Airport Parking

There are four applications used in Airport parking.

1. Ticketing System
2. Access Control Syncing System
3. Android Billing Api (For accounting, to send accounting data to posbackend)
4. POS Backend(To view reports and create product(mcode) for daily parking)

There are two kinds of access control devices:

1. **Entry Device:** It is the entrance device and it has the logs of all the people who have entered inside parking.

**Entry device is of two types:**

* ***Member Type****: Only members can enter through this device.*
* ***Non Member Type****: Non members enter through this device.*

1. **Exit Device:** It is used only by the members. The members who have entered via Member type device should use this device to exit. (*Non members should exit using the Ticketing systems parking out menu.)*

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# Ticketing System:

Added features in ticketing system are:

## Register Daily Card:

Used to register cards into the access control devices. It is D to upload the card numbers from excel into the devices.

## Card Activation:

Used to activate cards of the members. Membership schemes can be sold to the members.

## Member Registration:

Members are added or updated using this menu. Members card number are inserted in barcode field. When the members are updated, their card numbers are also inserted into the access control devices.

## Membership Scheme:

Used to create the schemes. Members can later select the schemes of their choice.

## Enable Daily Card:

Use to enable a card which is disabled after expiry or any other reason.

## Membership Expiry Report:

Use to view all the members with their respective expiry dates.

## Members Activity Report:

Used to view the entry activity of the members.

# Access Control Syncing System:

It is used to sync all the data from the access control device to the database. It also shows the active or inactive state of the devices. It syncs data every approx. 1 minute from the devices to the database.

It is also used to sync the data of the exiting members. (Non members are exited via the Ticketing system parking out menu.)

It also syncs the accounting data calling the Android Billing Api. The syncing time should be added in the clearhour field and clearminute field of the tblsetting table of parking database.

The accounting data are synced and the parking entry data are also cleared from the devices at this time.

# Android Billing Api:

It is used to send the accounting related data from parking system to the pos system, so that the accounting reports can be viewed from pos backend system. This application should be hosted in IIS Server and the URL of this application should be added in the serveripaddress field of the tblsetting table of parking database.

# POS Backend:

It is used to view the accounting reports and also create the product for daily parking via product master menu. Members product are created on the fly by the access control syncer so members product should not be created using product master.

Once the product is created via product master for the daily parking, the mcode of the product should be added in the mcode field of the tblsetting table of parking database.

# New Schemas Added:

## Devicelist:

1. **IsMemberDevice**: if member device then set it to 1, if non member device then set it to 0.
2. **Device type:** for Entry device should be 1 whereas for Exit device it should be 2.
3. **VehiicleType:** Based on VehicleType table.
4. **DeviceIP:** Ipaddress of the device.
5. **Deviceport:** 4370
6. **DeviceName:** Two wheeler or four wheeler

**Script for creating DeviceList Table is given below:**

CREATE TABLE [dbo].[DeviceList](

[DeviceId] [tinyint] NOT NULL,

[DeviceName] [varchar](50) NOT NULL,

[DeviceIP] [varchar](20) NOT NULL,

[DevicePort] [varchar](10) NOT NULL,

[VehicleType] [tinyint] NOT NULL,

[IsMemberDevice] [bit] NOT NULL,

[DeviceType] [tinyint] NULL,

CONSTRAINT [PK\_DeviceList] PRIMARY KEY CLUSTERED

(

[DeviceId] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON) ON [PRIMARY],

CONSTRAINT [UC\_DeviceIP] UNIQUE NONCLUSTERED

(

[DeviceIP] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON) ON [PRIMARY]

) ON [PRIMARY]

GO

ALTER TABLE [dbo].[DeviceList] WITH CHECK ADD CONSTRAINT [FK\_DeviceList\_VehicleType] FOREIGN KEY([VehicleType])

REFERENCES [dbo].[VehicleType] ([VTypeID])

GO

ALTER TABLE [dbo].[DeviceList] CHECK CONSTRAINT [FK\_DeviceList\_VehicleType]

GO

## DeviceLog:

It contains logs of the entered vehicles through the entry devices. The total no. of entered vehicle through a device is calculated from this table.

**Script for creating DeviceLog Table is given below:**

CREATE TABLE [dbo].[deviceLog](

[Id] [int] NOT NULL,

[dwTMachineNumber] [varchar](10) NULL,

[dwEMachineNumber] [varchar](10) NULL,

[dwEnrollNumberInt] [varchar](10) NULL,

[dwVerifyMode] [varchar](10) NULL,

[dwInOutMode] [varchar](10) NULL,

[dwYear] [varchar](10) NULL,

[dwMonth] [varchar](10) NULL,

[dwDay] [varchar](10) NULL,

[dwHour] [varchar](10) NULL,

[dwMinute] [varchar](20) NULL,

[DeviceIp] [varchar](30) NULL,

[DeviceId] [varchar](10) NULL,

[pid] [int] NULL,

PRIMARY KEY CLUSTERED

(

[Id] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON) ON [PRIMARY]

) ON [PRIMARY]

GO

## ExitDeviceLog:

It contains logs of the Exited vehicles through the exit devices.

**Script for creating ExitDevicelog Table is given below:**

CREATE TABLE [dbo].[ExitDevicelog](

[Id] [int] NOT NULL,

[dwTMachineNumber] [varchar](10) NULL,

[dwEMachineNumber] [varchar](10) NULL,

[dwEnrollNumberInt] [varchar](10) NULL,

[dwVerifyMode] [varchar](10) NULL,

[dwInOutMode] [varchar](10) NULL,

[dwYear] [varchar](10) NULL,

[dwMonth] [varchar](10) NULL,

[dwDay] [varchar](10) NULL,

[dwHour] [varchar](10) NULL,

[dwMinute] [varchar](20) NULL,

[DeviceIp] [varchar](30) NULL,

[DeviceId] [varchar](10) NULL,

[pid] [int] NULL

) ON [PRIMARY]

GO

## DailyCard:

It contains the data of all the cards which will be used to touch the access control device to enter or exit from parking.(\*Only members will exit from the device).

**Script for creating DailyCards Table is given below:**

CREATE TABLE [dbo].[DailyCards](

[CardId] [int] NOT NULL,

[CardNumber] [varchar](25) NOT NULL,

CONSTRAINT [PK\_DailyCards] PRIMARY KEY CLUSTERED

(

[CardId] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON) ON [PRIMARY],

CONSTRAINT [UC\_CardNumber] UNIQUE NONCLUSTERED

(

[CardNumber] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON) ON [PRIMARY]

) ON [PRIMARY]

GO

# Schemas Modified:

## ParkingSales:

It contains data of all the cards that are sold and all parking sold tickets

Bold and italics fields are added.

CREATE TABLE [dbo].[ParkingSales](

[BillNo] [varchar](15) NOT NULL,

[TDate] [datetime] NOT NULL,

[TMiti] [varchar](10) NOT NULL,

[TTime] [varchar](12) NULL,

[Description] [varchar](255) NULL,

[GrossAmount] [decimal](18, 12) NOT NULL,

[Discount] [decimal](18, 12) NOT NULL,

[Taxable] [decimal](18, 12) NOT NULL,

[VAT] [decimal](18, 12) NOT NULL,

[PID] [int] NULL,

[UID] [int] NOT NULL,

[Remarks] [varchar](255) NULL,

[SESSION\_ID] [int] NULL,

[BillTo] [varchar](255) NULL,

[FYID] [tinyint] NOT NULL,

[NonTaxable] [numeric](18, 12) NOT NULL,

[BILLTOADD] [varchar](255) NULL,

[BILLTOPAN] [varchar](15) NULL,

[TaxInvoice] [bit] NULL,

[Amount] [numeric](18, 12) NULL,

[RefBillNo] [varchar](15) NULL,

[TRNMODE] [bit] NULL,

[ExpiryDate] [datetime] NULL,

***[memberid] [varchar](20) NULL,***

CONSTRAINT [PK\_ParkingSales] PRIMARY KEY CLUSTERED

(

[BillNo] ASC,

[FYID] ASC

)WITH (PAD\_INDEX = OFF, STATISTICS\_NORECOMPUTE = OFF, IGNORE\_DUP\_KEY = OFF, ALLOW\_ROW\_LOCKS = ON, ALLOW\_PAGE\_LOCKS = ON) ON [PRIMARY]

) ON [PRIMARY]

GO

ALTER TABLE [dbo].[ParkingSales] ADD CONSTRAINT [DF\_ParkingSales\_FYID] DEFAULT ((1)) FOR [FYID]

GO

ALTER TABLE [dbo].[ParkingSales] ADD CONSTRAINT [DF\_NonTaxable] DEFAULT ((0)) FOR [NonTaxable]

GO

ALTER TABLE [dbo].[ParkingSales] WITH CHECK ADD CONSTRAINT [FK\_ParkingSales\_User] FOREIGN KEY([UID])

REFERENCES [dbo].[Users] ([UID])

GO

ALTER TABLE [dbo].[ParkingSales] CHECK CONSTRAINT [FK\_ParkingSales\_User]

GO

ALTER TABLE [dbo].[ParkingSales] WITH CHECK ADD CONSTRAINT [FK\_PSALES\_SESSION] FOREIGN KEY([SESSION\_ID])

REFERENCES [dbo].[SESSION] ([SESSION\_ID])

GO

ALTER TABLE [dbo].[ParkingSales] CHECK CONSTRAINT [FK\_PSALES\_SESSION]

GO

## TblSetting:

It contains data of all the general settings.

Bold and italics fields are added.

CREATE TABLE [dbo].[tblSetting](

[CompanyName] [varchar](50) NULL,

[CompanyAddress] [varchar](50) NULL,

[CompanyPhone] [varchar](20) NULL,

[CompanyInfo] [varchar](255) NULL,

[GraceTime] [int] NULL,

[ShowCollectionAmountInCashSettlement] [bit] NULL,

[MinAvailableLimit] [tinyint] NOT NULL,

[UpdateHistory] [smallint] NULL,

[DisableCashAmountChange] [bit] NULL,

[MinChargeUnit] [numeric](9, 2) NOT NULL,

[MinReturnableCurrency] [numeric](9, 2) NOT NULL,

[SettlementMode] [tinyint] NOT NULL,

[AllowMultiVehicleForStaff] [tinyint] NULL,

[IrdApiUser] [varchar](200) NULL,

[IrdApiPassword] [varchar](50) NULL,

[SlipPrinterWidth] [tinyint] NOT NULL,

[EnableStamp] [bit] NULL,

[EnableStaff] [bit] NULL,

[EnableDiscount] [bit] NULL,

[EnablePlateNo] [bit] NULL,

[MemberBarcodePrefix] [varchar](5) NULL,

[EnablePrepaid] [bit] NULL,

[PrepaidInfo] [varchar](500) NULL,

***[ServerIpAddress] [varchar](30) NULL,***

***[mcode] [varchar](25) NULL,***

***[clearhour] [smallint] NULL,***

***[clearminute] [smallint] NULL,***

) ON [PRIMARY]

GO

ALTER TABLE [dbo].[tblSetting] ADD CONSTRAINT [DF\_MinAvailableLimit] DEFAULT ('0') FOR [MinAvailableLimit]

GO

ALTER TABLE [dbo].[tblSetting] ADD CONSTRAINT [DF\_Setting\_MinChargeUnit] DEFAULT ((15)) FOR [MinChargeUnit]

GO

ALTER TABLE [dbo].[tblSetting] ADD CONSTRAINT [DF\_Setting\_MinReturnableCurrency] DEFAULT ((5)) FOR [MinReturnableCurrency]

GO

ALTER TABLE [dbo].[tblSetting] ADD CONSTRAINT [DF\_SETTLEMENTMODE] DEFAULT ((0)) FOR [SettlementMode]

GO

ALTER TABLE [dbo].[tblSetting] ADD CONSTRAINT [DF\_tblSetting\_SlipPrinterWidth] DEFAULT ((80)) FOR [SlipPrinterWidth]

GO

EXEC sys.sp\_addextendedproperty @name=N'MS\_Description', @value=N'Point at where Parking Area Status bar turns Red.' , @level0type=N'SCHEMA',@level0name=N'dbo', @level1type=N'TABLE',@level1name=N'tblSetting', @level2type=N'COLUMN',@level2name=N'MinAvailableLimit'

GO