

**Pollution Check Database
Management Software
with Automatic Reminder
&
Challan Generation**

Team Details

- Team Name- CKC_TECHNOHOLIX (ID-8785)
- Team Members-
 1. Parhitosh Sharma
 2. Biresk Kumar
 3. Nimish Rajouria
 4. Rajat Garg
 5. Shubhra Tyagi
 6. Arpita Sharma
- College– Faculty of Engineering, Dayalbagh Educational Institute, Agra, UP (282005)

Technological Stack

Languages :- PHP(Xampp Server)

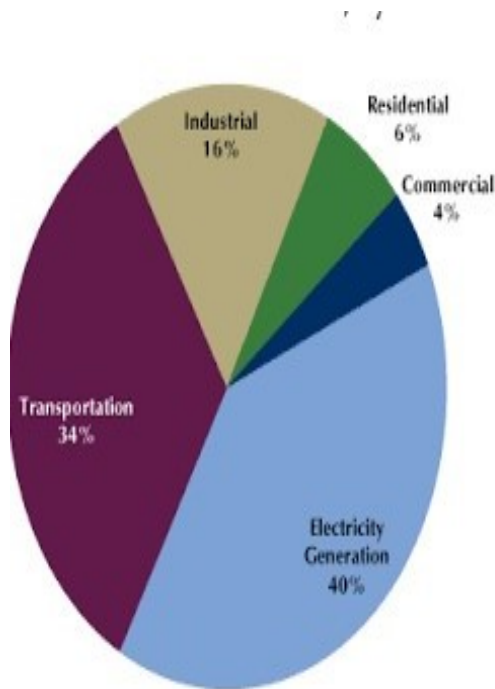
HTML 5

My SQL

Hardwares Used:- RS232 (Communication Mode)

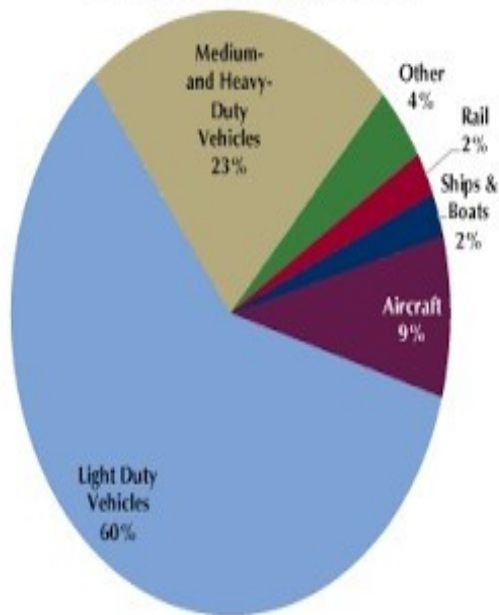
MAIN CAUSE OF POLLUTION – ROAD TRANSPORT

Total CO2 Emissions



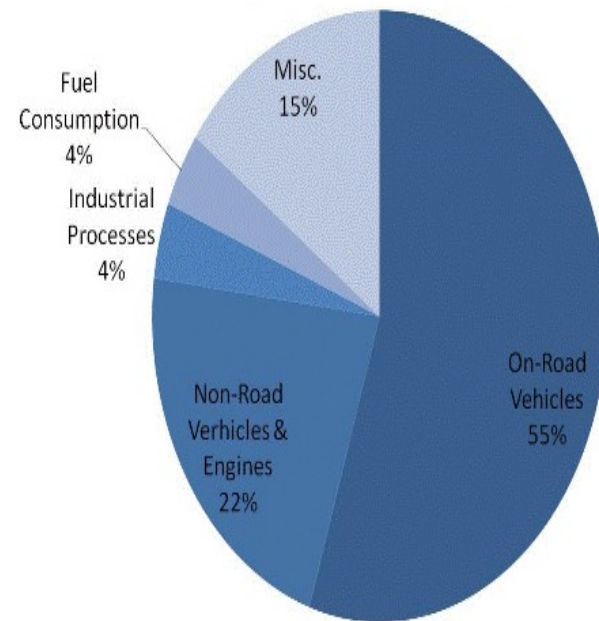
34% of total pollution

CO2 Emissions, by Source



83% share of Road transport

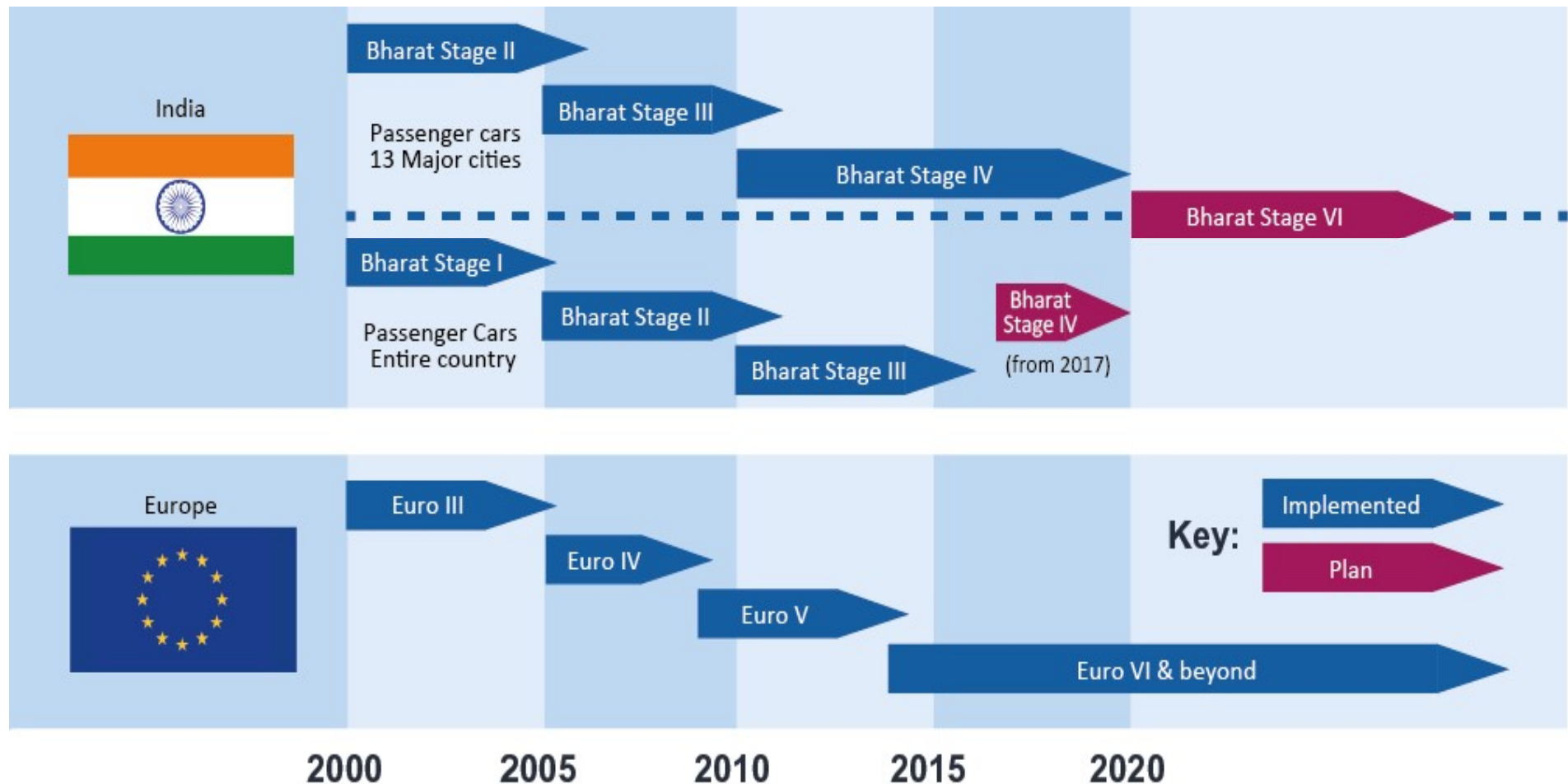
Sources of CO Emissions



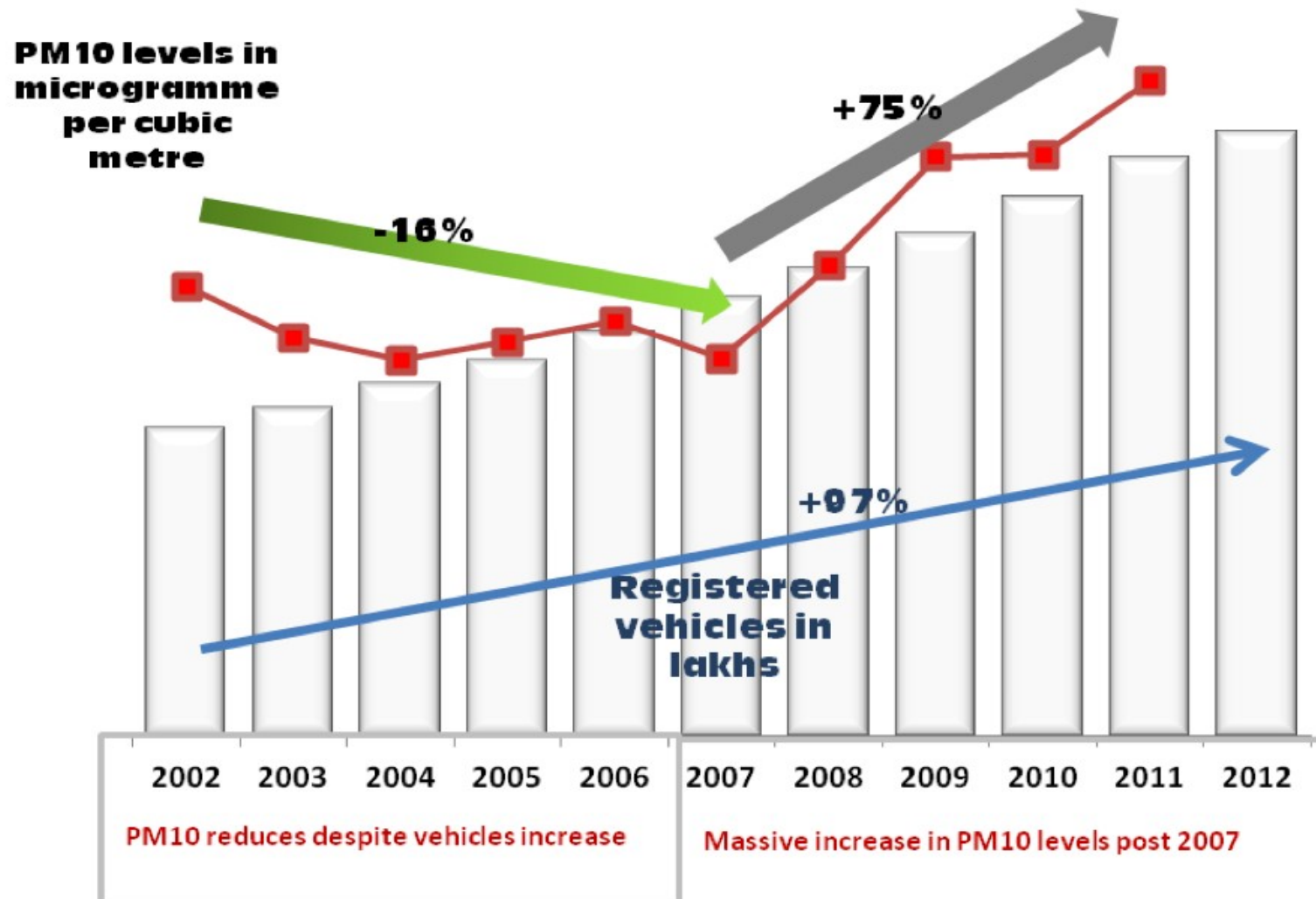
55% share of Road Transport

IMPLEMENTATION OF BS NORMS

‘A step to control Pollution’



Sales can be stopped but not the Pollution



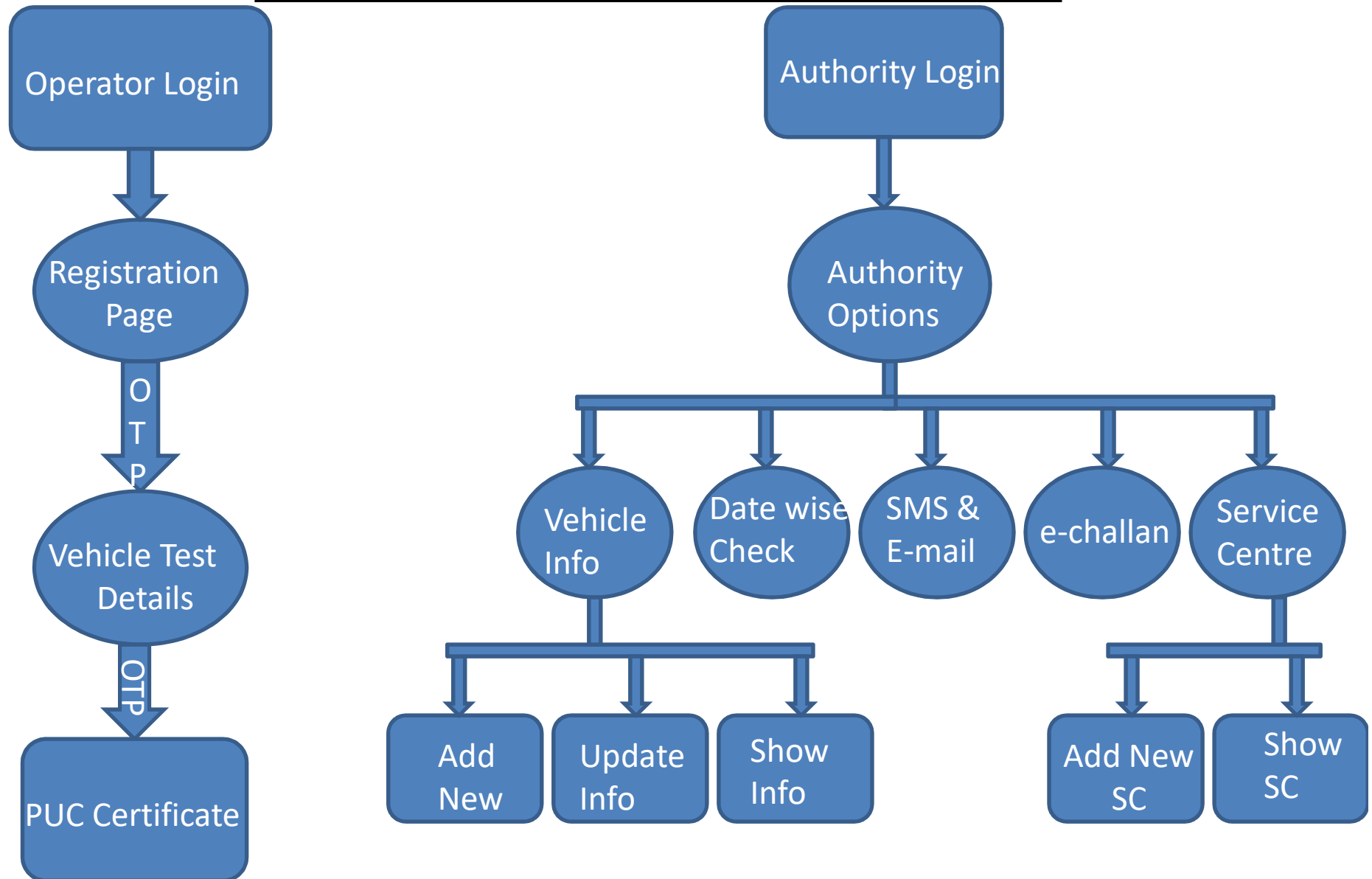
PRESENT SCENARIO-LIMITATIONS

- *Absence of control mechanism to identify vehicles escaping PUC*
- *No well defined criteria for authorizing/registering PUC centres*
- *No auditing of PUC centres*
- *No analysis of the data collected*
- *No centralized monitoring software available*

SOLUTION

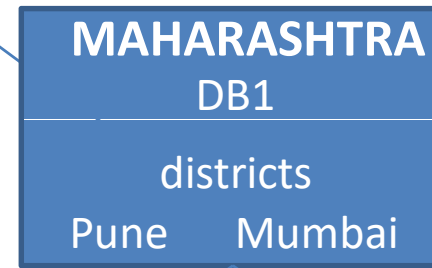
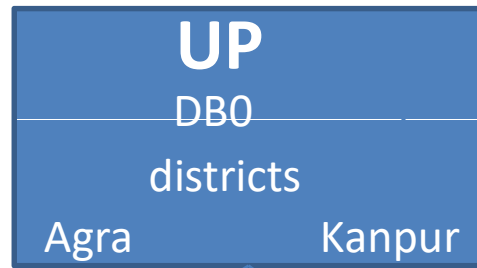
1. *Designing a software to identify all the vehicles not having their valid PUC certificate*
2. *Recognizing only registered PUC's centres*
3. *Data of all the on-road vehicles is maintained and supervised carefully*
4. *Centralized software making use of data partitioning for decreasing online traffic of data*
5. *Automatic reminders regarding pollution check*
6. *Forcing a e-challan on the owner*

Database Creation



Database Structure

Vehicle No.	Type of Veh	Reg Date	Owner Name	Aadhar



Pollution checked

Not checked

Pollution checked

Not checked

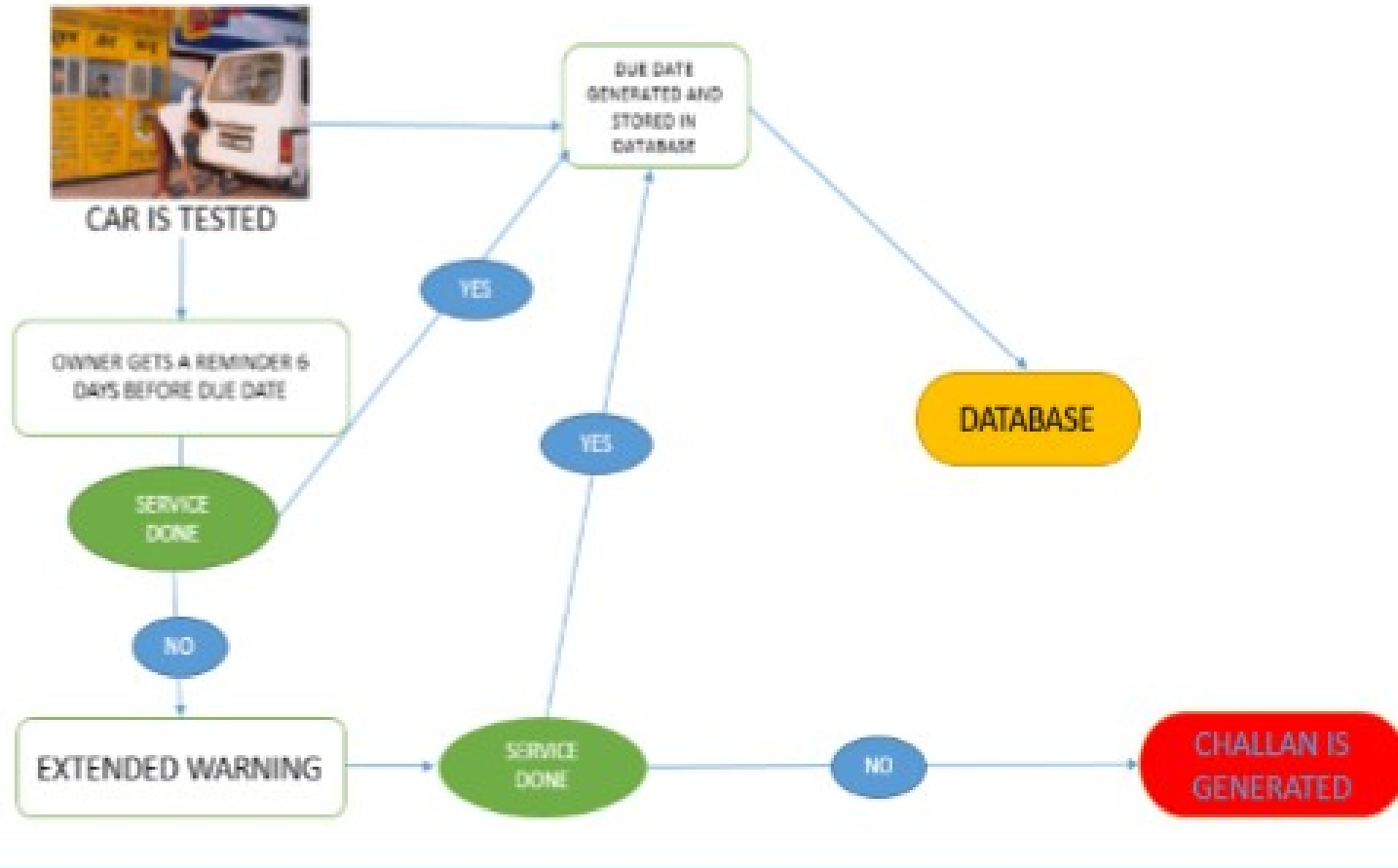
Under control

Not in control

Under control

Not in control

PROCEDURE



Scalability of the Solution

- Database of the motor vehicles and their owners across pan India
- A leap step in CMVR towards Digital India through Pollution certificate digitization.
- Cleaner and Greener future
- Centralization of the data through linkages with Aadhar.
- Information about the number of vehicles owned by every individual
- Revenue generation through challans paid by the end users for lapsing pollution certificate validity.

HIGHLIGHTS

- Security - OTP Generation
- Reminders through Mails and texts(SMS)
- Automatic update of database from RTO's database
- Payment Gateway for challan amount
- Provision for Vehicle sales (owner updation)
- Reports generation on statistics of polluting and non-polluting vehicles

HIGHLIGHTS

- Good User end experience

- Corruption Control

Use of equipment having RS232 communication mode

Data from the equipment directly sent to ministry server

Reports based on this data is provided to the user

INNOVATION

- Linking with Swachh Bharat Abhiyan and digital India
- Machine Interfacing with website for non-manipulated data
- Psychological change in customer's mind set(mandatory PUC check)
- Gradual implementation, evolutionary change
- RTO (entity info), bank (e- challan), Aadhar Card are inter-related(missing in existing system)
- Control over corruption

Financials of the Solution

Investment					
		Cost/ pc	Qty	Total	
One time investment	Blade server PowerEdge M620	₹ 10,50,000.00	30	₹ 315,00,000.00	
	RS 232 protocol upgradation	₹ 1,500.00	1,00,000	₹ 1500,00,000.00	
	SQL 2016 server license	₹ 2,60,190.00	1	₹ 2,60,190.00	
	Windows Server 2016 edition for Datacenter	₹ 4,30,850.00	1	₹ 4,30,850.00	
	Server Room	₹ 10,00,000.00	1	₹ 10,00,000.00	
	Server cabinet	₹ 3,00,000.00	2	₹ 6,00,000.00	
	Networking Hardware	₹ 20,00,000.00	1	₹ 20,00,000.00	
Software	-	-	₹ -		
Recurring cost	Internet charges			25/ day	to be be Bourne by dealer
	SMS gateway	₹ 0.75		0.75/ sms	
	DB management employee	₹ 30,000.00	1	₹ 30,000.00	
Total One time Investment				1857,91,040.00	
Return of Investment (Annually)					
	5% charge payable to govt by dealer	₹ 5.00	100,00,000	₹ 500,00,000.00	One crore vehicle population considered
	Revenue Generation thru Challan	₹ 1,000.00	₹ 1,50,000.00	₹ 1500,00,000.00	
Total				₹ 2000,00,000.00	

Future Scope

- “PUC check on wheels” App can provide door to door service
- RFID tags can act as digital certificates and polluting vehicles can be stopped at tolls
- Collaboration of ministry with companies like “Traffilog” to provide better Fleet Management Solutions.

