cable is connected to the mother board
Scanner doesn't beep	May be damaged QR code or scanner need to clean

❖ Troubleshooting:

3-Barrier doesn't open:

Anomaly	Procedure
Main Power drop down	Check the power on the barrier control board
Check the "Barrier led" on mother board is run when system operates	Check item no. 1 and 2
The signal doesn't go to the barrier control board	test the cable between mother board and barrier control board
Barrier makes noise but doesn't move	Barrier in manual mode reverse it to automatic mode by manual key
Motor opens but doesn't close	Check if there is any object between photocell or loop detector, or check loop module

❖ Troubleshooting:

4-Server screen error:

Anomaly	Procedure
Node IP get red alarm	Ping to IP and check network switches
SW was frozen or not work	Restart SW or force stop the program and open it again

5-Assistance

- If you encounter difficulties or have questions when installing your motorization,
- Do not hesitate to contact us; our specialists are on hand to answer all your questions.



Auto Payment Machine

❖ Auto Payment Machine

Machine Main Screen

The dashboard contains new text.

Welcome Westburry Tower

PAY BY QR
TICKET

PAY BY CAR
PLATE

Touch to select access type

ADMIN

❖ Auto Payment Machine

Scan ticket screen

Scan or Enter your Ticket

3316537033

CHECK

Touch for validation

if message
"data not in the system"
appear that mean the data
scanned is exit the gate or the
data not from our system

BACK

Scan your ticket on scanner

Welcome
Westbury



3315537733

Time: 2023/04/10, 03:18 PM

Thank you
See You Later

❖ Auto Payment Machine

Park Details Screen

Parking Details

Park	Westburry Residence	In Time	2023-04-16 11:15
Ticket	3316537033	Out Time	2023-04-16 13:49
Car number		Duration	2h 34min
Amount (AED)	40		

BACK

CASH

BANK CARD

Check your data and period

This is your amount
Prepare your money

Select pay method

❖ Auto Payment Machine

Payment Screen

Cash Payment

machine will **start accept** banknotes cash and coins until the amount $\geq$ the required value then machine **stop accept** the banknotes, eject the change and printing your receipt

Total Amount	40	AED
Paid Amount	0	AED
Change Amount	0	AED

Check your payment and change

Insert the bank notes or coins

Take your receipt you have 10min to exit
you can change this time from setting page in ERP

PRINT RECEIPT

BACK

❖ Auto Payment Machine

Machine Main Screen

The dashboard contains new text.

Welcome Westburry Tower

PAY BY QR
TICKET

PAY BY CAR
PLATE

For administration access

ADMIN

❖ Auto Payment Machine

Admin Screen

Admin

LOGIN

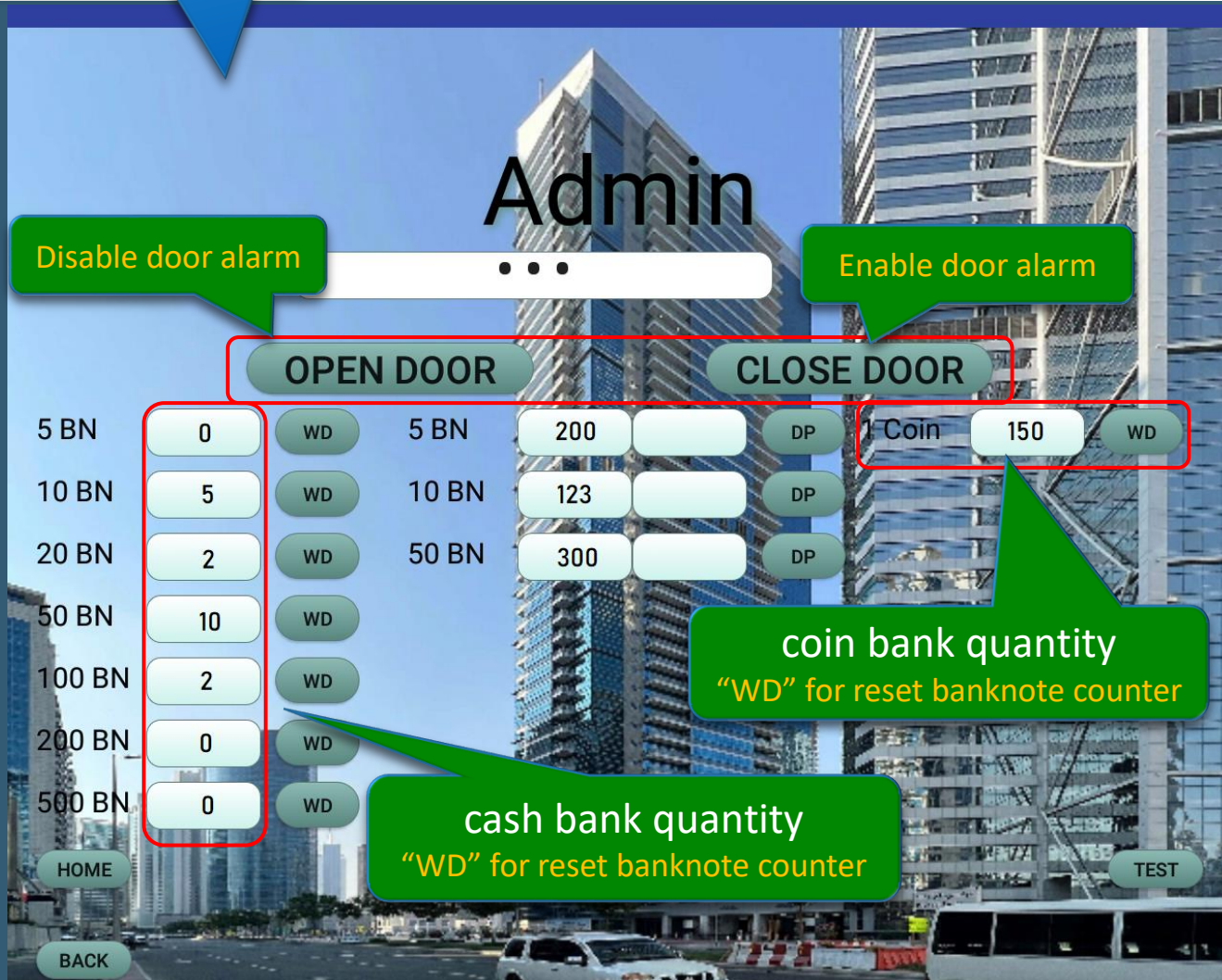
Enter Admin password

You can change the password form
Smarution System ERP
at administrator PC

BACK

❖ Auto Payment Machine

Admin Screen



The Admin Screen of an Auto Payment Machine is displayed against a background of a modern city skyline. The screen features a central 'Admin' title and a menu of options. A red box highlights the 'OPEN DOOR' and 'CLOSE DOOR' buttons. A green box highlights the 'coin bank quantity' section, which includes a '1 Coin' button and a 'WD' button. Another green box highlights the 'cash bank quantity' section, which includes a 'WD' button. A third green box highlights the 'WD' button for the '500 BN' row. A fourth green box highlights the 'WD' button for the '100 BN' row. A fifth green box highlights the 'WD' button for the '200 BN' row. A sixth green box highlights the 'WD' button for the '50 BN' row. A seventh green box highlights the 'WD' button for the '20 BN' row. A eighth green box highlights the 'WD' button for the '10 BN' row. A ninth green box highlights the 'WD' button for the '5 BN' row. A tenth green box highlights the 'WD' button for the '1 Coin' row. A eleventh green box highlights the 'WD' button for the '1 Coin' row. A twelfth green box highlights the 'WD' button for the '1 Coin' row. A thirteenth green box highlights the 'WD' button for the '1 Coin' row. A fourteenth green box highlights the 'WD' button for the '1 Coin' row. A fifteenth green box highlights the 'WD' button for the '1 Coin' row. A sixteenth green box highlights the 'WD' button for the '1 Coin' row. A seventeenth green box highlights the 'WD' button for the '1 Coin' row. An eighteenth green box highlights the 'WD' button for the '1 Coin' row. A nineteenth green box highlights the 'WD' button for the '1 Coin' row. A twentieth green box highlights the 'WD' button for the '1 Coin' row.

Admin

Disable door alarm

Enable door alarm

OPEN DOOR

CLOSE DOOR

5 BN	0	WD	5 BN	200		DP	1 Coin	150	WD
10 BN	5	WD	10 BN	123		DP			
20 BN	2	WD	50 BN	300		DP			
50 BN	10	WD							
100 BN	2	WD							
200 BN	0	WD							
500 BN	0	WD							

coin bank quantity
"WD" for reset banknote counter

cash bank quantity
"WD" for reset banknote counter

HOME

BACK

TEST

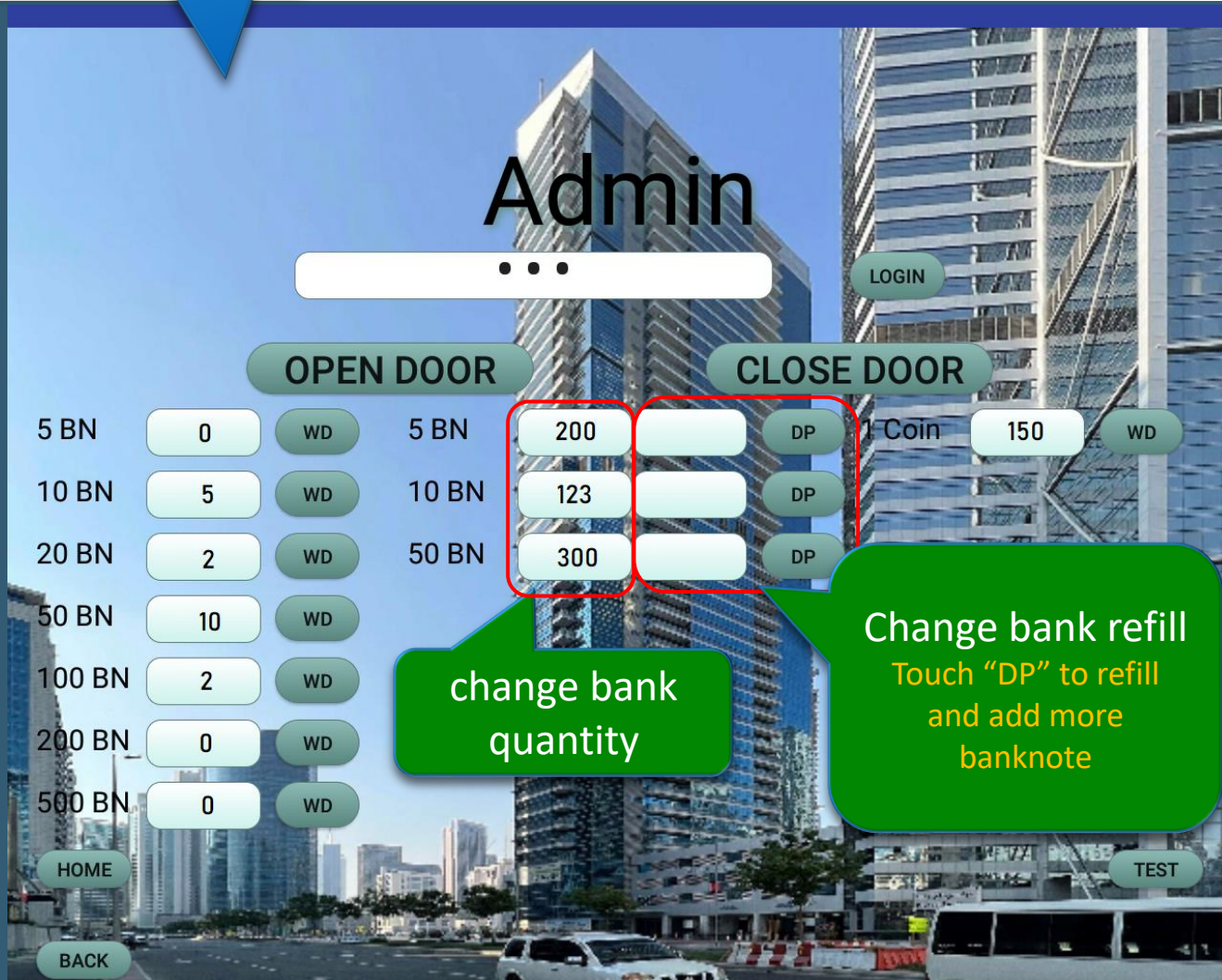
❖ Auto Payment Machine

Admin Screen



❖ Auto Payment Machine

Admin Screen

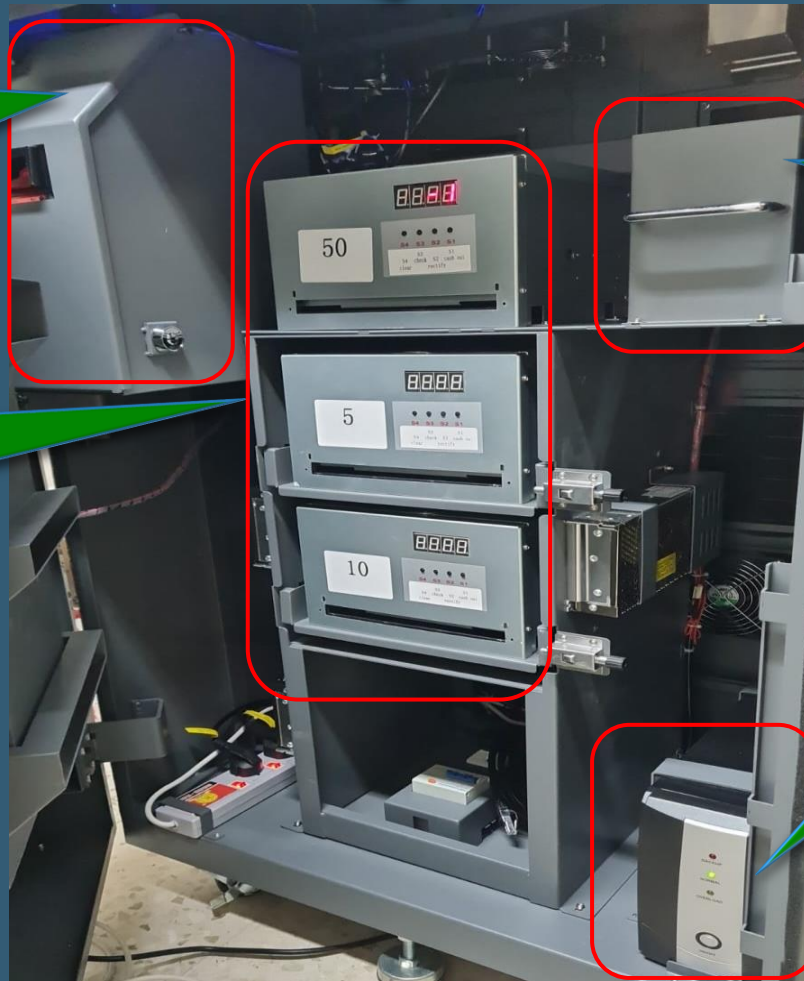


❖ APM Technicality:

Admin accept and refill the machine banks by using admin keys (every bank has separate key)

Cash acceptor
5,10,20,50,100,200,5
00 only

3 banks
Change dispenser
5,10,50



Coin bank

Power UPS

❖ APM Periodic maintenance :

Title	Periodic check
Check the network efficiency and connectivity between machines, switches, servers and cashier pcs	Daily
Clean and blower the APS money acceptor and change dispensers with an air blower to cleaning the head with dried tissues with a light movement, especially after dust storms	weekly& , after dusty storms
Clean and blower the barcode scanner by with dried tissues with a light movement.	weekly& , after dusty storms
Check and refill receipt paper roll	Every 3 days
Check the screen touch panel is work properly	monthly
Examining and ensuring the efficiency and effectiveness of the machines for accepting and dispensing banknotes	monthly

❖ APM Troubleshooting:

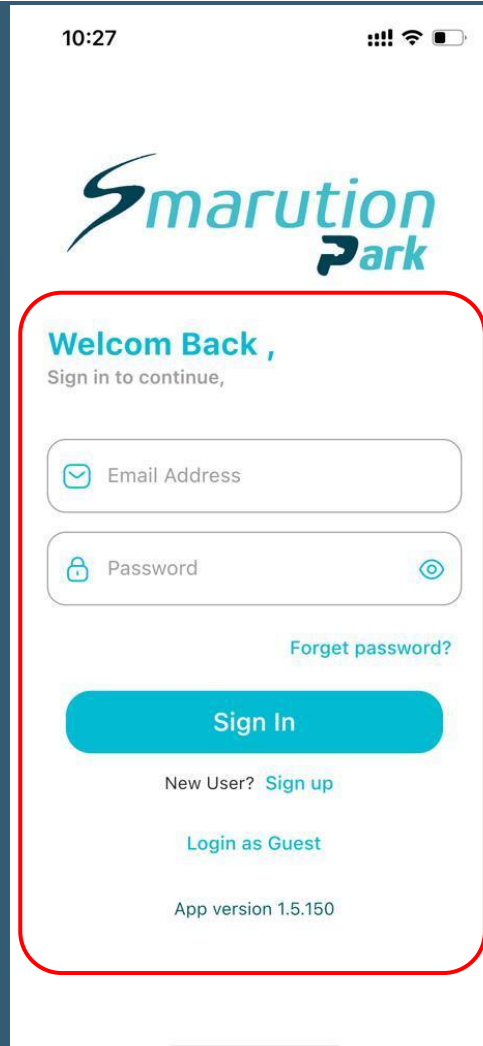
Anomaly	Procedure
Screen is off	Check the power on the barrier control board
Touch panel not work	Check USB cable between screen and control panel
Machine doesn't accept notes	Check USB cable between cash acceptor and control panel or cash acceptor power supply
Machine doesn't dispense the change notes	Check USB cables between cash dispenser and control panel or cash dispenser power supply
SW doesn't open	Restart the machine or contact the technical support
SW get error message	Check network cable or internet connection



Mobile App

❖ Mobile App

Login Screen



10:27

Smarution Park

Welcom Back ,
Sign in to continue,



[Forget password?](#)

Sign In

New User? [Sign up](#)

[Login as Guest](#)

App version 1.5.150

User can access as guest or register for recuring use and owners or tenants

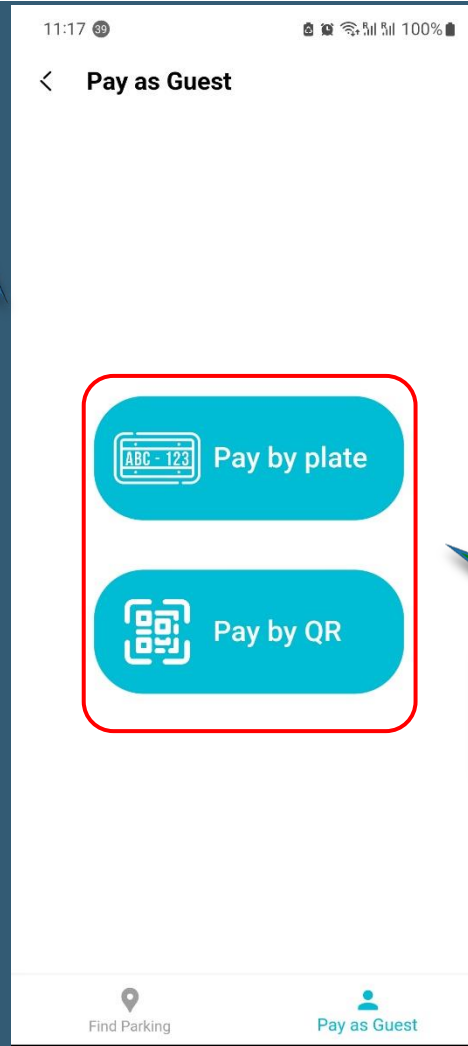
❖ Mobile App

Find nearest park



❖ Mobile App

Guest Screen



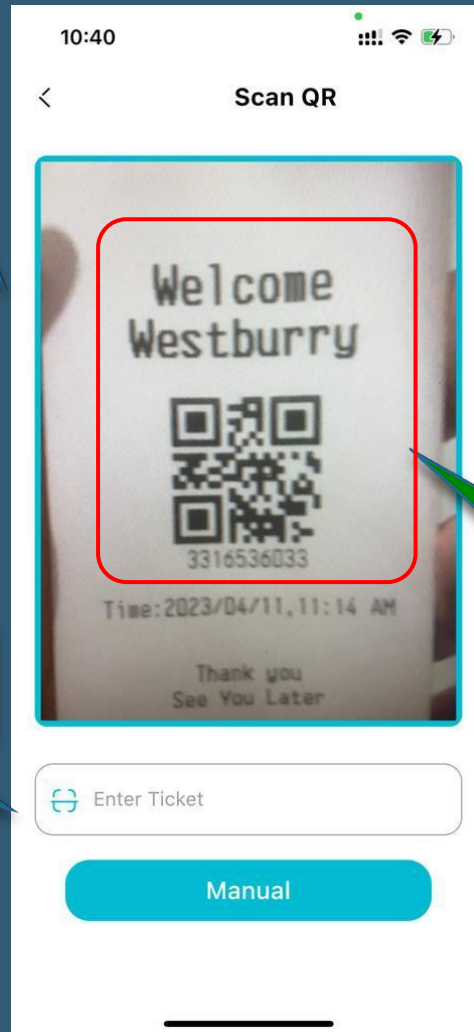
Select payment
type

❖ Mobile App

Scan Screen

You can enter it manually

Scan your ticket



❖ Mobile App

Pay Screen

10:39   

< Pay Now

Parking Details

Parking Name	Westburry Residence
Ticket	3316536033
Car Num	
Entry Time	2023-04-11 11:14
Current Time	2023-04-11 16:39
Total Parking Duration	5hr 24min
Total Amount	85 AED

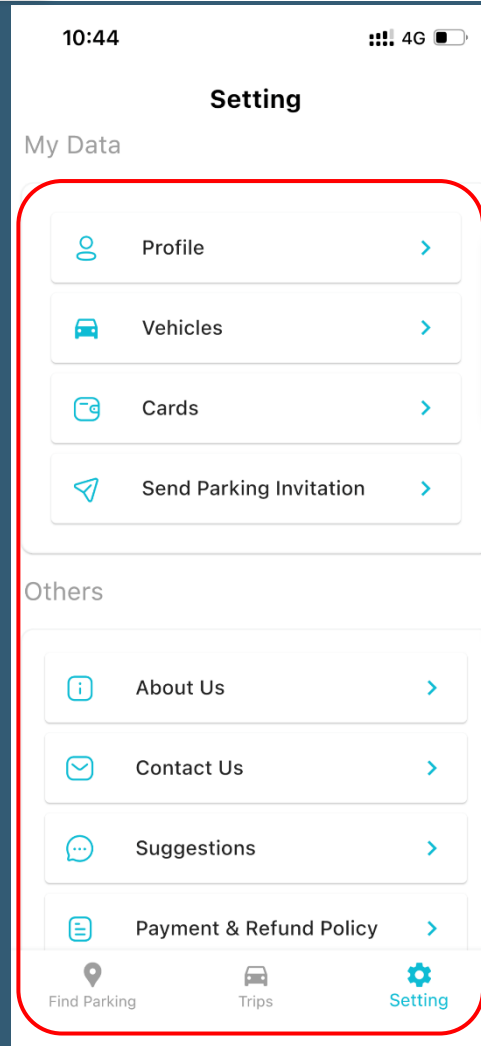
 Pay

Pay now

Your park details

❖ Mobile App

Setting Screen



User can modify his data ,profile , cars, bank cards and send invitation

❖ Mobile App

Add Cars Screen

11:18 89

< Plate Details

ABC - 123

Plate Code

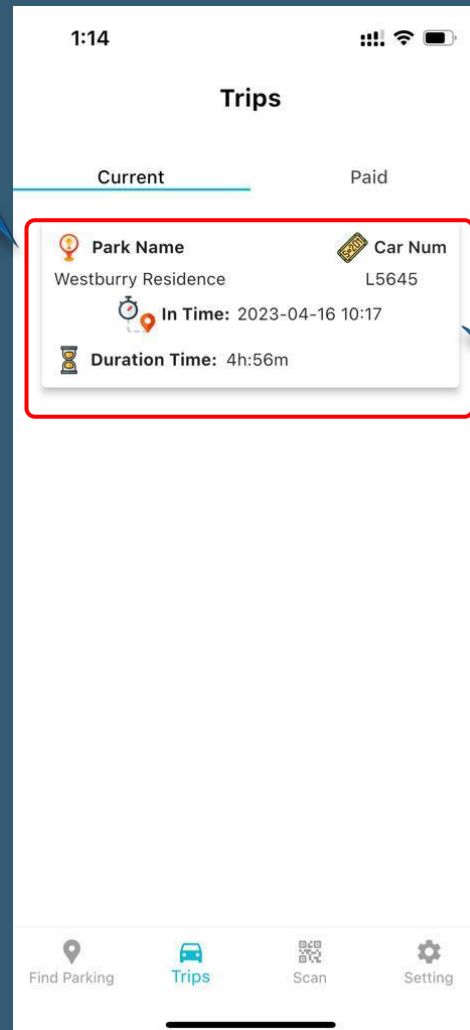
Plate ...

Check Out

Register your cars

❖ Mobile App

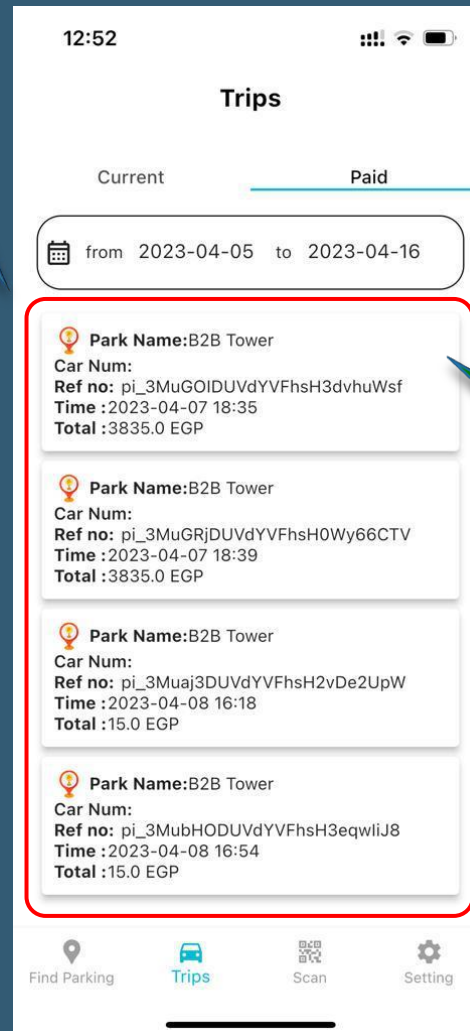
Current Trips Screen



click to pay

❖ Mobile App

Paid Trips Screen



user trips reports



ERP System

❖ System Screens

Login screen

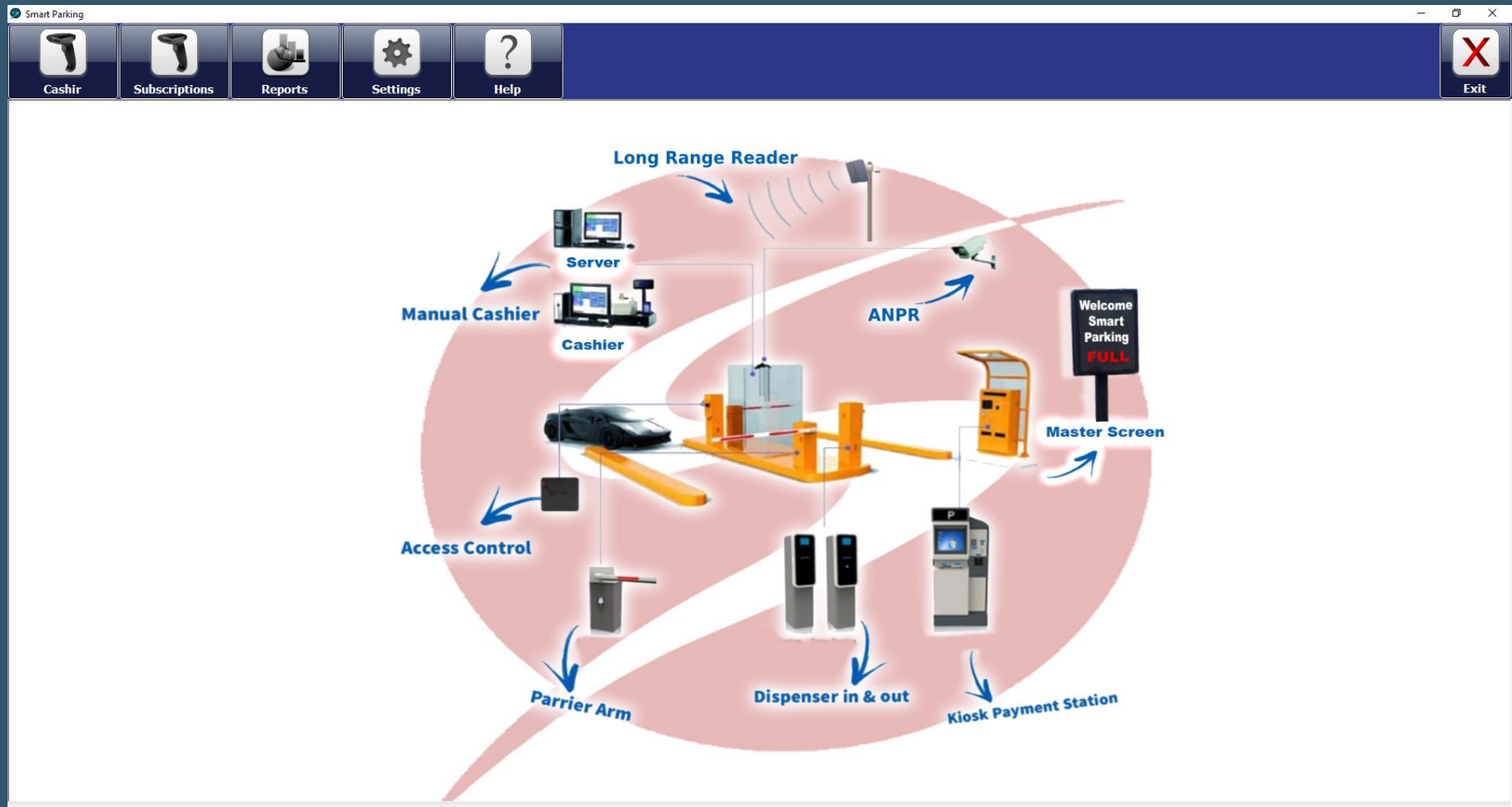


The image shows a login window titled "Login" with a red circular icon. The window is divided into two main sections. The left section features a background image of a person's hand holding a white card near a yellow parking barrier, with the text "Smart Parking" overlaid in large, bold, black and red font. The right section contains three input fields labeled "User", "Name", and "Password", each with a corresponding text label above it. Below these fields are two buttons: "Exit" and "Enter". The window has standard Windows-style window controls (minimize, maximize, close) in the top right corner.

	User	
	Name	
	Password	
	Exit Enter	

❖ System Screens

Main screen



❖ Reports Screen

Reports

Tickets

Select time period to fill
or print tickets log

Search by ticket code or
car Number

Ticket id

Cashier

Paid

IN , OUT time

Car Number

Car Image
LPR Number

Tickets Log Cards Log Subscription Payment Cashier General Log Statistics Cashir Subscriptions Payment Settings Help Exit											
From	To	Case	Code	Car Number	Fill	Excel	Print				
2020-04-17 11:59 AM	2023-04-17 11:59 AM	FULL									
Code	IN Date	Out Date	Finalout Date	Name	Cost	Discount	Total	Park	Notes	carNum	Image
155321	2023-03-06 07...			Muhammad				Westbury Resi...			
155322	2023-03-06 08...			Muhammad				Westbury Resi...			
155323	2023-03-06 08...			Muhammad				Westbury Resi...			
155324	2023-03-06 08...			Muhammad				Westbury Resi...			
155325	2023-03-06 08...			Muhammad				Westbury Resi...			
155326	2023-03-06 08...			Muhammad				Westbury Resi...			
155327	2023-03-06 08...			Muhammad				Westbury Resi...			
155328	2023-03-06 08...			Muhammad				Westbury Resi...			
155329	2023-03-06 08...			Muhammad				Westbury Resi...			
155330	2023-03-06 08...			Muhammad				Westbury Resi...			
155331	2023-03-06 08...			Muhammad				Westbury Resi...			
155332	2023-03-06 08...			Muhammad				Westbury Resi...			
155333	2023-03-06 08...			Muhammad				Westbury Resi...			
155334	2023-03-06 08...			Muhammad				Westbury Resi...			
155335	2023-03-06 08...			Muhammad				Westbury Resi...			
155336	2023-03-06 08...			Muhammad				Westbury Resi...			
155337	2023-03-06 08...			Muhammad				Westbury Resi...			
155338	2023-03-06 08...			Muhammad				Westbury Resi...			
155339	2023-03-06 08...			Muhammad				Westbury Resi...			
155340	2023-03-06 08...			Muhammad				Westbury Resi...			
155341	2023-03-06 08...			Muhammad				Westbury Resi...			
155342	2023-03-06 08...			Muhammad				Westbury Resi...			
155343	2023-03-06 08...			Muhammad				Westbury Resi...			
155344	2023-03-06 08...			Muhammad				Westbury Resi...			
155345	2023-03-06 08...			Muhammad				Westbury Resi...			
155346	2023-03-06 08...			Muhammad				Westbury Resi...			
155347	2023-03-06 08...			Muhammad				Westbury Resi...			
155348	2023-03-06 08...			Muhammad				Westbury Resi...			
155349	2023-03-06 08...			Muhammad				Westbury Resi...			
155350	2023-03-06 08...			Muhammad				Westbury Resi...			
155351	2023-03-06 08...			Muhammad				Westbury Resi...			
155352	2023-03-06 08...			Muhammad				Westbury Resi...			
155353	2023-03-06 08...			Muhammad				Westbury Resi...			
155354	2023-03-06 08...			Muhammad				Westbury Resi...			
155355	2023-03-06 08...			Muhammad				Westbury Resi...			
155356	2023-03-06 08...			Muhammad				Westbury Resi...			
155357	2023-03-06 08...			Muhammad				Westbury Resi...			
155358	2023-03-06 08...			Muhammad				Westbury Resi...			
155359	2023-03-06 08...			Muhammad				Westbury Resi...			

❖ Reports Screen

Reports

Payment operations

Smart Parking - [Reports]

Cashir Subscriptions Reports Settings Help

Tickets Log Cards Log Subscription **Payment** Cashiers Still General Log Statistics

From 2020/04/17 - 12:03 PM To 2023/04/17 - 12:03 PM Fill Excel Print

	Date	Park	Cashier	Subscriber	Category	Cost	Extra	Dis	Total	kind	Card	Ticket	Notes
▶	2023-04-09 11:48 ...	Westbury Residence	APS			3775.00	0.00	0.00	3775.00			155359	
	2023-04-09 11:52 ...	Westbury Residence	APS			0.00	0.00	0.00	0.00			155359	
	2023-04-10 12:19 ...	Westbury Residence	APS			15.00	0.00	0.00	15.00			155359	
	2023-04-10 2:41 PM	Westbury Residence	APS			25.00	0.00	0.00	25.00			155372	
	2023-04-10 2:44 PM	Westbury Residence	APS			25.00	0.00	0.00	25.00			155373	
	2023-04-10 3:30 PM	Westbury Residence	APS			55.00	0.00	0.00	55.00			155371	
	2023-04-10 3:31 PM	Westbury Residence	APS			55.00	0.00	0.00	55.00			155370	
	2023-04-11 12:12 ...	Westbury Residence	APS			25.00	0.00	0.00	25.00			165361	
	2023-04-11 1:41 PM	Westbury Residence	APS			25.00	0.00	0.00	25.00			165367	

ID Card

All payment operations

Show Card ID Image

❖ Reports Screen

Reports

Cashiers Cash Log

Search by period

Smart Parking - [R]

Cashir Subscriptions Reports Settings Help

Tickets Log Cards Log Subscription Payment **Cashiers** Still General Log Statistics

From 2002-04-17 12:04 PM To 2023-04-17 12:04 PM Fill Excel Print

Park	Day	Cashier	Kind	Total
Westburry Residence	2023-04-09	APS		3775.00
Westburry Residence	2023-04-10	APS		175.00
Westburry Residence	2023-04-11	APS		50.00
Westburry Residence	2023-04-06	Muhammad	Cash	777330.00
Westburry Residence	2023-04-07	Muhammad	Cash	315500.00
Westburry Residence	2023-04-07	Muhammad	kind	140.00

Cashier name

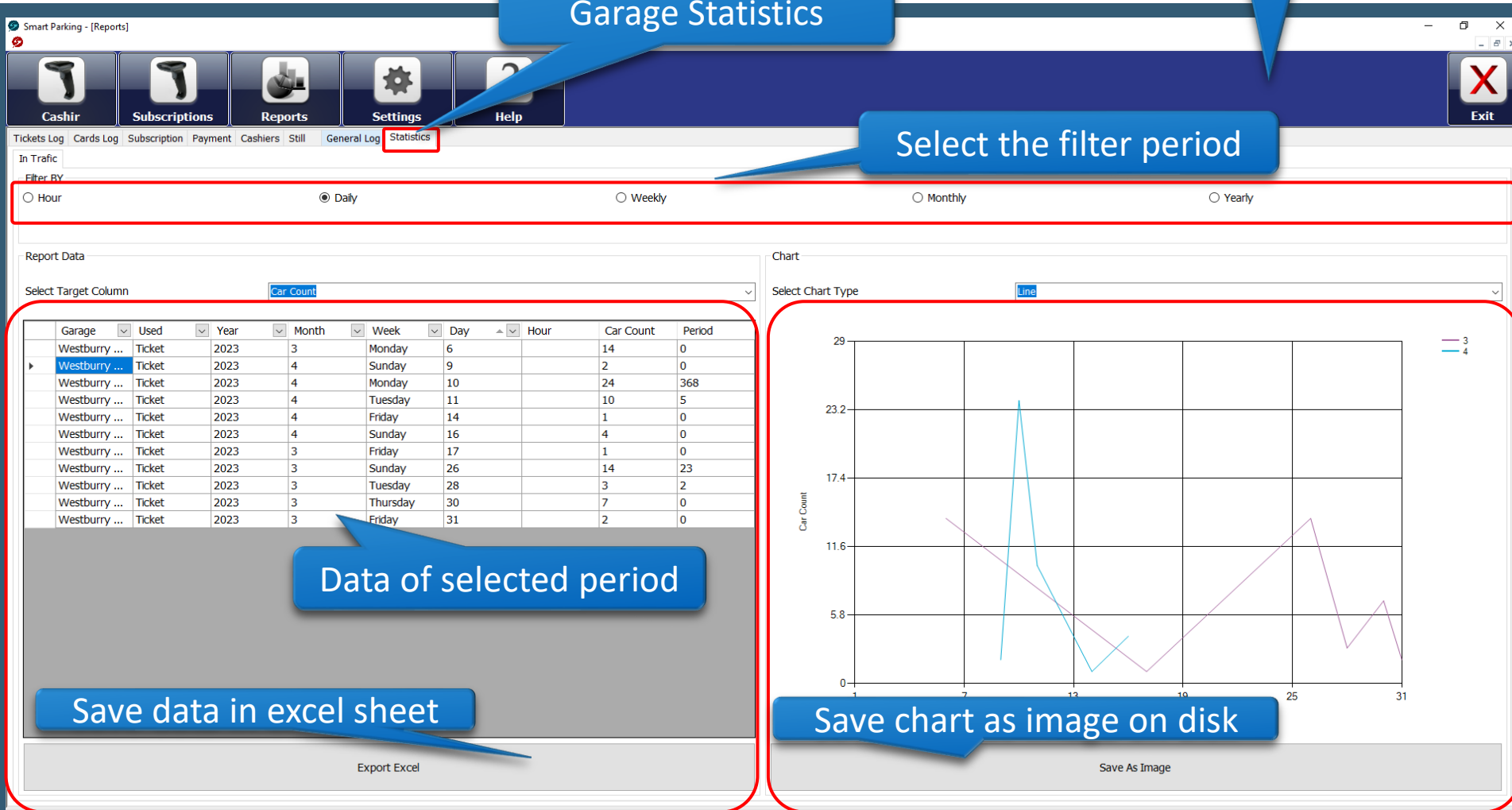
Amount

❖ Reports Screen

Reports

Garage Statistics

Select the filter period



Data of selected period

Save data in excel sheet

Save chart as image on disk

❖ Reports Screen

Reports

Garage Statistics

Select the filter period

In Traffic

Filter By

☐ Hour

☐ Daily

☒ Weekly

☐ Monthly

☐ Yearly

Report Data

Select Target Column

Car Count

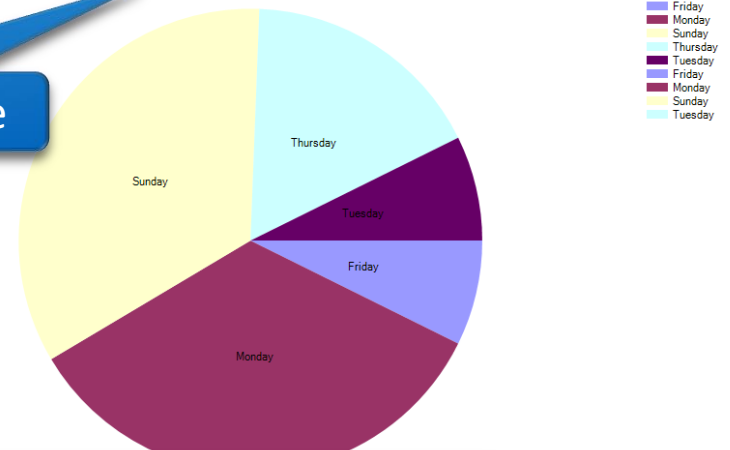
Garage	Used	Year	Month	Week	Day	Hour	Car Count	Period
Westburry ...	Ticket	2023	3	Friday			3	0
Westburry ...	Ticket	2023	3	Monday			14	0
Westburry ...	Ticket	2023	3	Sunday			14	23
Westburry ...	Ticket	2023	3	Thursday				
Westburry ...	Ticket	2023	3	Tuesday				
Westburry ...	Ticket	2023	4	Friday				
Westburry ...	Ticket	2023	4	Monday				
Westburry ...	Ticket	2023	4	Sunday			6	0
Westburry ...	Ticket	2023	4	Tuesday			10	5

Can change chart type

Chart

Select Chart Type

Pie



Save data in excel sheet

Export Excel

Save chart as image on disk

Save As Image

❖ Settings Screen

Settings

Parking
Settings

Parking
Parameters



Exit

Park	Garage Number	Capacity	Parking Status	Card Type	Free Time (Min)	Free Exit (Min)	Start Shift (Hr)
WB	1	1000	Full Automatic	Proximity ID	60	10	7

Can Change System Logo



Dispensers
Data

DID	Name	IP	Direction	PaperKind	CodeKind
1	In	192.168.1.200	In	Roll	QR
2	In	192.168.1.201	In	Roll	QR

MAC address of Devices
involved in the program

PC MAC
00BE43E78F63
1856808ADB87
989096C11D3C
AC74B1E11F6D
C025A5BE2949

Ticket Message

❖ Settings Screen

Settings

Users Settings

Can edit or add Users

Users Data

Users permissions

❖ Settings Screen

Fees Policy

Settings

hours calculations

Smart Parking

Cashir

Subscriptions

Reports

Settings

Help

hours calculations

Settings

Exit

Park

Users

Fees

Backup & Restore

Data Reset

Tickets Fees

	Category	First hr	From1 (Hr)	Cost1	Per Hour 1	From2 (Hr)	Cost2	Per Hour 2	Lost	With Free Time	Tax(x/v)
▶	Basic	25.0000	1	15.0000	1	0	0.0000	0	30.0000	☐	☐
•										☐	☐

Payment Kinds

Payment Kind
▶ Cash
Visa
Points
kind

Subscriptions Fees

Vehicle Types	Vehicle	Duration	Cost
▶ car1	car1	▼ day	▼ 10.0000
	car1	▼ month	▼ 20.0000
	car1	▼ year	▼ 30.0000
• car2	car2	▼ day	▼ 40.0000
	car2	▼ month	▼ 50.0000
	car2	▼ year	▼ 60.0000

Groups

Group	Note
▶ All	1
•	

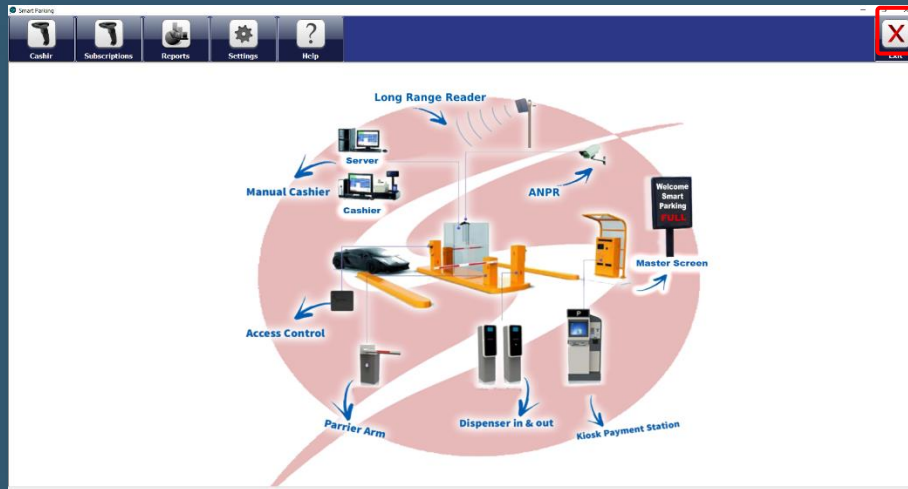
Types of the Subscriptions fees

Subscriptions Groups

Car type

❖ System Screens

Main screen



You Can Logout of the System

The login screen displays the Smart Parking logo and a form for user authentication. The form includes fields for User, Name, and Password, along with Exit and Enter buttons.

Login	
	User
	Name
	Password
	Exit Enter



Server System

❖ Server Screen

Server Gates Monitors

Parking System Server

Monitor Screens Cameras

Status

ping ok

Gates

	PID	GID	DID	ip	Direction	Name	State	Paper	DT	PaperKind	CodeKind
▶	8	6	1	192.168.1.200	in	in	☒	☐	11/07/2022 3:27 PM	Roll	OR
	8	6	2	192.168.1.201	out	out	☒	☐	11/07/2022 3:27 PM	Roll	OR

Online Gate

Search

Ex

❖ Server Screen

Server Gates Screens

Parking System Server

Monitor **Screens** Cameras

Status

Screens

	PID	GID	ip	Direction	Name	State	DT	SizeH	SizeW	Angel	Brightness	DeviceID	O/C
▶	3	6	192.168.1.150	IN	Main	☑		96	24	90	100		■

Online Screen

Ex

❖ Server Screen

Server LPR Cameras

Parking System Server

Monitor Screens **Cameras**

Status

Login Successful IP: 192.168.1.64 UserId: 1

Cameras

	DID	camID	camName	camIP	camUser	camPass	camState	DT	LogID
▶	1	1	In	192.168.1.64	admin	smartLIFE	☒	11/07/2022 3:25 PM	1

Online Camera

Ex

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Thank You

