

### **Problem statement/ Pain points:**

1. Softwares being used are pirated
  1. Windows
  2. Databases (SQL Server, Oracle)
  3. Applications are Microsoft tech based on windows (C#, C++ etc)
2. Money pilferage at various levels
  1. Software provider and toll employees colluding
    1. Database credentials are stolen from binary code as they are hardcoded in the code and not read from properties files
    2. System doesn't provide public - private key mechanism for credentials
    3. DB credentials then programmed in USB drive to delete the entry as soon as receipt is generated
    4. Database server is being exposed via team-viewer and records are deleted
    5. Software providers have the access to production DB for the purpose of maintenance
    6. Impossible to detect the deletes because of following reasons:
      1. DB tables doesn't have primary key constraints
      2. Tables are not related to each other with primary and foreign key constraints
      3. Tables are stand alone components
      4. Primary key columns records are not system generated sequences
      5. Security features like "Audit trails" not configured
    7. Same receipts are being reprinted from printer spool
    8. Marking of transaction canceled for return journey as user leave the receipt with staff
    9. Booths are assigned to specific operators by supervisor on the basis of money collection
  2. Softwares are windows based hence vulnerable to misuse
  3. Database servers are held locally with no mechanism of scheduled backups
  4. No way of data recovery in case of DB server breakdown
  5. No DB mirroring/ syncing with cloud based solutions
  6. No daily/weekly/monthly reconciliation
  7. Data audit not in place
  8. Incident based alert system is not implemented
  9. No mobile based reporting for daily cash-ups
3. Vendors have a doubt that software providers may be selling the database to competitors that could result in losing the next bid
4. CPUs (servers, machines) are open and exposed to misuse by the way of USB, internet access, downloads etc.
5. RFID/ POS/ Mobile wallets not integrated with database hence reconciliation is difficult

### **What is needed:**

Vendor needs a robust software solution with open source technologies. Software should be preventive in nature with secured database and kiosks like hardware which can not be tampered with. System should make sure that 99.99% entries are captured correctly and other payment methods (RFID, POS, Mobile wallets etc.) are integrated within the system. System should have auto audit, reconciliation and mirroring of DB (cloud) in real time.

Software should also be adaptive to tablets and support touch screen.

Software needs to be integrated with hardware such as Transaction camera, IP Dome camera, IP Camera, DVR system, Receipt printer with barcode scanner, Barcode reader, RFID, Smart card reader, ETM machine, WIM system, Traffic light, OHLS, sensors etc.

### **Proposed solution:**

To counter the problem of pirated software, we have decided to use following open source software platform which can run anywhere without the need of purchasing costly licenses:

Language: Java (spring & hibernate) + ORM

OS: Ubuntu

DB: MySQL

**Application security:** Application should open up in the kiosk mode and lane operators shouldn't be able to do anything such as connect to internet, download/ upload softwares, use USB ports etc.

Operators should just be able to carry out their duties of entering the vehicle info, generating receipt, collect cash and completing the transaction.

**Hardware security:** From hardware security perspective it has been decided to box the servers/machine to stop the access for staff to different ports, this activity to be taken up with local hardware provider.

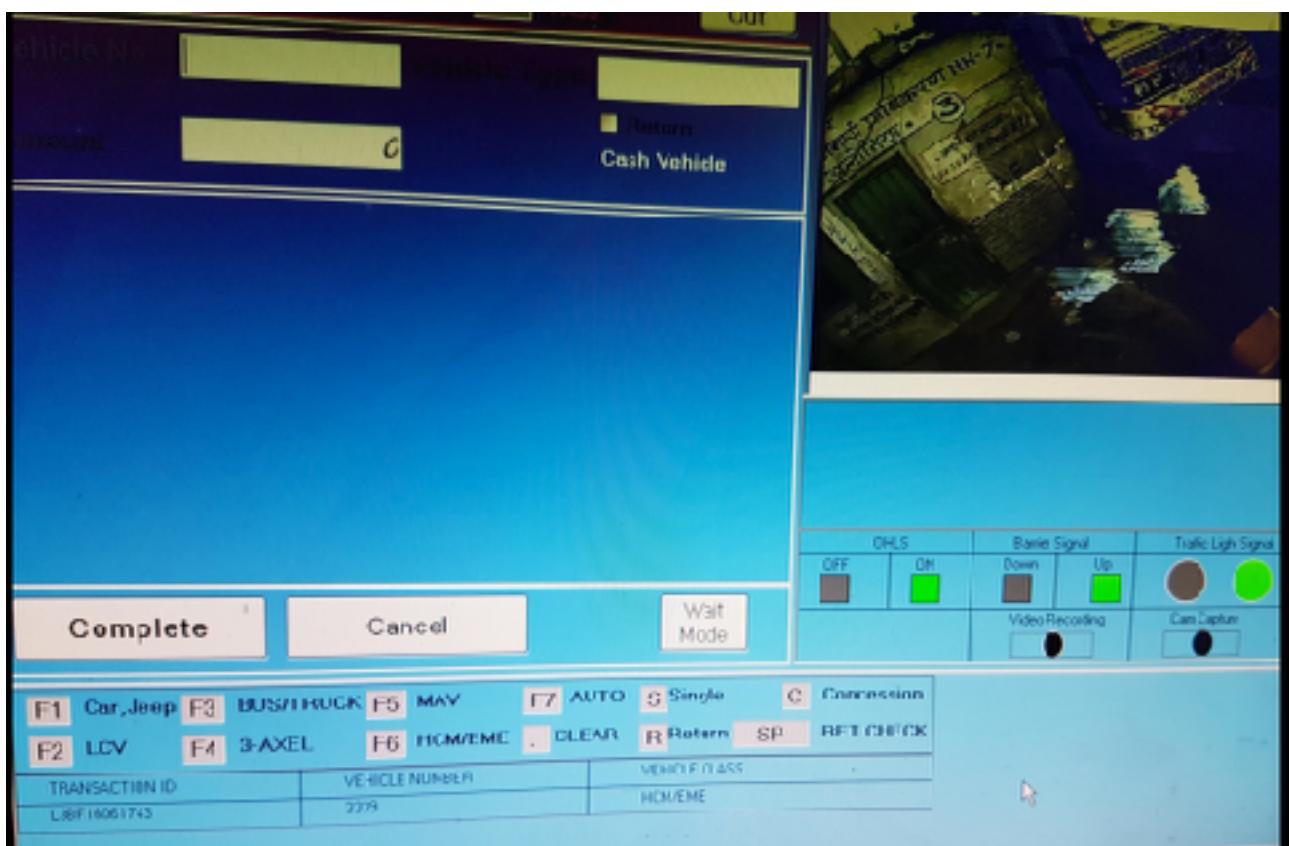
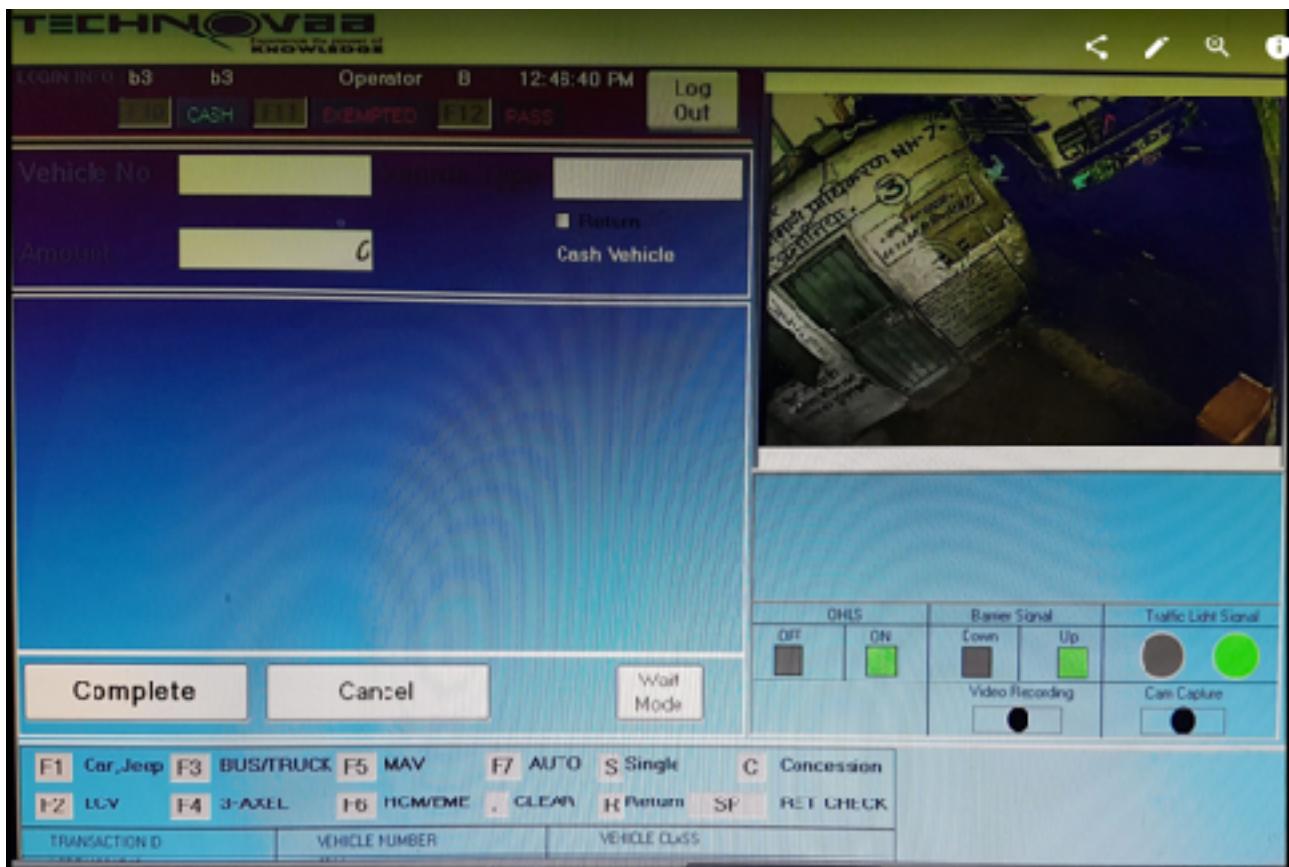
**Database security:** DB design should be such that no deletes should take place, tables should have a primary/ foreign key constraints, primary keys to be system generated sequences. Audit trails to be configured at user activity levels. DB credentials not to be used in code in any case, application should read them from properties files. Public private keys to be used for credentials.

Cloud based solution to be devised for mirroring and syncing of database at regular intervals

### **Application Modules:**

- **Admin Module:** This module is responsible to administering the system security and provide reporting of various kind to keep a tab on system activities. Admin should be able to assign vehicle class, rates, issue vehicle passes, module authentication to respective employees based on designation definitions.
- **Lane Module:** This module should be user friendly dedicated for lane operators to carry out activities like Cash, Exemptions, Passes, Single/ Return journey upto transaction completion. This module is also configured for shifts in 6/8/12 hours basis and provide alerts to wind up 5/10 minutes before a particular shift ends.
- **Validation Module:** This module provides facility for real time auditing such as validation through AVCC, image, video etc. and check points for any anomalies/ discrepancies observed in the transaction
- **Cash-up Module:** This module does provide facility to consolidate cash collection by the operators booth/ lane wise denominations. Lane wise cash up should be done automatically including money coming from RFID, POS machine, mobile wallets etc.
- **Reporting Module:** Reporting module to provide various kind of traffic and revenue reports for administrative, reconciliation, audit purpose. This module should also be capable of providing on demand reports.

## Lane operation Module:



- **Login/Logout:**
  - Lane operation module to provide shift based login to operators. Admin should able to configure the shifts like 6, 8 or 12 hours. System to consider the admin configured shift and alert the operators when the shift is about to end for him/her to wind up before system logs them out
  - Lane operators should be able to login/logout during the shift on demand
- **Wait Mode:**
  - Lane operators should have a wait mode shortcut button in case they want to step out for emergency. Wait mode put the system in locked mode and ask for password to unlock
- **Complete:**
  - Complete button to commit the transaction. Receipt should get printed and barrier should open once complete button is clicked
- **Cancel:**
  - Cancel button to cancel the transaction
- **Input fields:**
  - Cash (whether it's a cash vehicle)
  - Exempted (whether it's exempted vehicle. Master param/ config table will hold exempted vehicle list)
  - Pass (whether vehicle has monthly pass)
  - Vehicle number
  - Vehicle class (to be picked up from config table)
  - Return (whether it's a return journey vehicle)
  - Amount (to be populated based on above parameters from config table)
- **Keyboard shortcuts:**
  - F10 — Cash
  - F11 — Exempted
  - F12 — Pass
  - F1 — Car, Jeep
  - F2 — LCV (Light commercial vehicle)
  - F3 — Bus, Truck
  - F4 — 3-Axel
  - F5 — MAV (Multi Axel Vehicle)
  - F6 — HCM/EME
  - F7 — Auto
  - S — Single journey
  - R — Return journey
  - C — Concession (concession is applied to locally RTO registered vehicles, % of concession should be configurable)
  - SP (space bar) — Return check (to check whether it's return journey vehicle)
  - . — to clear the inputs
- **Signals status:**
  - OHLS (over head light signal) On/Off — Green/Grey
  - Barrier — Down/Up — Green/Grey
  - Traffic light — On/Off — Green/Grey
  - Video recording — Black circle
  - Camera capture — Black circle

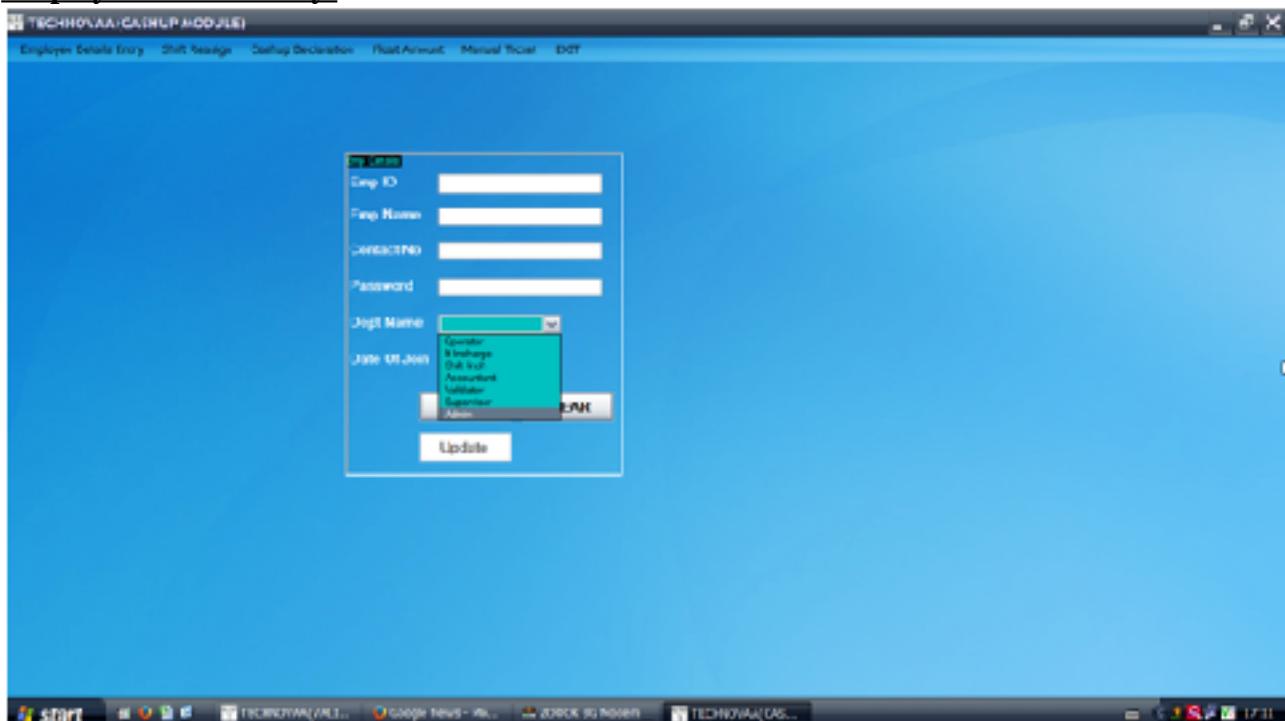
### **Screen Layout:**

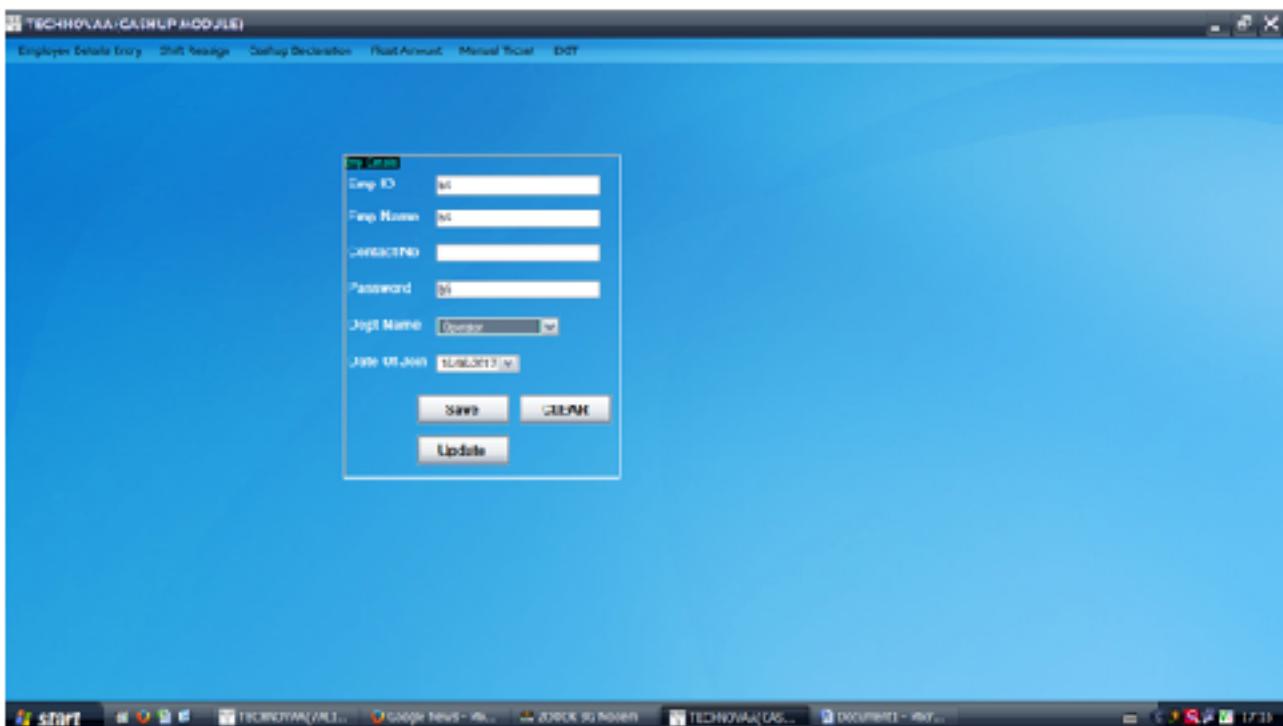
- Video recording of incoming vehicle to be displayed on left vertical half of the screen
- Operator name, Booth number, Lane number, System time and Login/Logout button to be displayed on top right vertical of the screen
- Category of vehicle like Cash, Exempted and Monthly pass should be displayed just below the login info with their respective keyboard shortcuts
- Next section should allow lane operator to enter vehicle number, vehicle class and whether it's return journey vehicle. Auto filled & editable "Cash" text box should also appear here
- Next section will have "Complete", "Cancel" and "Wait Mode" button
- Next section should contain editable text boxes for vehicle classes, single, return, concession, return check etc. with their respective keyboard shortcuts
  - Just below this in the same section we need to display last vehicle's transaction Id, number and class in tabular form
- Next and the last section on bottom should display signals status

**Note:** Software needs to be responsive and all the inputs should work on touch screen (Tablets etc.). Every vehicle should be camera captured and the image should be stored in DB

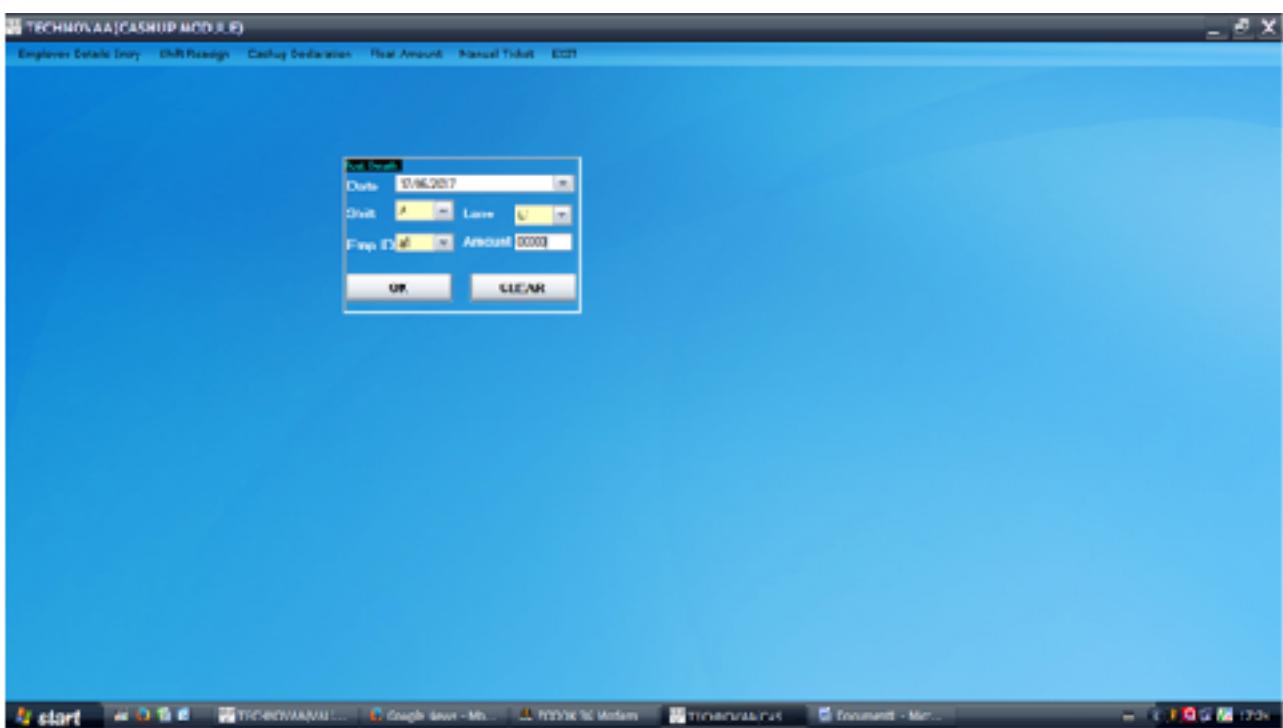
**Cash-up Module:** This module does provide facility to consolidate cash collection by the operators booth/ lane wise denominations. Lane wise cash up should be done automatically including money coming from RFID, POS machine, mobile wallets etc.

### **Employee Details Entry:**

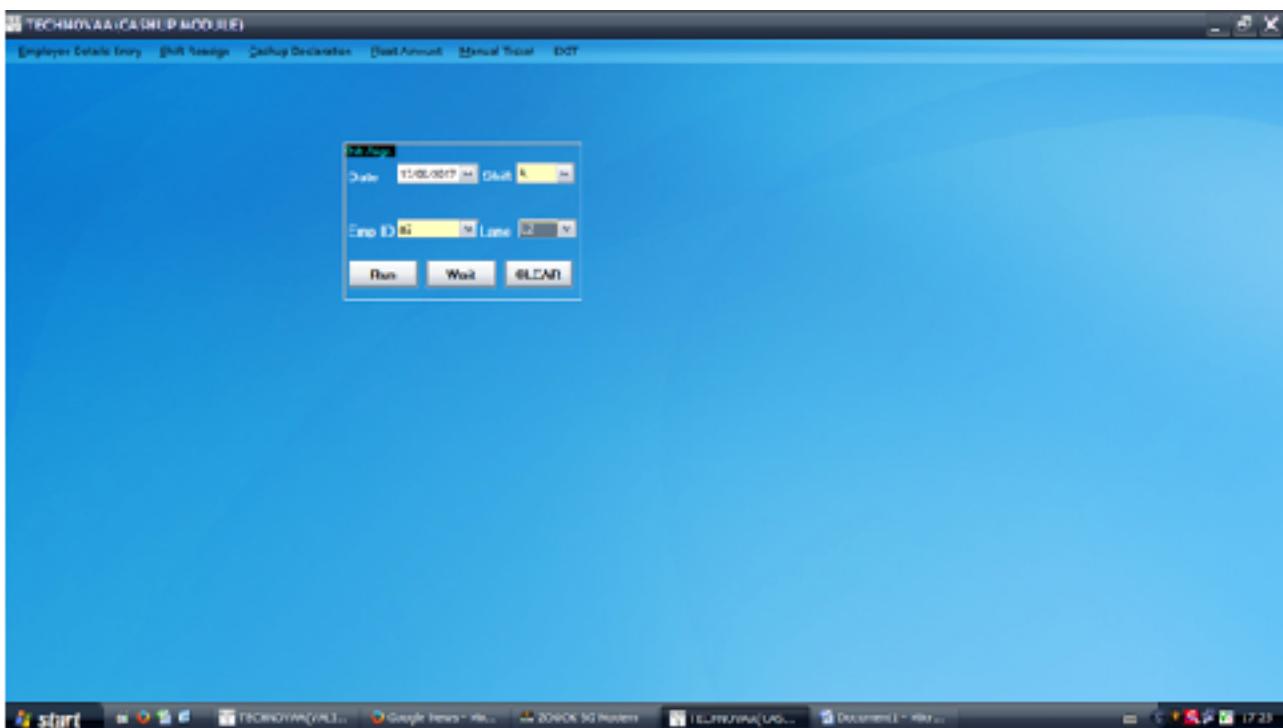




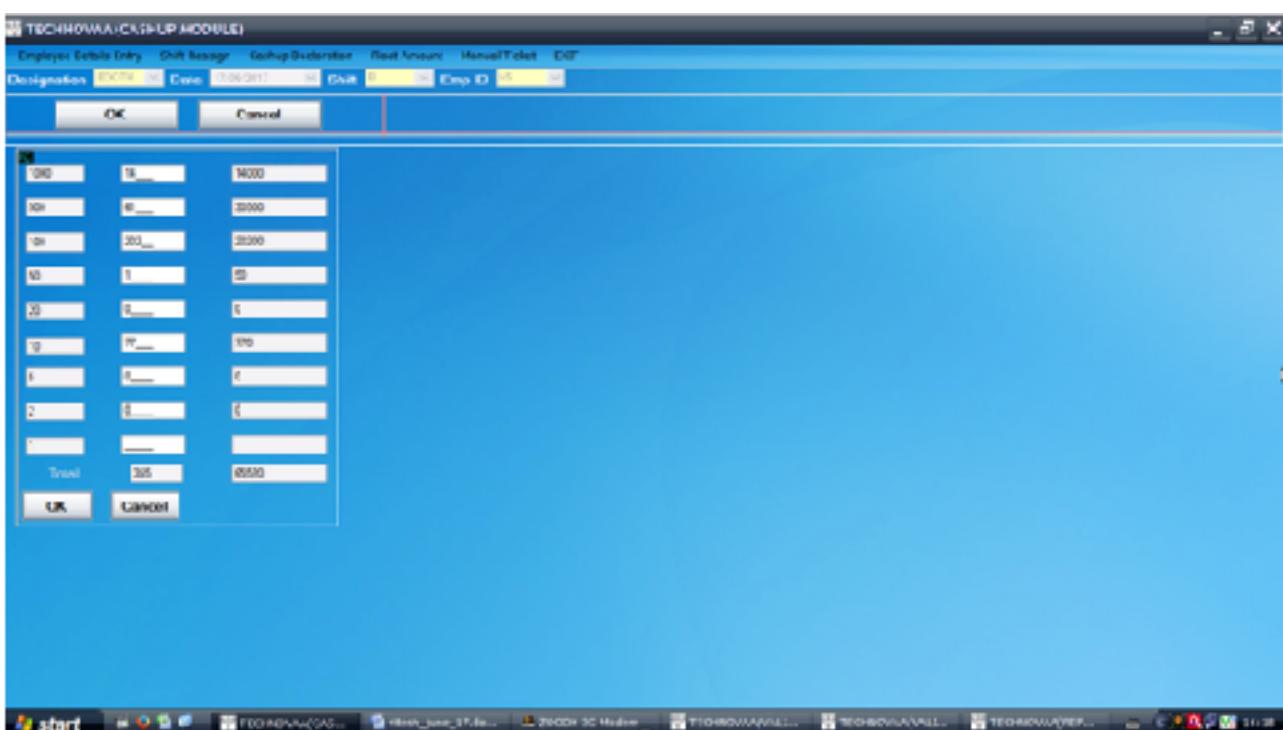
**Float Amount:** Every shift of a lane of any booth should start from amount zero, this feature is to reset the counter @ Zero

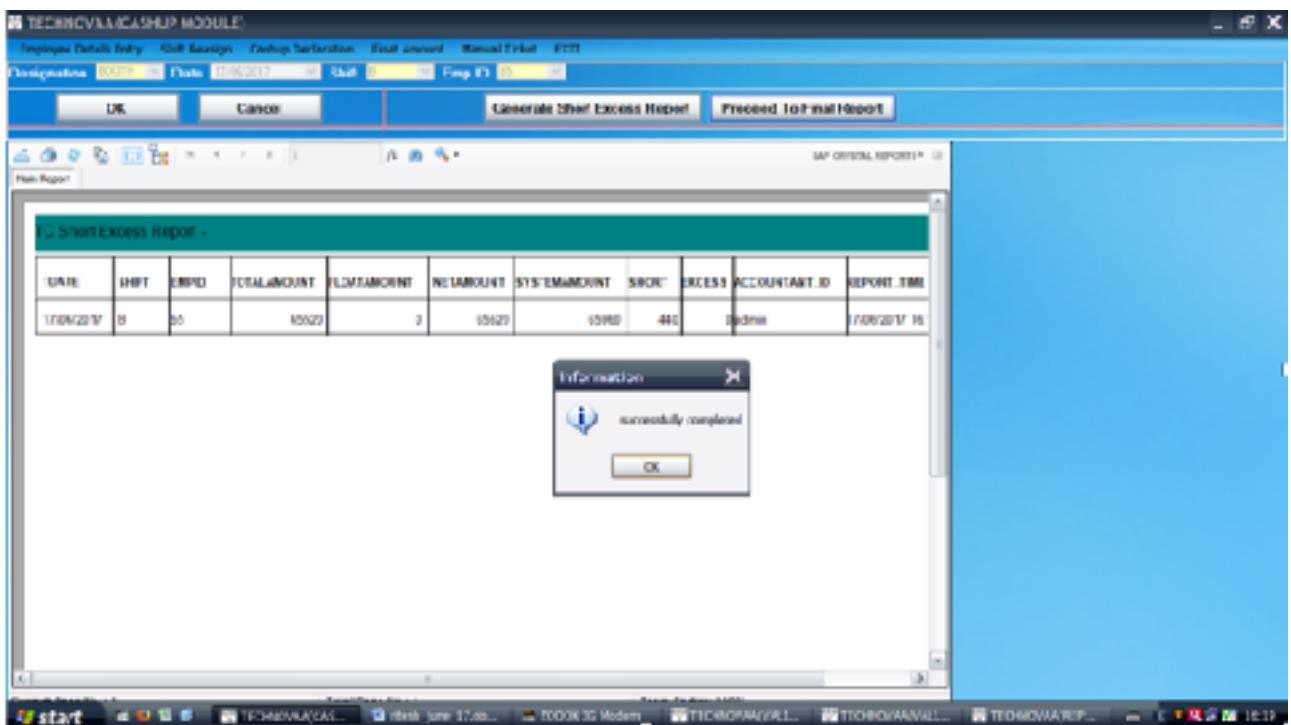


**Shift re-assign:**

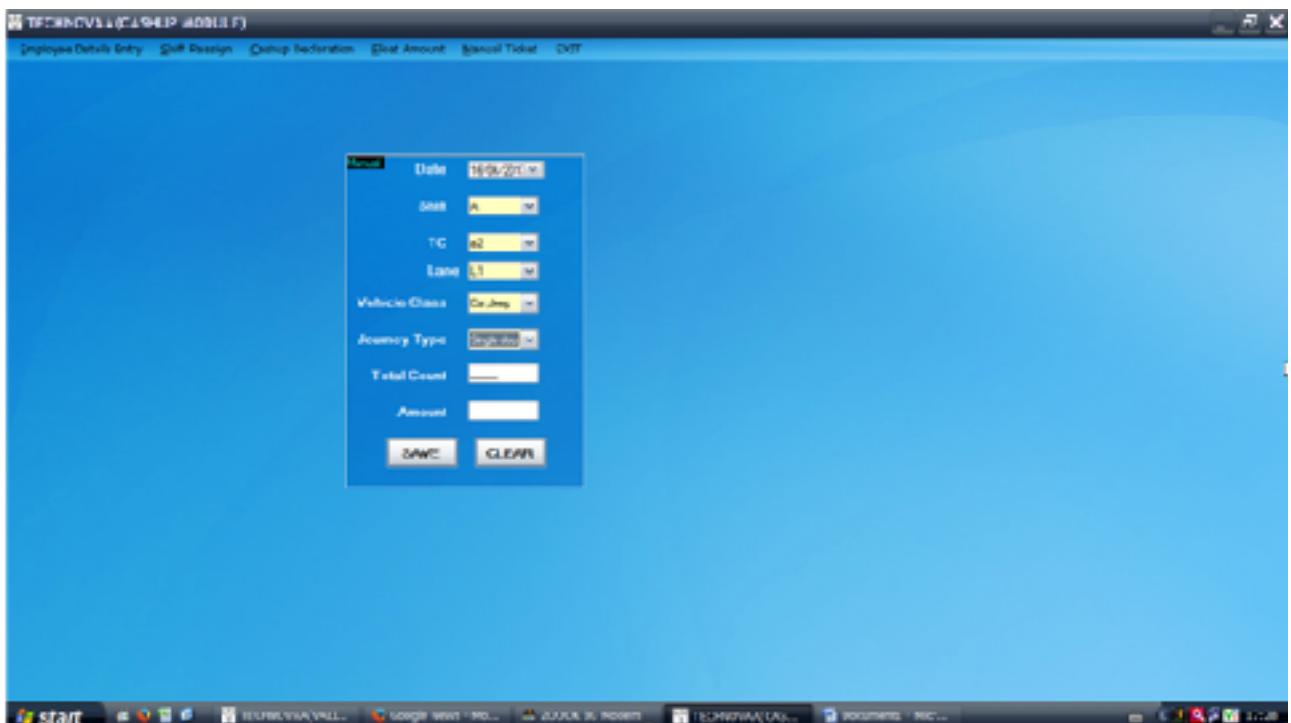


### Cashup declaration:





**Manual ticket:** In case of system outage, this feature to facilitate entering manual data to the system



**Reporting Module:** Reporting module to provide various kind of traffic and revenue reports for administrative, reconciliation, audit purpose. This module is also capable of providing on demand MIS reports.

**TECHNOVA (REPORTING MODULE) - [Consolidate Report]**

Revenue Report | Traffic Report | Revenue Traffic | Pass Details | AVCC Accuracy Report | Login/Logout Report | EXIT

From Date: 10/06/2017 To Date: 11/06/2017 Shift: ALL To: ALL Lane: ALL

Submit SAP CRYSTAL REPORTER

Datewise Revenue Report  
Short/Excess Revenue Report  
AVCC Revenue Report  
Datewise Lamination Revenue Report  
Toll Taxe Revenue Report  
Catalog details

**ALONITA TOLL PLAZA**

**Consolidated Traffic & Revenue Report**

From Date: 10/06/2017	To Date: 11/06/2017	Shift: ALL	Generated By: admin				
RF: ALL	Lane: ALL						
Vehicle Class	Single Journey		Return Journey		Cross Jour		TOTAL
	SEOM to JABALPUR	% SEDIN	SEOM to JABALPUR	% SEDIN	SEOM to JABALPUR	% SEDIN	

Vehicle Class	SEOM to JABALPUR	% SEDIN	SEOM to JABALPUR	% SEDIN	SEOM to JABALPUR	% SEDIN	TOTAL
Dan.Jeep	29	24	100	55	84	100	165
	11,150	11,430	36,500	30,900	31,500	31,000	94,480
LCV	107	95	482	45	20	18	491
	11,320	11,040	20,200	19,920	8,820	8,800	49,060
HOM/EME	376	298	764	0	0	0	764
	11,080	11,980	19,960	0	0	0	31,020

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

### Datewise revenue report:

**TECHNOVA (REPORTING MODULE) - [Datewise Revenue Report]**

Revenue Report | Traffic Report | Revenue Traffic | Pass Details | AVCC Accuracy Report | Login/Logout Report | EXIT

From Date: 10/06/2017 To Date: 11/06/2017 Shift: ALL To: ALL Lane: ALL

Submit SAP CRYSTAL REPORTER

Datewise Revenue Report

**ALONITA TOLL PLAZA**

**Datewise Revenue Report**

From Date: 10/06/2017	To Date: 11/06/2017	Shift: ALL	Generated By: admin							
RF: ALL	Lane: ALL									
Date	User	SEOM	Lane	Car/Jeep	LCV	BUS/UTRICK	3.AXEL	HOM/EME	OSV	TOTAL

Date	User	SEOM	Lane	Car/Jeep	LCV	BUS/UTRICK	3.AXEL	HOM/EME	OSV	TOTAL
10/06/2017 00	All	All	All	40,340	44,905	121,200	51,590	321,440	0	388,175
	Total	Total	Total	40,340	44,905	121,200	51,590	321,440	0	388,175

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

### Short/Excess revenue report:

**TECHNOVIA (REPORTING MODULE) - [Particular Day Revenue Report]**

Revenue Report Traffic Report Revenue Traffic Pass Details ABC Accuracy Report Login/Logout Report EXIT

Short/Ecess Details

From Date: 16-05-2017 To Date: 16-05-2017 Shift: ALL Type: ALL Submit

Print Report | SAP CRYSTAL REPORTS |

**ALONIYA TOLL PLAZA**

**Short/Ecess Revenue Report(Shiftwise)**

From Date: 16-05-2017			To Date: 16-05-2017	Shift: ALL	Generated By: admin				
Date	Userid	Obs	Reporting Time	Total Amount	Float Amount	Net Amount	System Amount	Obs	Ecess
16-JUN-17	a2	A	16-JUN-2017 00:34:42	36440	0	36440	36,520	89	0
16-JUN-17	a3	A	16-JUN-2017 00:29:16	11370	0	11370	115,050	1,298	0
16-JUN-17	a6	A	16-JUN-2017 00:29:20	11975	0	11975	86,990	625	0
16-JUN-17	a9	A	16-JUN-2017 00:29:51	13870	0	13870	36,490	425	0
16-JUN-17			16-JUN-2017	36740	0	36740	709,960	2,420	0
16-JUN-17	b2	B	16-JUN-2017 00:27:34	17730	0	17730	36,130	420	0
16-JUN-17	b3	B	16-JUN-2017 00:28:34	19450	0	19450	100,210	1,000	0

Current Page No: 1 Total Page No: 1 Zoom Factor: 100%

### Lanewise revenue report:

**TECHNOVIA (REPORTING MODULE) - [Lanewise Revenue Report]**

Revenue Report Traffic Report Revenue Traffic Pass Details ABC Accuracy Report Login/Logout Report EXIT

Lanewise Revenue Report

From Date: 16-05-2017 To Date: 16-05-2017 Shift: ALL Export Traffic: ALL Submit

Print Report | SAP CRYSTAL REPORTS |

**ALONIYA TOLL PLAZA**

**Lanewise Revenue Report**

Generated By: admin

From Date: 16-05-2017		To Date: 16-05-2017	Shift: ALL	Journey Type: ALL			
Lane	Car,Pmp	LCV	BSL,VINIC	SATR	HEM,EMI	062	Total
L2	11,659	11,045	11,310	13,485	52,481	0	99,480
L3	91,094	81,710	13,440	36,075	115,034	0	337,909
L4	91,094	81,710	26,230	27,145	125,101	0	244,446
L5	91,094	81,626	25,910	13,175	94,981	0	209,160
TOTAL	80,380	84,000	102,210	80,160	331,441	0	594,981

Current Page No: 1 Total Page No: 1 Zoom Factor: 100%

### Monthly pass revenue report:

TECHNOVIA (REPORTING MODULE) - [POS Revenue Report]

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login/Logout Report IDCT

POS Revenue Report

From Date: 16/06/2017 To Date: 16/06/2017 Shift: All EMRIC NL Submit

SAP CRYSTAL REPORTS

**ALONIYA TOLL PLAZA**

**POS Revenue Report**

Generated By: admin

From Date: 16/06/2017 To Date: 16/06/2017

Vehicle Category	Monthly	Total
Cars/Bus	0	245
Total	0	345

Pass & Concession Revenue

Vehicle Name	Total
pass	245
concession	0
Overhead	245

Current Page No.: 1 Total Pages: 1 Zoom Factor: 100%

### Datewise Lanewise revenue report:

TECHNOVIA (REPORTING MODULE) - [DateWise Lanewise Revenue Report]

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login/Logout Report IDCT

DateWise Lanewise Revenue Report

From Date: 16/06/2017 To Date: 16/06/2017 Submit

SAP CRYSTAL REPORTS

**ALONIYA TOLL PLAZA**

**DateWise Lanewise Revenue Report**

From Date: 16/06/2017 To Date: 16/06/2017 Generated By: admin

Date	User	SHR	Lane	Lanewise	SLR	BUS/INR	J-RATE	RUMBLE	UVN	KTAL
16-JUN-17	8E	A	12	2,703	2,420	5,289	3,013	18,260	0	36,520
16-JUN-17	8B	A	13	2,213	2,789	12,808	11,260	48,900	0	113,050
16-JUN-17	8E	A	14	1,393	2,785	18,208	7,125	25,760	0	52,680
16-JUN-17	8B	A	15	4,013	2,723	10,448	3,585	18,720	0	35,480
16-JUN-17		SUBTOTAL		11,000	10,740	44,520	27,075	103,340	0	389,685
16-JUN-17	b2	B	12	5,215	4,860	10,926	4,620	18,360	0	58,150
16-JUN-17	b3	B	13	5,883	4,630	10,568	8,850	35,420	0	186,215

Current Page No.: 1 Total Page No.: 1+ Zoom Factor: 100%

**Till Time Revenue Report**

From Date: 16-06-2017 To Date: 16-06-2017

SAP CRYSTAL REPORTS

Date	User	Shift	Lane	Car/dep	LCY	BUS/TRUCK	3-AXEL	ECM/EMC	O/SV	TOTAL	
16-JUN-17	c5	D	L5	5,618	3,758	8,826	3,415	23,468	0	63,745	
16-JUN-17			SUETOTAL		29,155	15,134	16,704	128,468	0	352,938	
			SUETOTAL		40,340	48,160	102,294	80,980	331,468	0	360,165
			TOTAL		40,340	48,160	102,294	80,980	331,468	0	360,165

Current Page No.: 2 Total Page No.: 2 Zoom Factor: 100%

### Till Time revenue report:

**Till Time Revenue Report**

From Date: 16-06-2017 To Date: 16-06-2017

SAP CRYSTAL REPORTS

Date	User	Shift	Lane	Car/dep	LCY	BUS/TRUCK	3-AXEL	ECM/EMC	O/SV	TOTAL	
16-JUN-17	c5	D	L5	5,618	3,758	8,826	3,415	23,468	0	63,745	
16-JUN-17			SUETOTAL		29,155	15,134	16,704	128,468	0	352,938	
			SUETOTAL		40,340	48,160	102,294	80,980	331,468	0	360,165
			TOTAL		40,340	48,160	102,294	80,980	331,468	0	360,165

Current Page No.: 2 Total Page No.: 2 Zoom Factor: 100%

### Cashup details:

**TECHNOVA REPORTING MODULE - [Cashup Details]**

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login Logout Report PDF

Cashup Details

Designation: 60074 Date: 16/06/2011 Shift: All To: All Submit

Man Report SAP CRYSTAL REPORTS

**AL DINIA TOLL PLAZA**

**Cashup Summary Report** Generated By: admin

From Date: 16/06/2011 Shift: All User ID: All

MVTOT_CLAIS	Vehicle Count	Vehicle Amount
JEWEL	400	10,900
BUS/TRUCK	617	152,200
Car/Jeep	1,138	60,340
HOMEME	779	31,140
LTV	496	14,085
Taxi	830	399,000
Total	4,382	988,625

**Manual Entry**

Vehicle Name	Vehicle Count	Vehicle Amount

**Bank Details**

Rs100	Rs50	Rs10	Rs5	Rs2	Rs1	Rs	Count	Amount
236	50	1,339	321	21	1,130	387	2	81,419

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

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**TECHNOVA REPORTING MODULE - [Cashup Details]**

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login Logout Report PDF

Cashup Details

Designation: 60074 Date: 16/06/2011 Shift: All To: All Submit

Man Report SAP CRYSTAL REPORTS

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**Cashup Summary Report** Generated By: admin

From Date: 16/06/2011 Shift: All User ID: All

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**Manual Entry**

Vehicle Name	Vehicle Count	Vehicle Amount

**Bank Details**

Rs100	Rs50	Rs10	Rs5	Rs2	Rs1	Rs	Count	Amount
236	50	1,339	321	21	1,130	387	2	81,419

**Input by Excess Details**

Total Amount	Vat Amount	Net Amount	System Amount	Offset	Excess
919,265	0	919,265	906,115	3,746	0

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

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## Traffic Reports:

**TECHNOVIA (REPORTING MODULE) - [Datewise Traffic Report]**

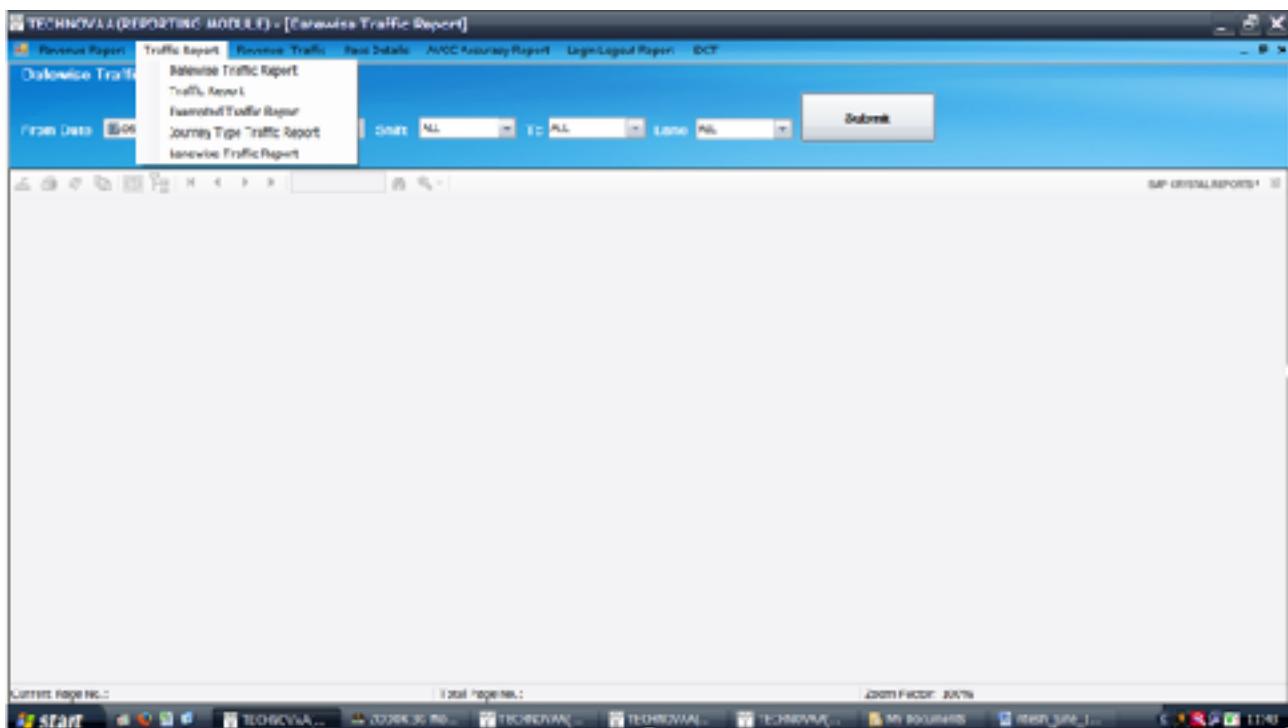
From Date: 16/06/2017 To Date: 16/06/2017 Shift: All To: All Lane: All

Datewise Traffic Report  
Traffic Report  
Farewise Traffic Report  
Journey Type Traffic Report  
Lanewise Traffic Report

Submit

SAP CRYSTAL REPORTS

Current Page No.: 1 Total Pages No.: 1 Zoom Factor: 100%



### Datewise traffic report:

**TECHNOVIA (REPORTING MODULE) - [Datewise Traffic Report]**

From Date: 16/06/2017 To Date: 16/06/2017 Shift: All To: All Lane: All

Datewise Traffic Report

Submit

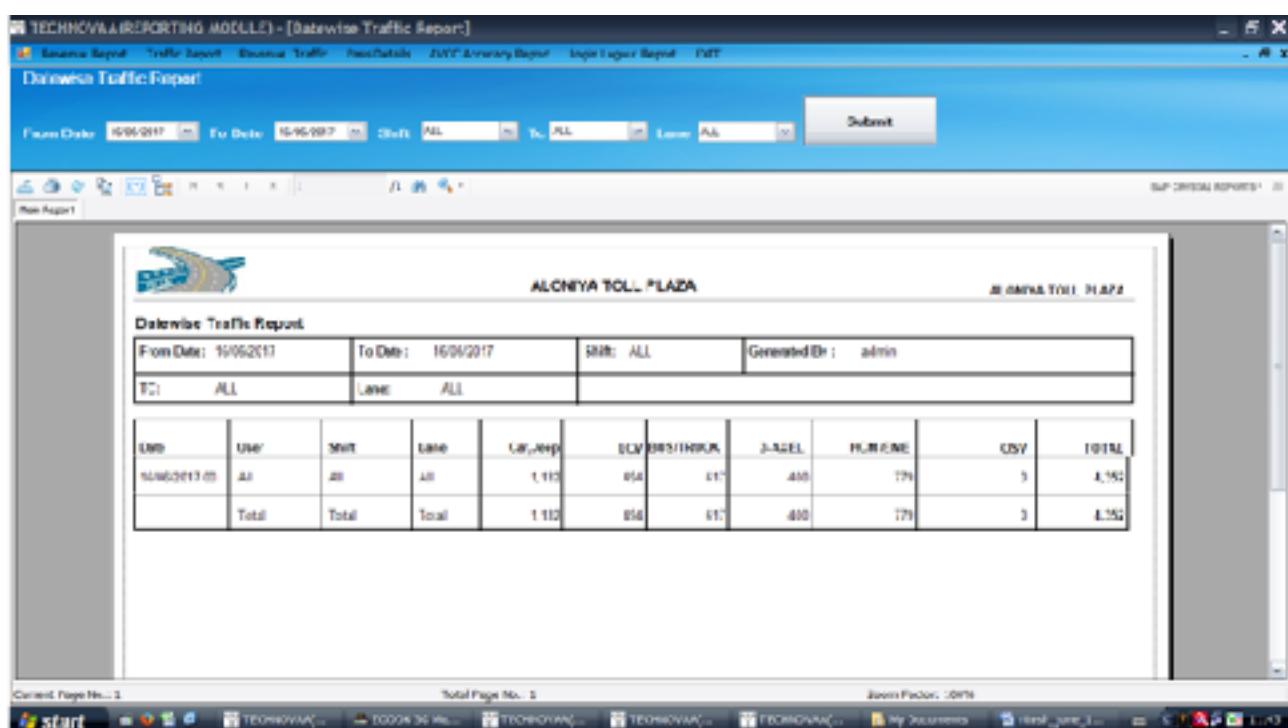
SAP CRYSTAL REPORTS

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

**ALONIYA TOLL PLAZA**

**Datewise Traffic Report**

From Date: 16/06/2017	To Date: 16/06/2017	Shift: All	Generated By: admin							
Total: All	Lane: All									
User	User	Shift	Date	Car/Amp	EU	BSI/BSR	J-VAN	H-U/ONE	CSV	HTML
sun@192.168.1.10	All	All	All	1,110	854	617	480	771	9	4,192
	Total	Total	Total	1,110	854	617	480	771	9	4,192



### Consolidated Traffic Report:

TECHNOVA REPORTING MODULE - [Consolidated Traffic Report]

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login/Logout Report PDF

**Consolidated Traffic Report**

From Date: 16/06/2017 To Date: 16/06/2017 Shift: All To: All Lane: All

Submit

SAP CRYSTAL REPORTS

Run Report

**ALONIYA TOLL PLAZA**

**Consolidated Traffic Report**

From Date: 16/06/2017	To Date: 16/06/2017	Shift: All	Generated By: admin
TC: All	Lane: All		

Vehicle Name	Single Journey			Return Journey			Concession			TOTAL
	SECOND TO JABALPUR	THIRD TO SECONDE	Total	SECOND TO JABALPUR	THIRD TO SECONDE	Total	SECOND TO JABALPUR	THIRD TO SECONDE	Total	
CAR/Jeep	298	240	538	15	6	21	100	100	100	309
LDV	107	85	192	18	20	38	10	10	10	60
BUS/TIRUK	119	105	224	19	64	83	14	48	62	347

Current Page No.: 1 Total Page No.: 1 Date: Friday, June 16, 2017 Jitter Factor: 100%

TECHNOVA REPORTING MODULE - [Consolidated Traffic Report]

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login/Logout Report PDF

**Consolidated Traffic Report**

From Date: 16/06/2017 To Date: 16/06/2017 Shift: All To: All Lane: All

Submit

SAP CRYSTAL REPORTS

Run Report

LDV	107	85	192	18	20	56	10	10	10	641
BUS/TIRUK	119	105	224	19	64	83	14	48	62	511
SHRE	114	96	210	10	6	16	10	10	10	391
HOMME	274	180	454	0	0	0	0	0	0	754
MAY	400	365	865	10	10	40	10	10	10	830
TOTAL	1,445	1,085	2,530	103	104	359	46	94	75	5,881

Technova Software & Hardware Solution Pvt. Ltd.

Current Page No.: 1 Total Page No.: 1 Date: Friday, June 16, 2017 Jitter Factor: 100%

### Exempted traffic report:

TECHNOVIA (REPORTING MODULE) - [Exempted Traffic Report]

Revenue Report Traffic Report Revenue Traffic Peer Details JVOC Accountant Report Login Logout Report EXIT

Exempted Traffic Report

From Date: 16/06/2017 To Date: 16/06/2017 Shift: ALL Lane: ALL

Submit

Raw Report

**ALONIYA TOLL PLAZA**

**Exempted Traffic Report**

Generated By: admin

From Date:	To Date:	Shift:	Lane:	Generated By:
16/06/2017	16/06/2017	All	All	admin

Exempted Type	Car/Jeps	LCV	BUS/TRUCK	3-AXLES	HGV/EMC	OFFR	SHUTTLE	TotalCount
AMBULANCE	1	2	0	0	0	0	0	1
ARMY	17	2	0	0	0	0	0	17
Local VIP	9	3	0	0	0	0	0	9
MLA	14	2	3	2	1	0	0	20
OTHERS	16	1	25	38	5	0	0	120
POLICE	5	1	0	0	0	0	0	6
Total	53	5	41	48	11	0	0	216

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

### Journey type traffic report:

TECHNOVIA (REPORTING MODULE) - [Journey Type Traffic Report]

Revenue Report Traffic Report Revenue Traffic Peer Details JVOC Accountant Report Login Logout Report EXIT

Journey Type Traffic Report

From Date: 16/06/2017 To Date: 16/06/2017 Shift: ALL

Submit

Raw Report

**ALONIYA TOLL PLAZA**

**Journey Type Traffic Report**

Generated By: admin

From Date:	To Date:	Shift:	Generated By:
16/06/2017	16/06/2017	All	admin

Journey Type	Car/Jeps	LCV	BUS/TRUCK	3-AXLES	HGV/EMC	OFFR	AUTO	TotalCount
Conversion	357	102	111	83	0	0	0	715
Exempted Vehicle	62	0	41	43	14	0	0	216
Local(VIP)	3	0	0	0	0	0	0	3
Military	0	0	0	0	0	0	0	0
Return Journey	17	56	102	34	0	0	0	203
Return Vehicle	19	41	59	10	1	0	0	211
Single Journey	298	203	291	244	76	0	0	2,841
Total	1,122	426	611	460	115	0	0	4,302

JOURNEY TYPE	SHUTTLE	LCV	BUS/TRUCK	3-AXLES	HGV/EMC	UVY	OFFR	TotalCount
AMBULANCE	0	0	0	0	0	0	0	0

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

TECHNOVA (REPORTING MODULE) - [Journey Type Traffic Report]

Revenue Report Traffic Report Revenue Traffic Pass Details JVOC Accuracy Report Login Logout Report EXIT

Journey Type Traffic Report

From Date: 16/06/2017 To Date: 16/06/2017 Shift: All Submit

Report ALONIYA TOLL PLAZA

**Journey Type Traffic Report**

From Date:	To Date:	Shift:	Generated By:
16/06/2017	16/06/2017	All	admin

**Vehicle Type**

Car/Jeep	LCV	BUS/TRUCK	3-AXLES	4-AXLES	5-6 AXES	7+ AXES	TotalCount
Passenger	327	102	117	62	0	0	213
Exempted Vehicle	62	0	41	49	0	0	216
Local(9-20)	3	0	2	0	0	0	3
Muslim	0	0	2	0	0	0	0
Return Journey	17	56	102	46	0	0	205
Return Vehicle	15	41	96	70	0	0	213
Single Journey	208	203	236	244	764	0	2,841
Total	1,122	454	611	460	779	0	4,356

Journey Type	Car/Jeep	LCV	BUS/TRUCK	3-AXLES	4-AXLES	5-6 AXES	AUTR	Total
PASSENGER	1	0	0	0	0	0	0	1

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

### Lanewise traffic report:

TECHNOVA (REPORTING MODULE) - [Lanewise Traffic Report]

Revenue Report Traffic Report Revenue Traffic Pass Details JVOC Accuracy Report Login Logout Report EXIT

Lanewise Traffic Report

From Date: 16/06/2017 To Date: 16/06/2017 Shift: All Type of Traffic: All Submit

Report ALONIYA TOLL PLAZA

**Lanewise Traffic Report**

From Date:	To Date:	Shift:	Generated By:
16/06/2017	16/06/2017	All	admin

**LANE**

LANE	CAR/Jeep	LCV	BUS/TRUCK	3-AXLES	4-AXLES	5-6 AXES	AUTR	TotalCount
L1	311	129	102	52	101	0	0	1,103
L2	222	125	104	112	80	0	0	1,105
L3	319	114	139	116	261	0	0	1,198
L4	316	127	134	72	101	0	0	1,028
TOTAL	1,122	454	611	460	779	0	0	4,356

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

### Traffic revenue — Consolidated report:

**TECHNOVAA (REPORTING MODULE) - [Consolidated Report]**

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login Logout Report EXIT

Consolidated Report

From Date: 14/05/2017 To Date: 15/05/2017 Shift: ALL To: ALL Lane: ALL

Submit

Print Report | Export Report | Refresh | Back | Forward | Home | Help | Support | Exit

REPORTS REPORTS

**ALONIYA TOLL PLAZA**

**ALONIYA TOLL PLAZA**

**Consolidated Traffic & Revenue Report**

From Date: 14/05/2017	To Date: 15/05/2017	Shift: ALL	Generated By: admin
TC: ALL	Lane: ALL		

Vehicle Name	Single Journey			Return Journey			Concession			Total
	To JAMALPUR	To SFOM	Total	To JAMALPUR	To SFOM	Total	To JAMALPUR	To SFOM	Total	
Car/Hop	26	26	52	53	54	107	159	159	318	962
LCV	107	99	206	20	20	40	32	32	64	461
H/BIKE	97	99	196	0	0	0	0	0	0	97
BUS/TRUCK	178	178	356	0	0	0	0	0	0	356
TOTAL	491	491	982	107	107	214	318	318	636	2,235

Current Page: 1 of 1 Total Page: 1 of 1 Page Factor: 100%

**TECHNOVAA (REPORTING MODULE) - [Consolidated Report]**

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login Logout Report EXIT

Consolidated Report

From Date: 14/05/2017 To Date: 15/05/2017 Shift: ALL To: ALL Lane: ALL

Submit

Print Report | Export Report | Refresh | Back | Forward | Home | Help | Support | Exit

REPORTS REPORTS

From Date: 14/05/2017 To Date: 15/05/2017 Shift: ALL To: ALL Lane: ALL	Submit
--	--------

Vehicle Name	To JAMALPUR			To SFOM			RTotal			MTotal
	To JAMALPUR	To SFOM	Total	To JAMALPUR	To SFOM	Total	To JAMALPUR	To SFOM	Total	
Car/Hop	26	26	52	53	54	107	159	159	318	962
LCV	107	99	206	20	20	40	32	32	64	461
H/BIKE	97	99	196	0	0	0	0	0	0	97
BUS/TRUCK	178	178	356	0	0	0	0	0	0	356
TOTAL	491	491	982	107	107	214	318	318	636	2,235

Current Page: 1 of 1 Total Page: 1 of 1 Page Factor: 100%

### Monthly pass details:

**TECHNOVIA REPORTING MODULE - [Monthly Pass Details]**

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login Logout Report DIT

Monthly Pass Details

From Date: 01/06/2011 To Date: 16/06/2011 Status: ALL EMPID: ALL SSTATUS: ALL Submit

SAF-CRASH REPORTS 13

Vehicle Monthly Pass Details Report

From Date: 01/06/2011 To Date: 16/06/2011 Status: ALL Generated By: admin

EMPID: ALL Pass Status: ALL

INRNO	FROMDATE	TODATE	VENNUMBER	VEHICLENUMBER	OWNERNAME	SMARTCARD	EMPID	SIFRID	TIME
Q00017728	08/06/2011	30/06/2011	MP027091	Car,Jee	246		admin	C	06/06/2011 14:36:51
Q00017728	08/06/2011	30/06/2011	MP09C84801	Car,Jee	246		admin	C	06/06/2011 14:37:31
	08/06/2011	30/06/2011	BP49002M	Car,Jee	246		admin	B	06/06/2011 14:40:41
Q00017729	08/06/2011	30/06/2011	MP14703X	LD	360	ABU TELANG	admin	B	06/06/2011 14:40:54
Q00017729	08/06/2011	30/06/2011	MP19802H	LD	360	-----	admin	B	06/06/2011 14:41:21
Q00017729	08/06/2011	30/06/2011	BP129082	Car,Jee	246		admin	C	06/06/2011 14:41:41

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

**TECHNOVIA REPORTING MODULE - [Monthly Pass Details]**

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login Logout Report DIT

Monthly Pass Details

From Date: 01/06/2011 To Date: 14/06/2011 Status: ALL EMPID: ALL SSTATUS: ALL Submit

SAF-CRASH REPORTS 13

INRNO	FROMDATE	TODATE	VENNUMBER	VEHICLENUMBER	OWNERNAME	SMARTCARD	EMPID	SIFRID	TIME
Q00017129	09/06/2011	30/06/2011	MP0811010	LD	360	ABU TELANG	admin	B	06/06/2011 14:00:11
Q00017129	09/06/2011	30/06/2011	MP20802H	LD	360	-----	admin	B	06/06/2011 14:10:21
Q00017130	09/06/2011	30/06/2011	MP22801H	Car,Jee	246		admin	C	06/06/2011 14:15:41
Q1000217	30/06/2011	MP21T088	Car,Jee	360			admin	B	07/06/2011 12:21:11
Q1000217	30/06/2011	MP23U999	Car,Jee	246			admin	L	07/06/2011 12:21:21
Q1000217	30/06/2011	MP241120	LD	360	SHALINI		admin	L	07/06/2011 12:21:31
Q1000217	30/06/2011	MP241120	LD	360	POOJITHA SAVU		admin	L	07/06/2011 12:21:31
Q1000217	30/06/2011	MP24L428	LD	360	SPRINT 160000		admin	L	07/06/2011 12:22:31
Q00017130	08/06/2011	30/06/2011	MP1212200	Car,Jee	246		admin	A	06/06/2011 12:11:01

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Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

### AVCC accuracy report:

TECHNOVIA (REPORTING MODULE) - [avccaccuracyreport]

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login Logout Report EXIT

AVCC Accuracy Report

From Date: 15/05/2017 To Date: 15/05/2017 Shift: All Submit

Report

ALONIYA TOLL PLAZA ALONIYA TOLL PLAZA Generated By: admin

AVCC Accuracy Report

From Date: 15/05/2017 To Date: 15/05/2017 Shift: All

Lane-1:

VehicleName	Car/Jip	LCV	BUS/TRUCK	3-AXEL	HCM/EME	OIV	Total
All	436	168	243	113	171	3	1,414
TOTAL	436	168	243	113	171	3	1,414

Lane-1 Total Accuracy: 8.99%

Lane-2:

VehicleName	Car/Jip	LCV	BUS/TRUCK	3-AXEL	HCM/EME	OIV	Total
All	436	168	243	113	171	3	1,414
TOTAL	436	168	243	113	171	3	1,414

Lane-2 Total Accuracy: 8.99%

Lane-3:

VehicleName	Car/Jip	LCV	BUS/TRUCK	3-AXEL	HCM/EME	OIV	Total
All	261	104	218	107	161	3	1,019
TOTAL	261	104	218	107	161	3	1,019

Lane-3 Total Accuracy: 9.99%

Lane-4:

VehicleName	Car/Jip	LCV	BUS/TRUCK	3-AXEL	HCM/EME	OIV	Total
All	223	148	119	76	121	3	1,273
TOTAL	223	148	119	76	121	3	1,273

Lane-4 Total Accuracy: 0.00%

Current Page: 45 of 1 Total Page No.: 1 Zoom Factor: 100%

start 3040K 3G Modem TECHNOVIA... TECHNOVIA... TECHNOVIA... My Documents TRUST JUNE 3... 12:01

TECHNOVIA (REPORTING MODULE) - [avccaccuracyreport]

Revenue Report Traffic Report Revenue Traffic Pass Details AVCC Accuracy Report Login Logout Report EXIT

AVCC Accuracy Report

From Date: 15/05/2017 To Date: 15/05/2017 Shift: All Submit

Report

Lane-1:

VehicleName	Car/Jip	LCV	BUS/TRUCK	3-AXEL	HCM/EME	OIV	Total
All	436	168	243	113	171	3	1,414
TOTAL	436	168	243	113	171	3	1,414

Lane-1 Total Accuracy: 8.99%

Lane-2:

VehicleName	Car/Jip	LCV	BUS/TRUCK	3-AXEL	HCM/EME	OIV	Total
All	436	168	243	113	171	3	1,414
TOTAL	436	168	243	113	171	3	1,414

Lane-2 Total Accuracy: 8.99%

Lane-3:

VehicleName	Car/Jip	LCV	BUS/TRUCK	3-AXEL	HCM/EME	OIV	Total
All	261	104	218	107	161	3	1,019
TOTAL	261	104	218	107	161	3	1,019

Lane-3 Total Accuracy: 9.99%

Lane-4:

VehicleName	Car/Jip	LCV	BUS/TRUCK	3-AXEL	HCM/EME	OIV	Total
All	223	148	119	76	121	3	1,273
TOTAL	223	148	119	76	121	3	1,273

Lane-4 Total Accuracy: 0.00%

Current Page: 46 of 1 Total Page No.: 1 Zoom Factor: 100%

start 3040K 3G Modem TECHNOVIA... TECHNOVIA... TECHNOVIA... My Documents TRUST JUNE 3... 12:01

### Login/Logout report:

**TECHNOVIA (REPORTING MODULE) - [LoginLogout]**

Revenue Report Traffic Report Revenue\_Traffic Pass Details AVCC Activity Report LoginLogout Report DCF

**Login Logout Report**

From Date: 16/05/2017 To Date: 16/05/2017 Shift: ALL To: ALL Lane: ALL

**ALORIYA TOLL PLAZA**

**Module Login Logout Details Report:**

From Date:	To Date:	Shift:	Lane:	Module Name:	LOGIN TIME:	LOGOUT TIME:
16/05/2017	16/05/2017	ALL	ALL	BOOTH MODULE	16/05/2017 00:16:49	16/05/2017 00:16:21
16/05/2017	16/05/2017	A	12	BOOTH MODULE	16/05/2017 00:16:04	16/05/2017 00:14:07
16/05/2017	16/05/2017	A	14	BOOTH MODULE	16/05/2017 00:16:49	16/05/2017 00:18:51
16/05/2017	16/05/2017	A	14	BOOTH MODULE	16/05/2017 00:16:34	16/05/2017 00:14:31
16/05/2017	16/05/2017	A	15	BOOTH MODULE	16/05/2017 00:16:51	16/05/2017 00:18:54
16/05/2017	16/05/2017	B	12	BOOTH MODULE	16/05/2017 00:16:52	

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

**TECHNOVIA (REPORTING MODULE) - [LoginLogout]**

Revenue Report Traffic Report Revenue\_Traffic Pass Details AVCC Activity Report LoginLogout Report DCF

**Login Logout Report**

From Date: 16/05/2017 To Date: 16/05/2017 Shift: ALL To: ALL Lane: ALL

**ALORIYA TOLL PLAZA**

**Module Login Logout Details Report:**

From Date:	To Date:	Shift:	Lane:	Module Name:	LOGIN TIME:	LOGOUT TIME:
16/05/2017	16/05/2017	A	14	BOOTH MODULE	16/05/2017 00:16:49	16/05/2017 00:18:51
16/05/2017	16/05/2017	A	14	BOOTH MODULE	16/05/2017 00:16:34	16/05/2017 00:14:31
16/05/2017	16/05/2017	A	15	BOOTH MODULE	16/05/2017 00:16:51	16/05/2017 00:18:54
16/05/2017	16/05/2017	B	12	BOOTH MODULE	16/05/2017 00:16:52	
16/05/2017	16/05/2017	B	12	BOOTH MODULE	16/05/2017 00:16:15	16/05/2017 10:19:21
16/05/2017	16/05/2017	B	13	BOOTH MODULE	16/05/2017 00:16:32	16/05/2017 10:19:21
16/05/2017	16/05/2017	B	13	BOOTH MODULE	16/05/2017 10:42:32	16/05/2017 10:44:31
16/05/2017	16/05/2017	B	14	BOOTH MODULE	16/05/2017 00:16:42	16/05/2017 10:44:39
16/05/2017	16/05/2017	B	15	BOOTH MODULE	16/05/2017 00:16:48	16/05/2017 10:48:34
16/05/2017	16/05/2017	C	12	BOOTH MODULE	16/05/2017 10:47:24	16/05/2017 00:19:01

TECHNOVIA Software & Hardware Solutions Pvt. Ltd.

Current Page No.: 1 Total Page No.: 1 Zoom Factor: 100%

**Validation Module:** This module provides facility for real time auditing such as validation through AVCC, image, video etc. and check points for any anomalies/discrepancies observed in the transaction

**Before Validation** **Current Validation:**

**TECHNOVIA(VALIDATION MODULE) - [Current Validation]**

Before Validation After Validation Vehicle Search Overload Vehicle Missed Vehicle Online View Cancel Ticket Exit

Current Validation Report: Current Vehicle Visit Class: Car/Jeep OK Cancel Export ShowFids

Lane: ALL Direction: ALL

Vehicle No:	Ticket No:		
Operator:	Lane:		
TC CLASS:	AVOC CLASS:		
Remark:			
Amount:	VALUATION CLASS:		
Journey:	<input type="button" value="EDIT"/> <input type="button" value="OK"/>		

Sno	VRN#	TICKET_NO	TOC	LANE	JOURNEY	TC CLASS	AMOUNT	AVOC CLASS	VALIDATION_DATE	VALIDATION_AMOUNT	TIME	EXEMPT_TYPE	EXEMPT_REASON	EXEMPT_REMARK	
1	TEST	LBAB2111H1	10	L2	Concession	Car/Jeep	10		Car/Jeep	10	24/11/2016 3:41 PM	1			
2	TEST	LBAB2111H2	10	L3	Concession	Car/Jeep	10		Car/Jeep	10	24/11/2016 3:41 PM	1			
3	TEST	LBAB2111H1	10	L3	Concession	Car/Jeep	10		Car/Jeep	10	24/11/2016 3:52 PM	1			
4	TEST	LBAB2111H1	10	L4	Concession	Car/Jeep	10		Car/Jeep	10	24/11/2016 3:52 PM	1			
5	TEST	LBAB2111H1	10	L1	Single Journey	Car/Jeep	10		Car/Jeep	10	24/11/2016 3:41 PM	1			
6	Q25	LBAB2111H1	10	L2	Single Journey	Car/Jeep	10		Car/Jeep	10	02/12/2016 8:17 PM	1			
7	Q24	LBAB2111H2	10	L2	Single Journey	Car/Jeep	10		Car/Jeep	10	02/12/2016 8:17 PM	1			
8	Q24	LBAB2111H1	10	L3	Single Journey	Car/Jeep	10		Car/Jeep	10	02/12/2016 8:17 PM	1			
9	Q24	LBAB2111H2	10	L3	Single Journey	Car/Jeep	10		Car/Jeep	10	02/12/2016 8:22 PM	1			
10	Q24	LBAB2111H1	10	L4	Single Journey	Car/Jeep	10		Car/Jeep	10	02/12/2016 8:22 PM	1			
11	Q25	LBAB2111H3	10	L1	Single Journey	Car/Jeep	10		Car/Jeep	10	02/12/2016 8:41 PM	1			
12	Q25	LBAB2111H1	10	L3	Single Journey	Car/Jeep	10		Car/Jeep	10	02/12/2016 8:51 PM	1			

### Before Validation Timewise Current Validation:

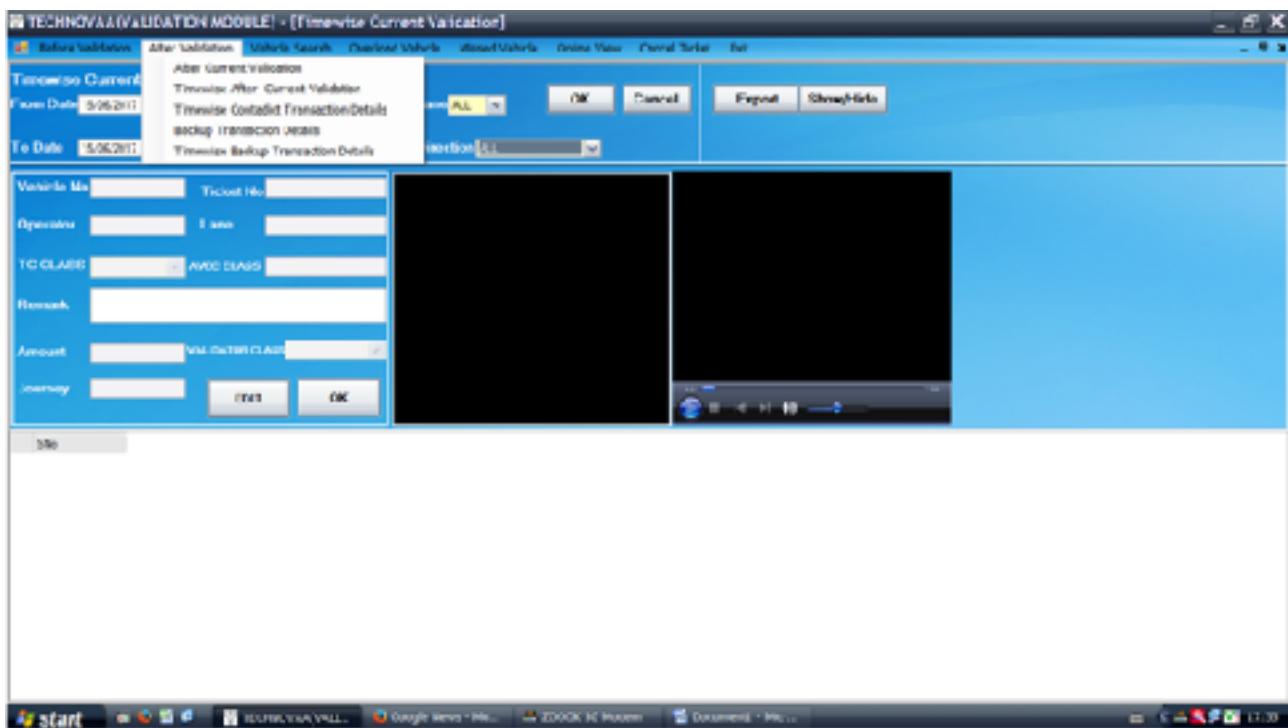
**TECHNOVIA(VALIDATION MODULE) - [Timewise Current Validation]**

Before Validation After Validation Vehicle Search Overload Vehicle Missed Vehicle Online View Cancel Ticket Exit

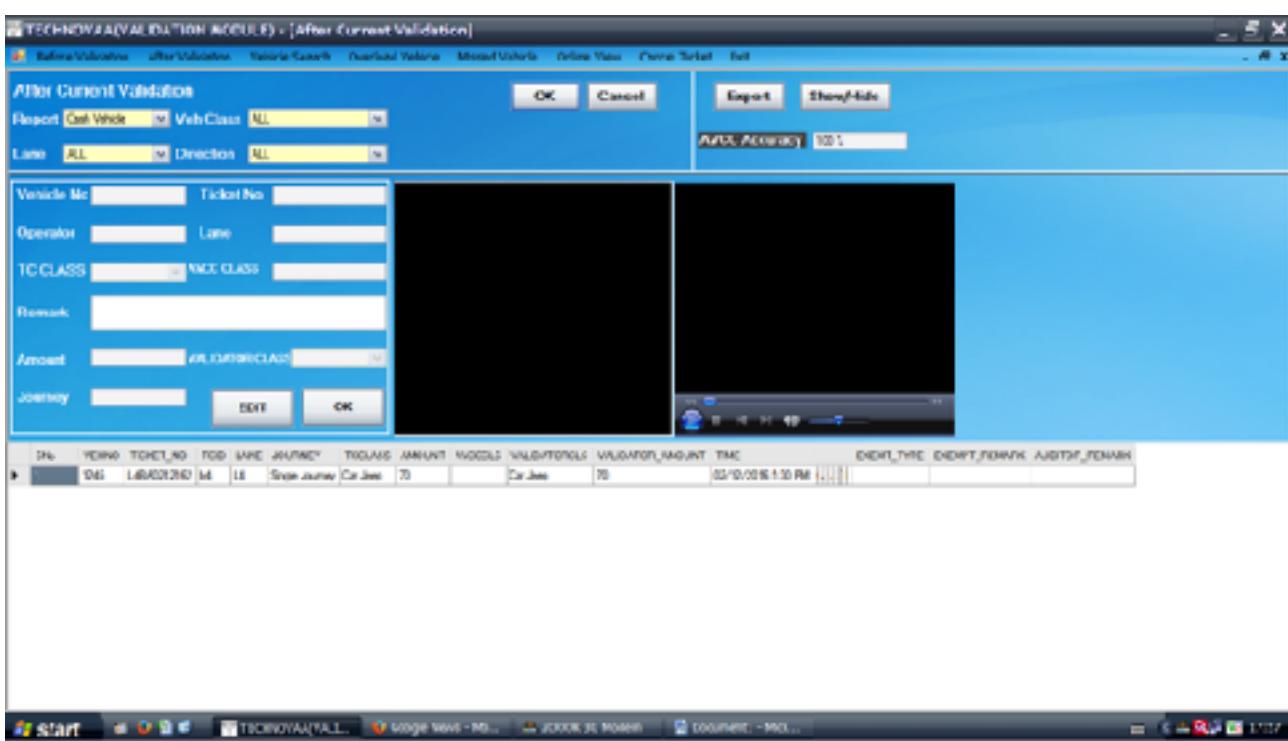
Timewise Current Validation From Date: 02/12/2016 To Date: 02/12/2016 Time: 00:00:00 Report: ALL Lane: ALL Direction: ALL OK Cancel Export ShowFids

Vehicle No:	Ticket No:		
Operator:	Lane:		
TC CLASS:	AVOC CLASS:		
Remark:			
Amount:	VALUATION CLASS:		
Journey:	<input type="button" value="OK"/> <input type="button" value="Cancel"/>		

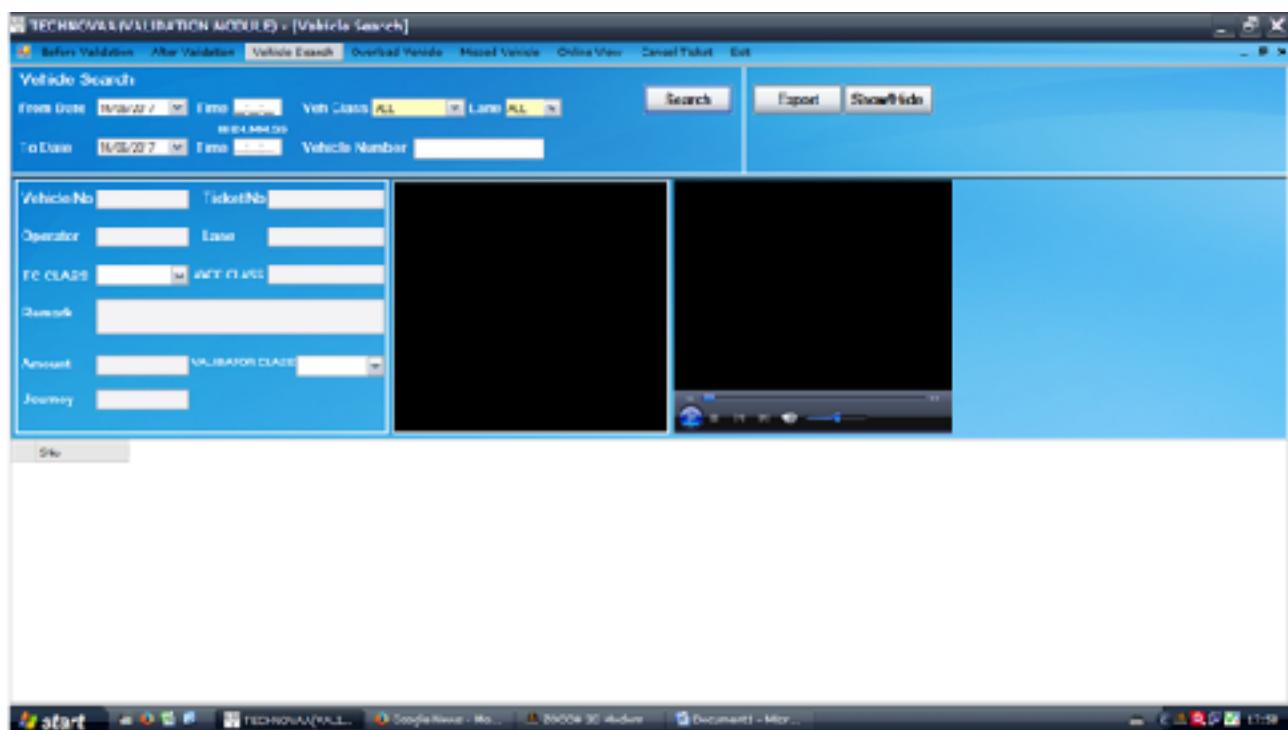
### After Validation:



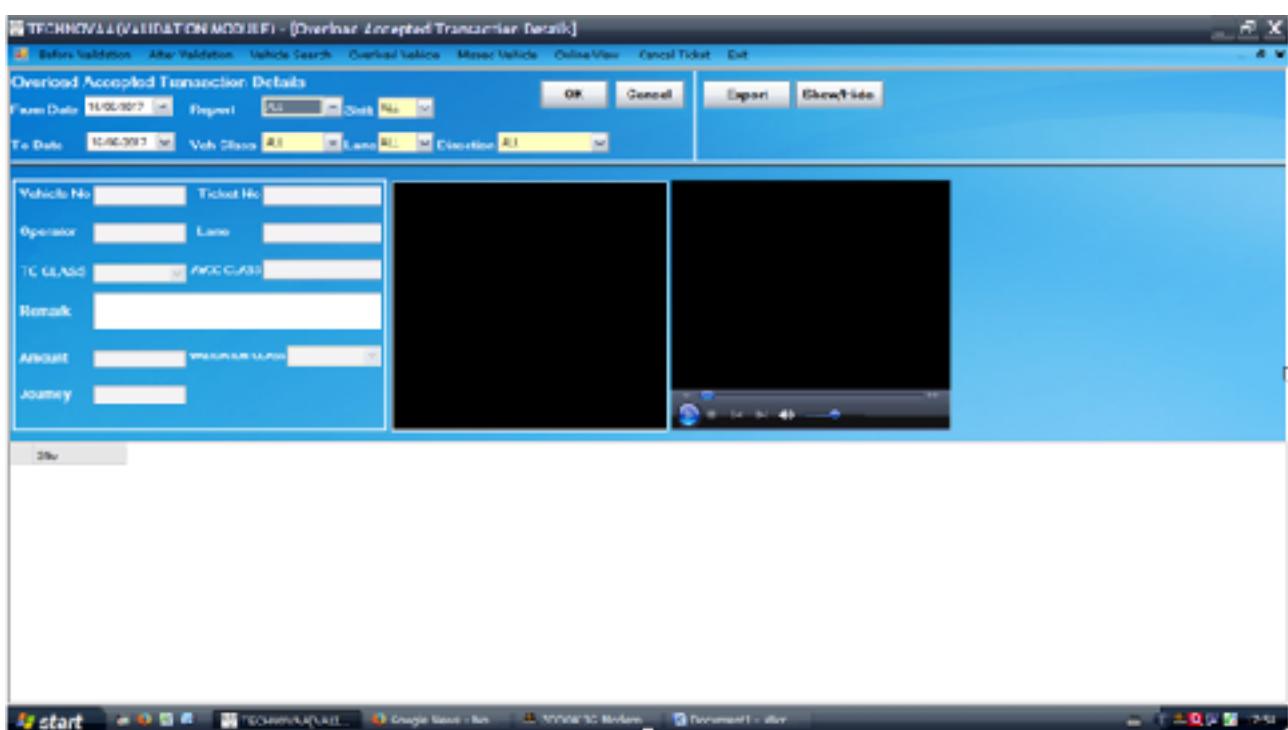
### After validation — After current validation:



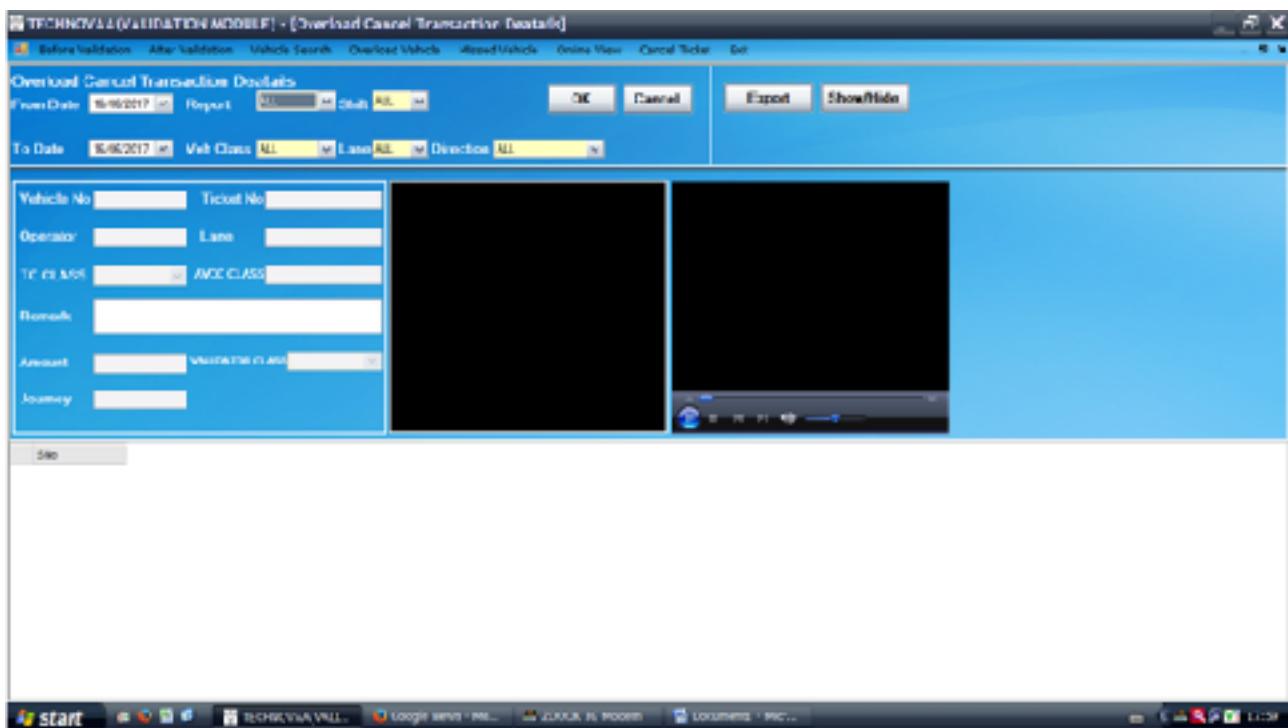
### Vehicle search:



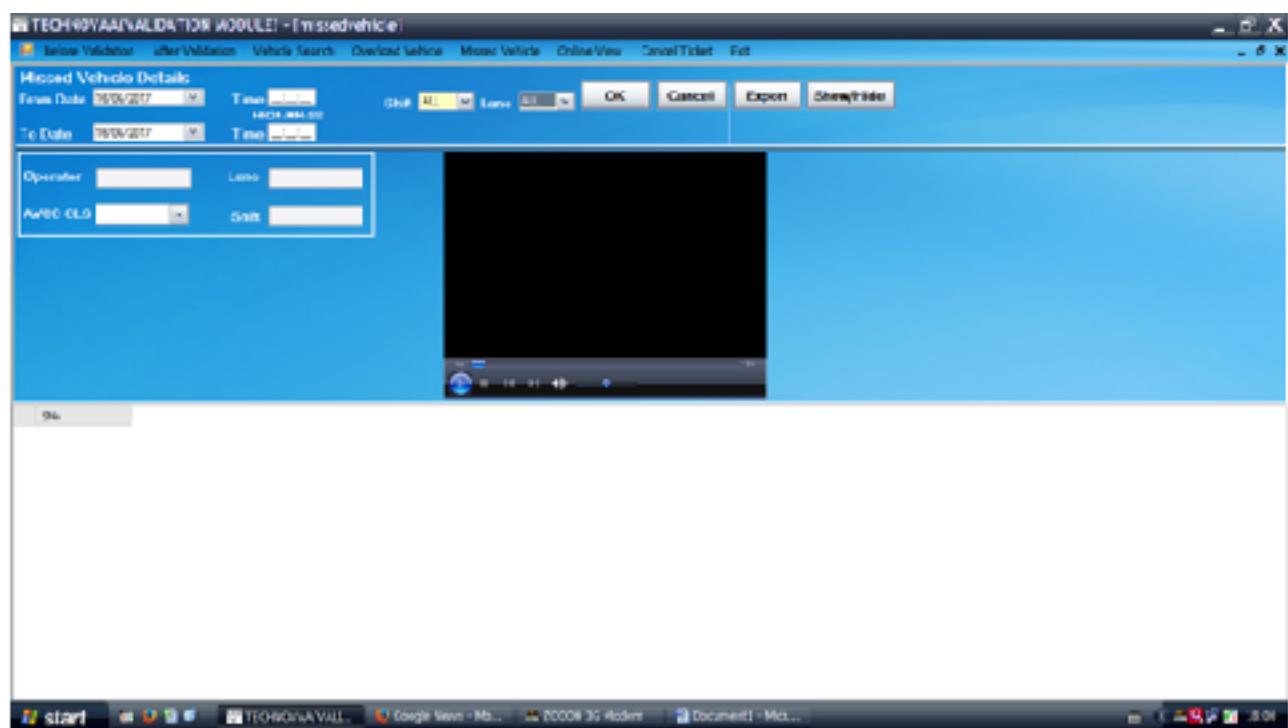
### Overload vehicle — overload accepted txn. details:



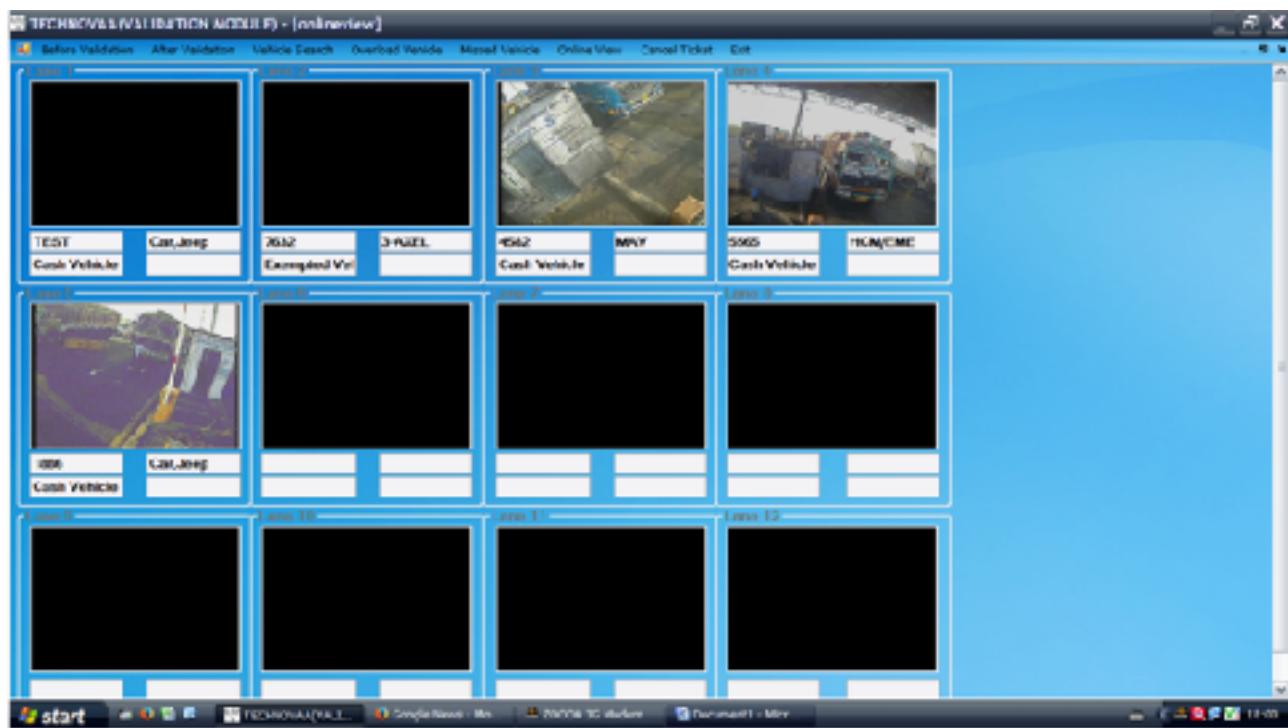
### Overload Vehicle Overload cancel txn details:



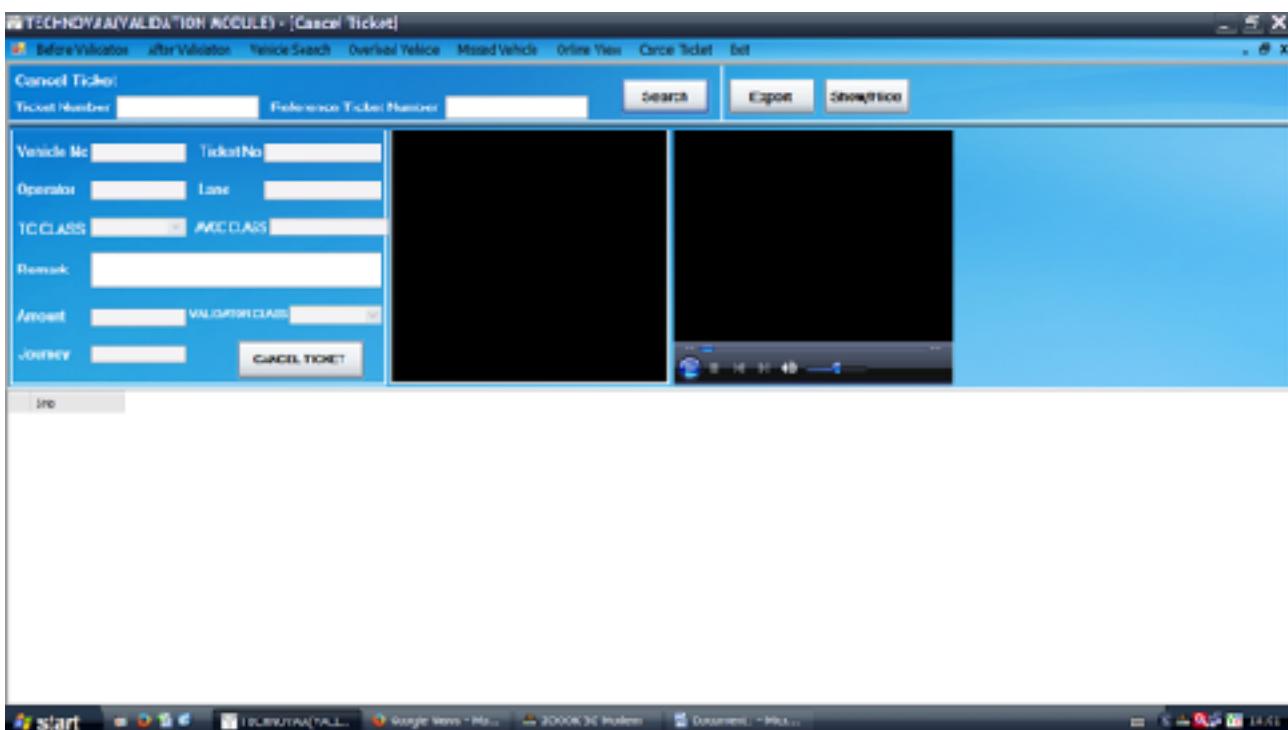
### Missed vehicle details:



### Online view:



### Cancel ticket:



### Cancel ticket txn details:

TECHNOVIA (VALIDATION MODULE) - [Cancel Ticket Transaction Details]

Before Validation After Validation Vehicle Search Overdue Tickets Missing Vehicles Online View Cancel Ticket Full

Cancel Ticket Transaction Details

From Date: 16/09/2017 Grid: All Volt Glass: All OK Cancel Export Close Window

To Date: 16/09/2017 Lane: All Direction: All

Vehicle No: Ticket No:

Operator: Lane:

TC CLASS: AVCC CLASS:

Remark:

Amount: YPLISPRM GLASS

Journey:

Slip