ISO 9001: 2015 | CMMi Level 3 | ISO 20000-1:2018 | ISO 27001:2013| ISO 45001:2018 | ISO 14001:2015

VaaaN
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Integrated Public Transport Management System

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VaaaN – Core Competencies

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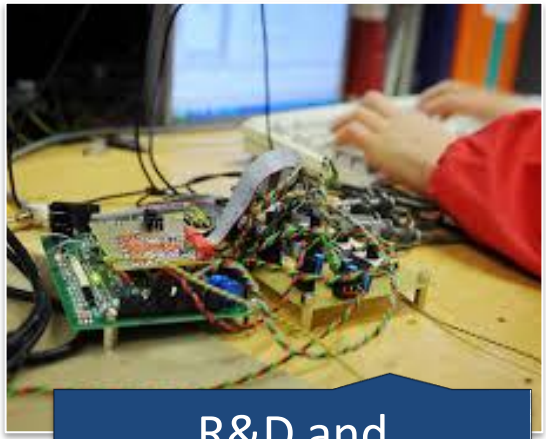
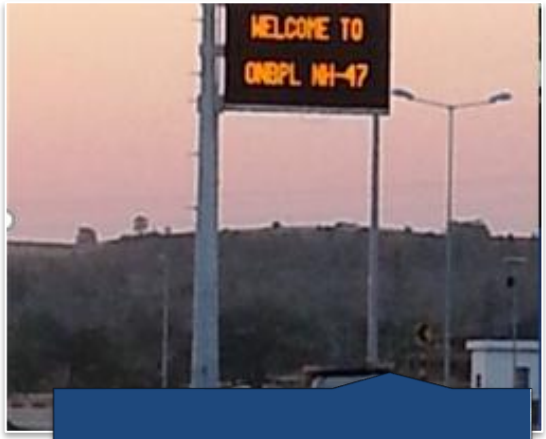
Systems Engineering & System Integration



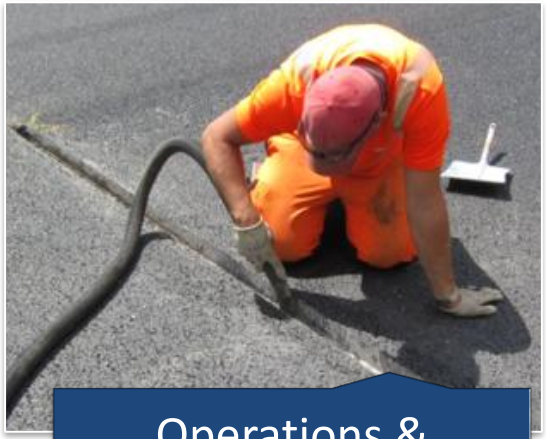
R&D and Engineering Services

Application Development

Electronic Manufacturing



Project Execution



Operations & Maintenance

VaaaN - Certifications

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ISO 9001:2015	Design, Develop, Integrate & Support Projects
ISO 20000-1: 2018	Information Technology Service Management
ISO 45001:2018	Occupational Health & safety
ISO 27001:2013	Information Security Management
ISO 14001:2015	Environmental Management Systems
CMMI Level 3	Software & Services

Problem Statement

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Entering the 21st century, the Indian transportation system has been rapidly expanding; still it has not been able to keep pace with the congestion in our cities that continues to grow at an alarming rate . This increased congestion is adversely impacting our quality of life and increasing the potential for accidents and long delays.

To fight and mitigate congestion and efficient use of resources , transportation professionals in India are working towards increasing the productivity of existing transportation systems using advanced technologies.

IPTMS Objectives

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- Mitigate Potential Revenue leakage due to unavailability of capacity utilization of various buses
- Reduce / Deprecate Manual duty scheduling
- Deprecate Manual ticketing system in buses or non-linkage of ticket booking with IRTS
- Address Safety & Security issues
- Reduce Manual fleet management (Have to identify how)
- Optimize Fuel Efficiency
- Speed Governance

IPTMS-Top Level Architecture

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STANDARD BUS AFC SOLUTION ARCHITECTURE

SOLUTION ARCHITECTURE

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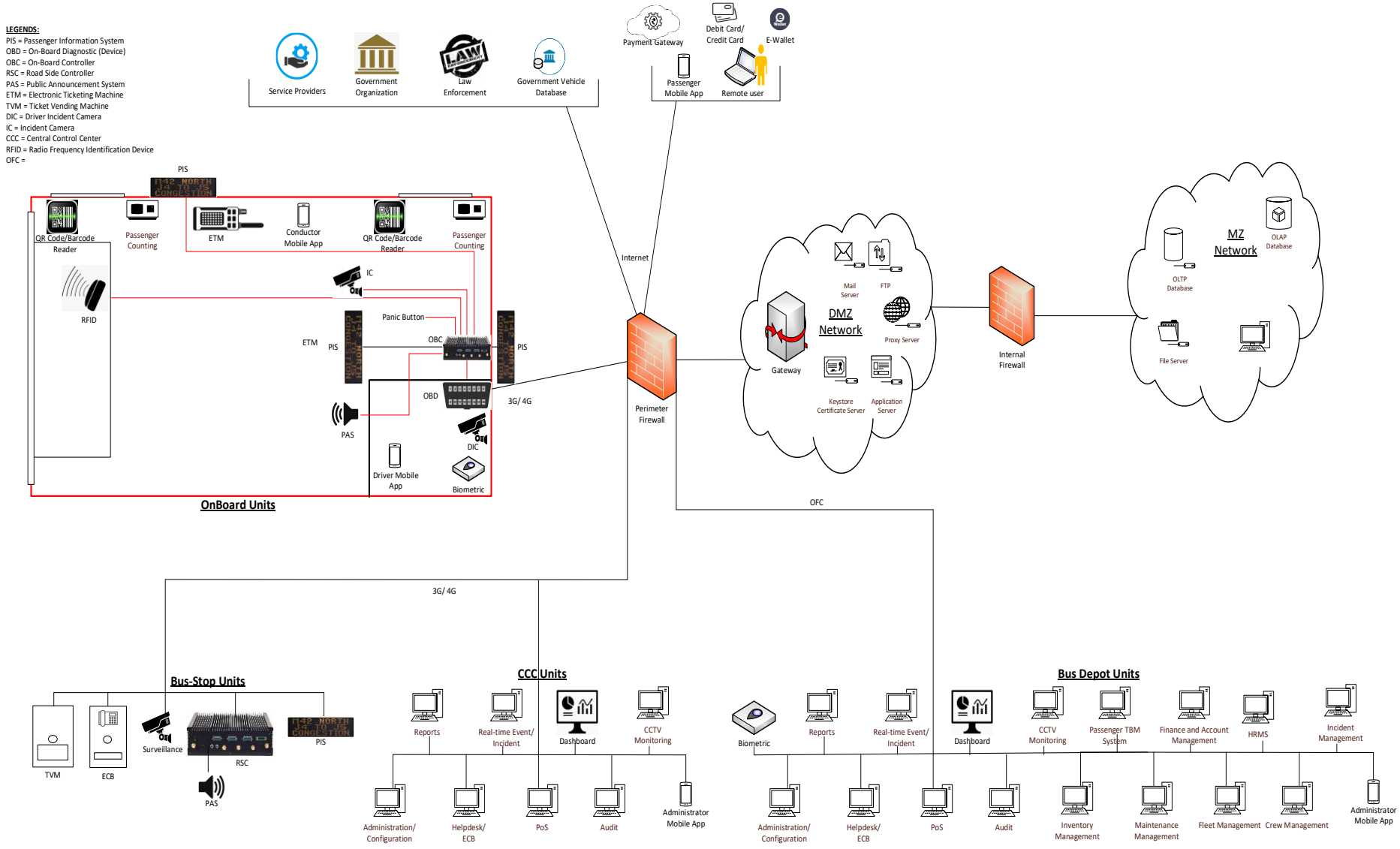

Fleet Management

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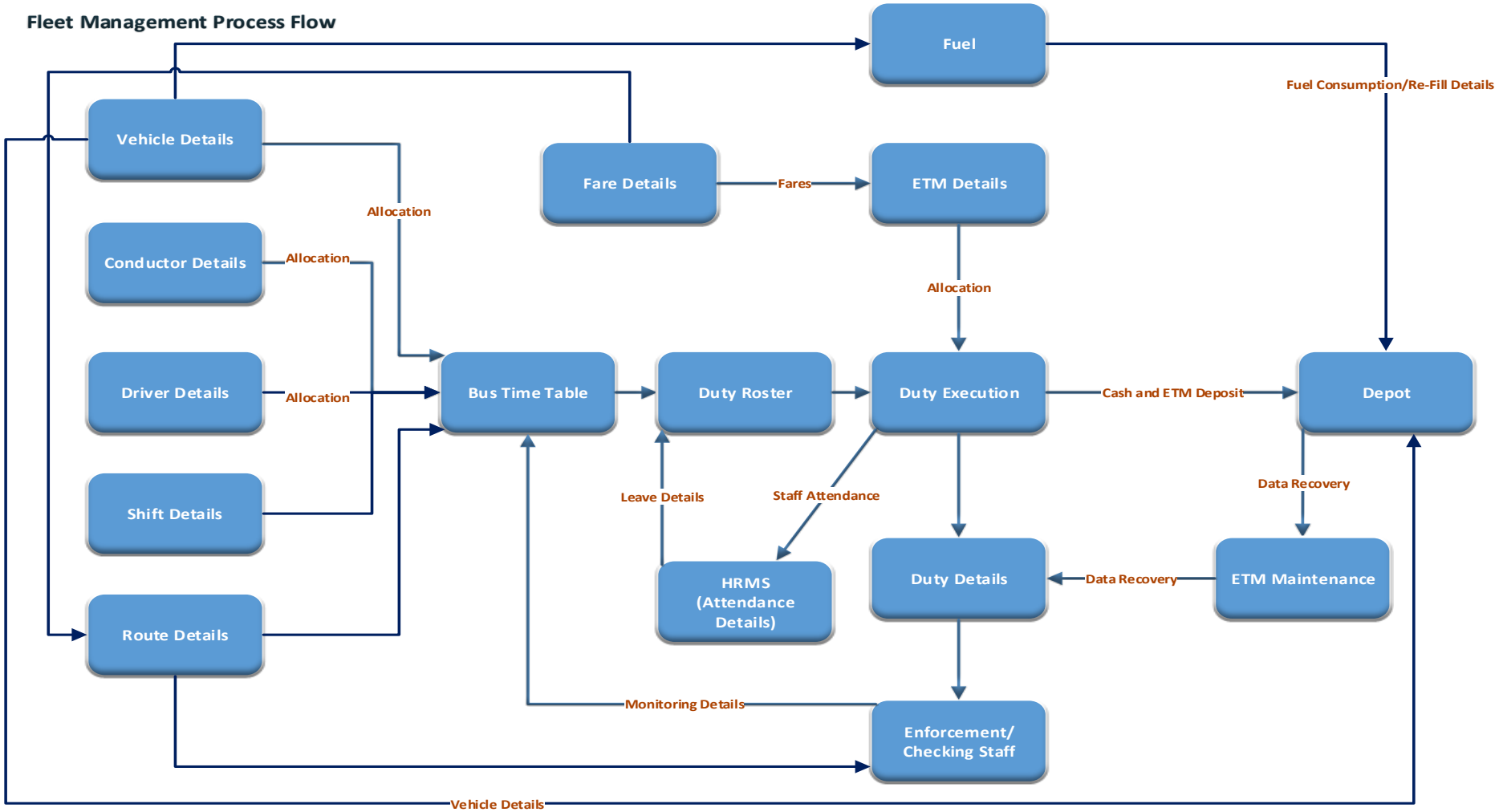

Route and Fleet Management

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Route Management

Route Code	Route Name	Route Description	Activation Date	Deactivation Date	ROUTE
KD001	Karsog Delhi	Karsog to Delhi	06-05-2021	07-05-2021	Local
KD002	Delhi Karsog	Delhi to Karsog	01-01-2021	01-06-2021	Local
KD003	Dhali Shimla	Dhali to Shimla ISBT	01-01-2021	01-05-2021	Local
KD004	Shimla Dhali	Shimla ISBT to Dhali	01-01-2021	01-05-2021	Local
KD005	Faridabad	Faridabad	03-03-2021	18-03-2021	Long
KD006	delhi	delhi	12-01-2021	06-05-2021	Long
101	Durga to satwari	Durga Nagar to Satwari bus stand	06-05-2021	07-05-2021	Local
JK1234	kashmir to jammu	jammu trip	28-04-2021	31-05-2021	Long

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Fleet Plan Management

Fleet Plan Date	TTT Name	Route Name	Registration No	Route Direction	Depot
04-02-2021	TSUMMER rp	Karsog Delhi	HP30A1001	UP	Noida
04-02-2021	TSUMMER rp	Delhi Karsog	HP30A1003	DOWN	Noida
04-02-2021	TSUMMER rp	Dhali Shimla	HP30A1018	UP	Noida
04-02-2021	TSUMMER rp	Shimla Dhali	HP30A1018	DOWN	Noida
04-02-2021	TSUMMER rp	Dhali Shimla	HP30A1018	UP	Noida
04-02-2021	TSUMMER rp	Shimla Dhali	HP30A1019	DOWN	Noida
04-02-2021	TSUMMER rp	Dhali Shimla	HP30A1018	UP	Noida
04-02-2021	TSUMMER rp	Dhali Shimla	HP30A1018	UP	Noida
04-02-2021	TSUMMER rp	Shimla Dhali	HP30A1020	DOWN	Noida

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Incident Management

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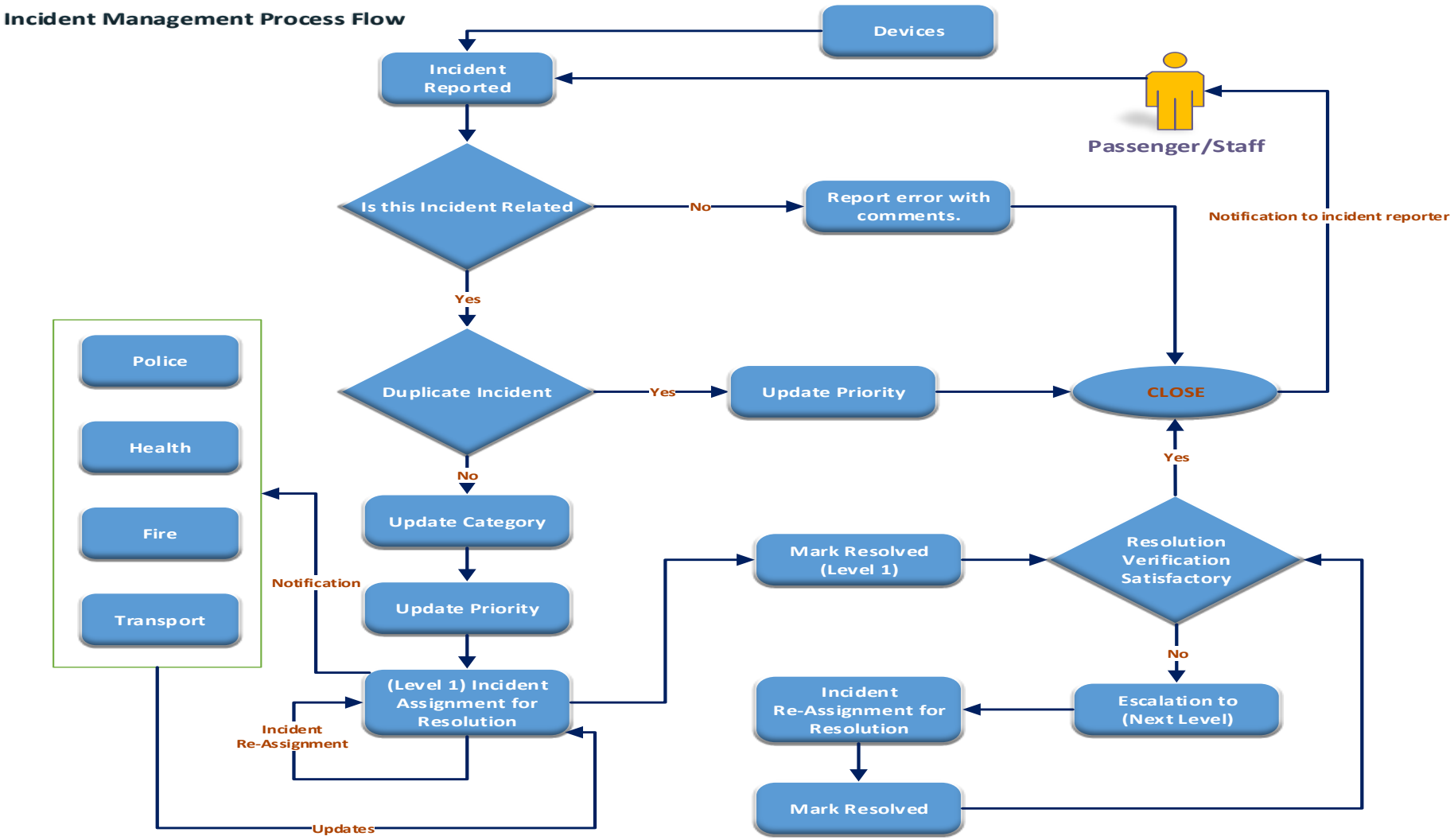

Inventory Management

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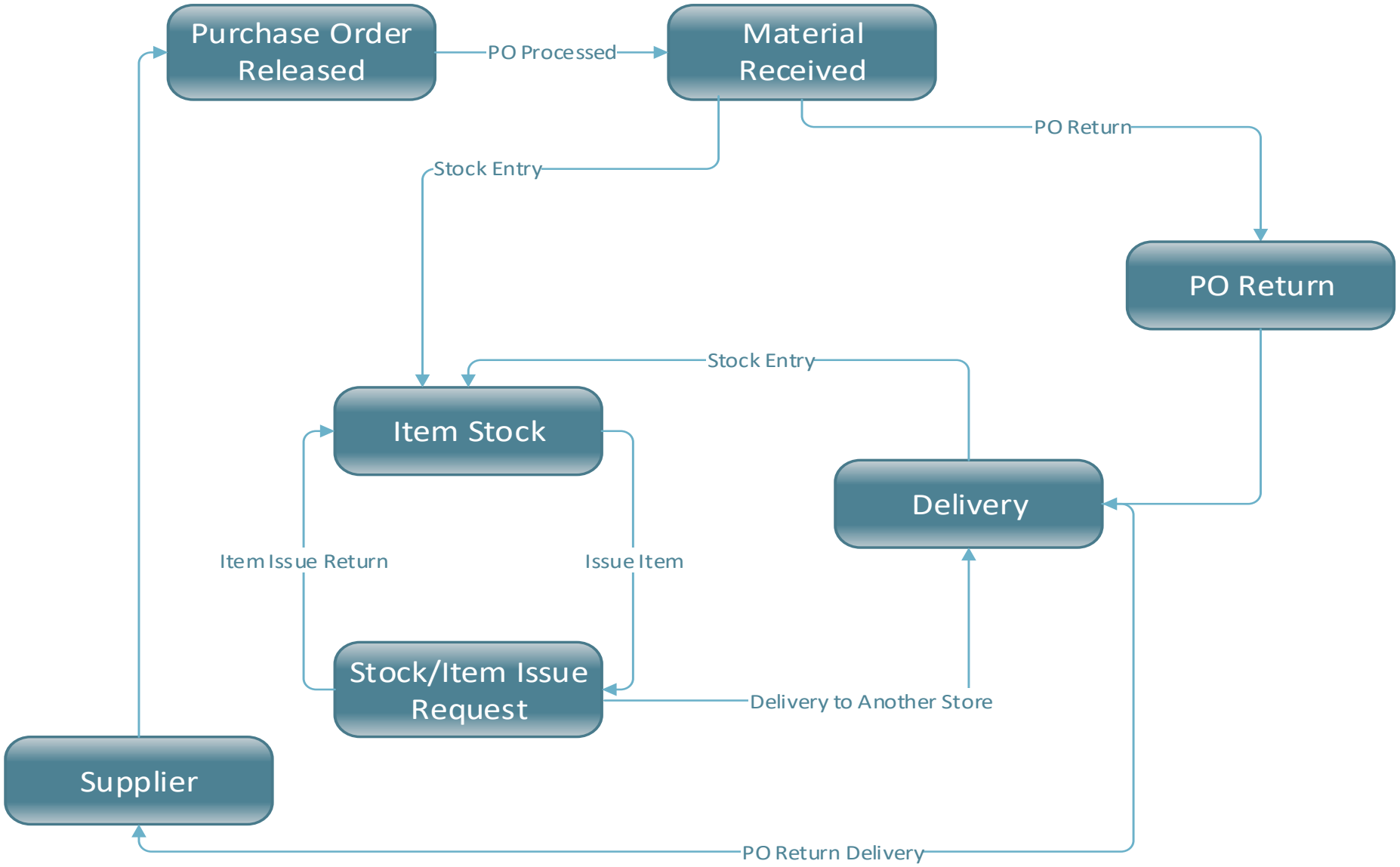

Inventory management & Vehicle Maintenance

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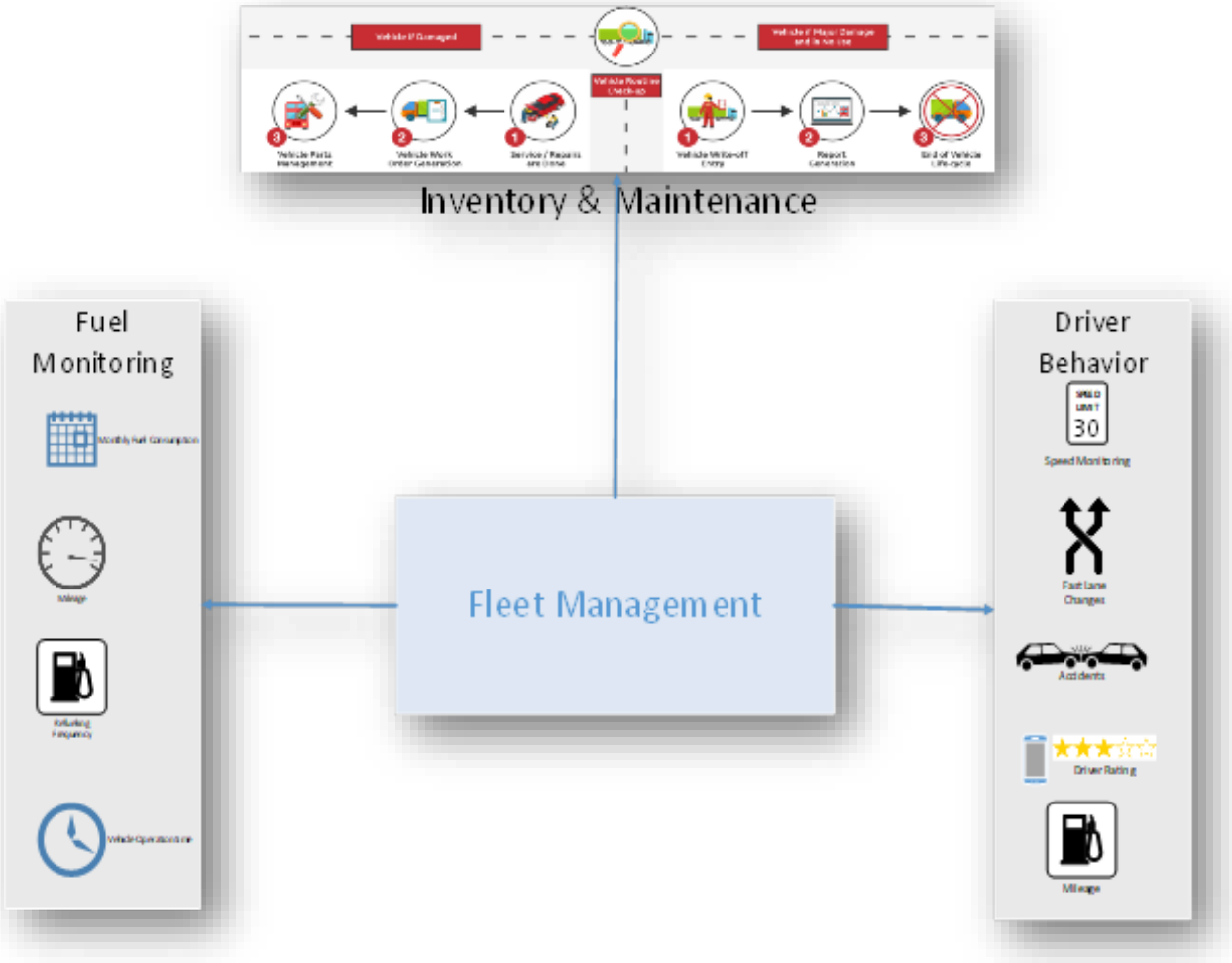
- Spare Parts availability
- Receipt issuance
- Codification of all inventory items
- Reuse old code
- When bus enters workshop
- When clearance certificate is issued
- Record keeping of bus service dues



Vehicle Maintenance

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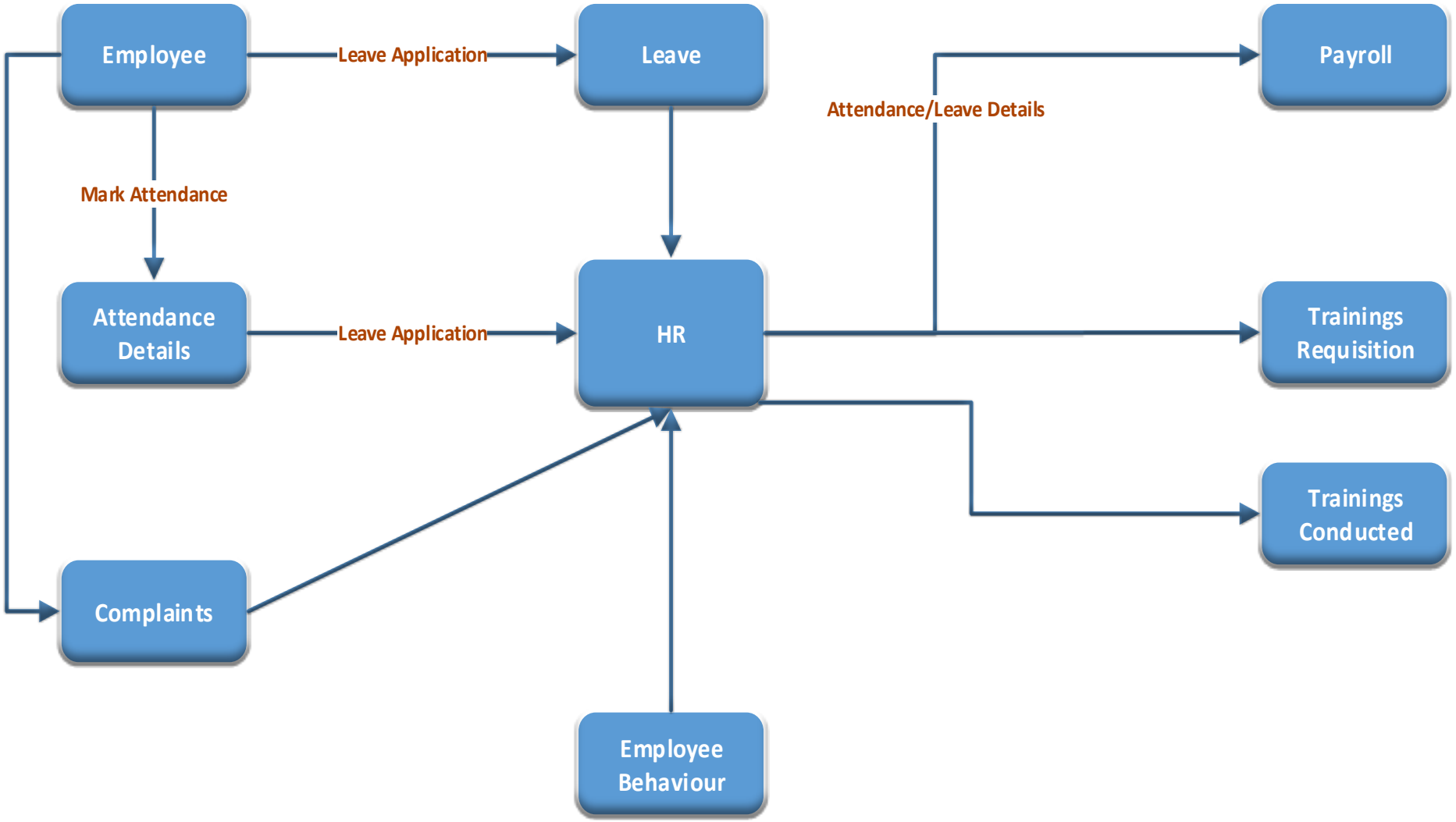
Human Resource Process Flow



Vehicle Management and Maintenance

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Vehicle Registration Management

Vehicle Reg No	Vehicle Owner	Vehicle Category	Depot	Service Type	Bus St
HP30A1001	HRTC	Bus	Noida Depot	AC BUS	Karso
HP30A1002	HRTC	Bus	Noida Depot	AC BUS	Karso
HP30A1003	HRTC	Bus	Noida Depot	AC BUS	Delhi
HP30A1004	HRTC	Bus	Noida Depot	AC BUS	Delhi
HP30A1005	HRTC	Bus	Noida Depot	AC BUS	Karso
HP30A1006	HRTC	Bus	Noida Depot	AC BUS	Delhi
HP30A1007	HRTC	Bus	Noida Depot	AC BUS	Kuruk
HP30A1008	HRTC	Bus	Noida Depot	AC BUS	Kuruk
HP30A1009	HRTC	Bus	Noida Depot	AC BUS	Kuruk

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Finance and Accounting

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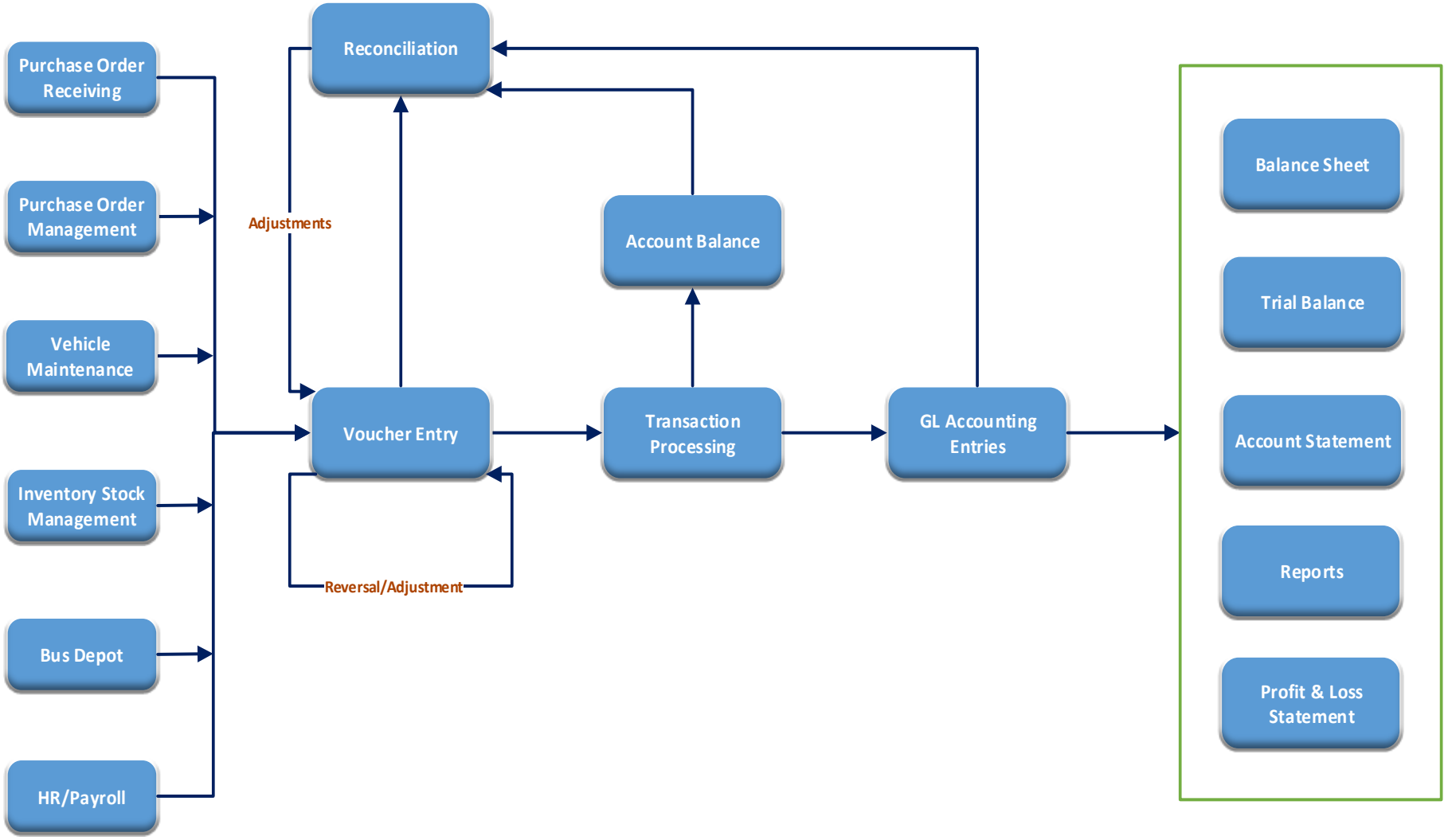
Finance & Account Management Process Flow



Customer Relationship Management (CRM)

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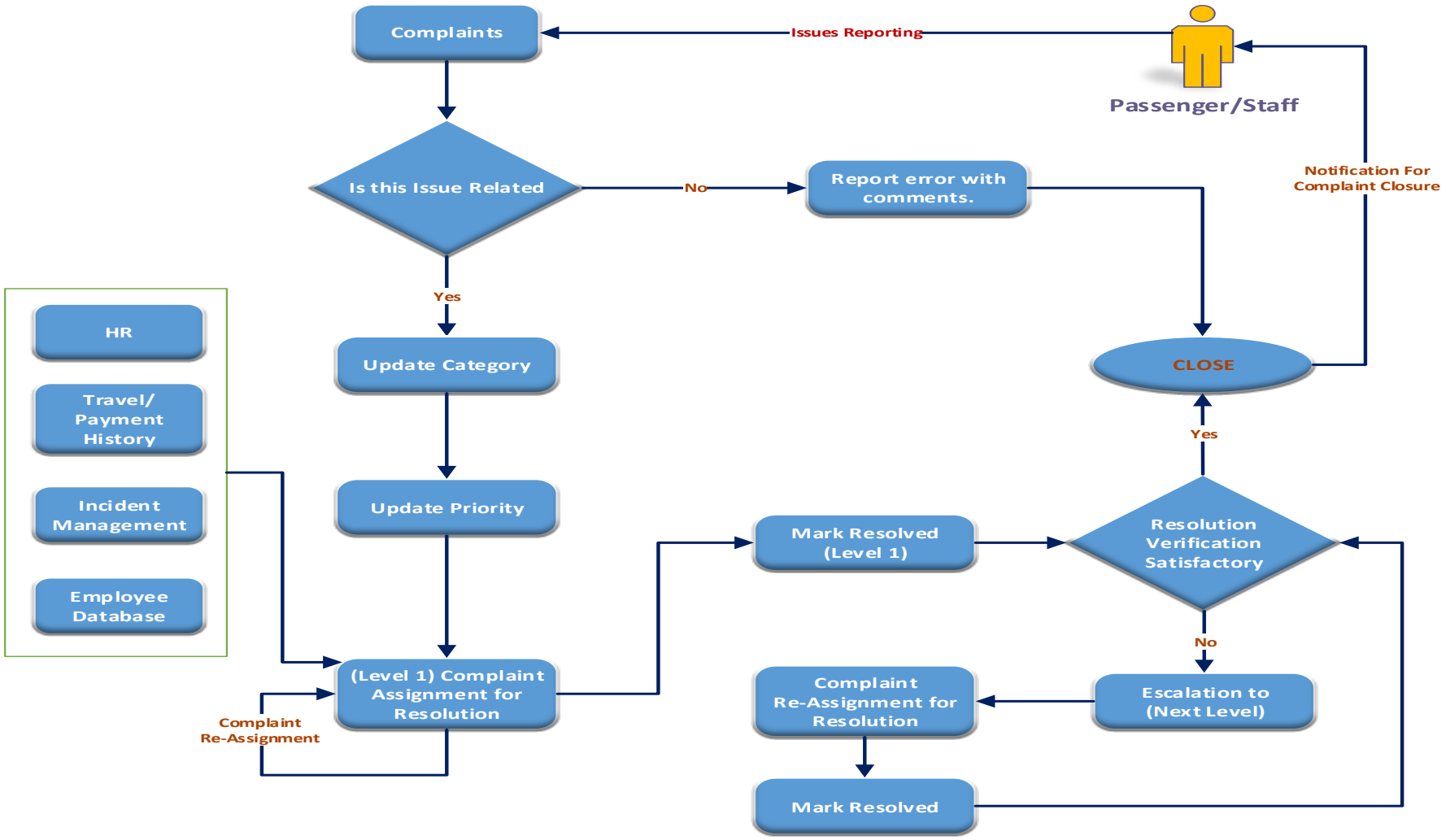
Customer Relationship Management Process Flow



Mobile App for Citizen

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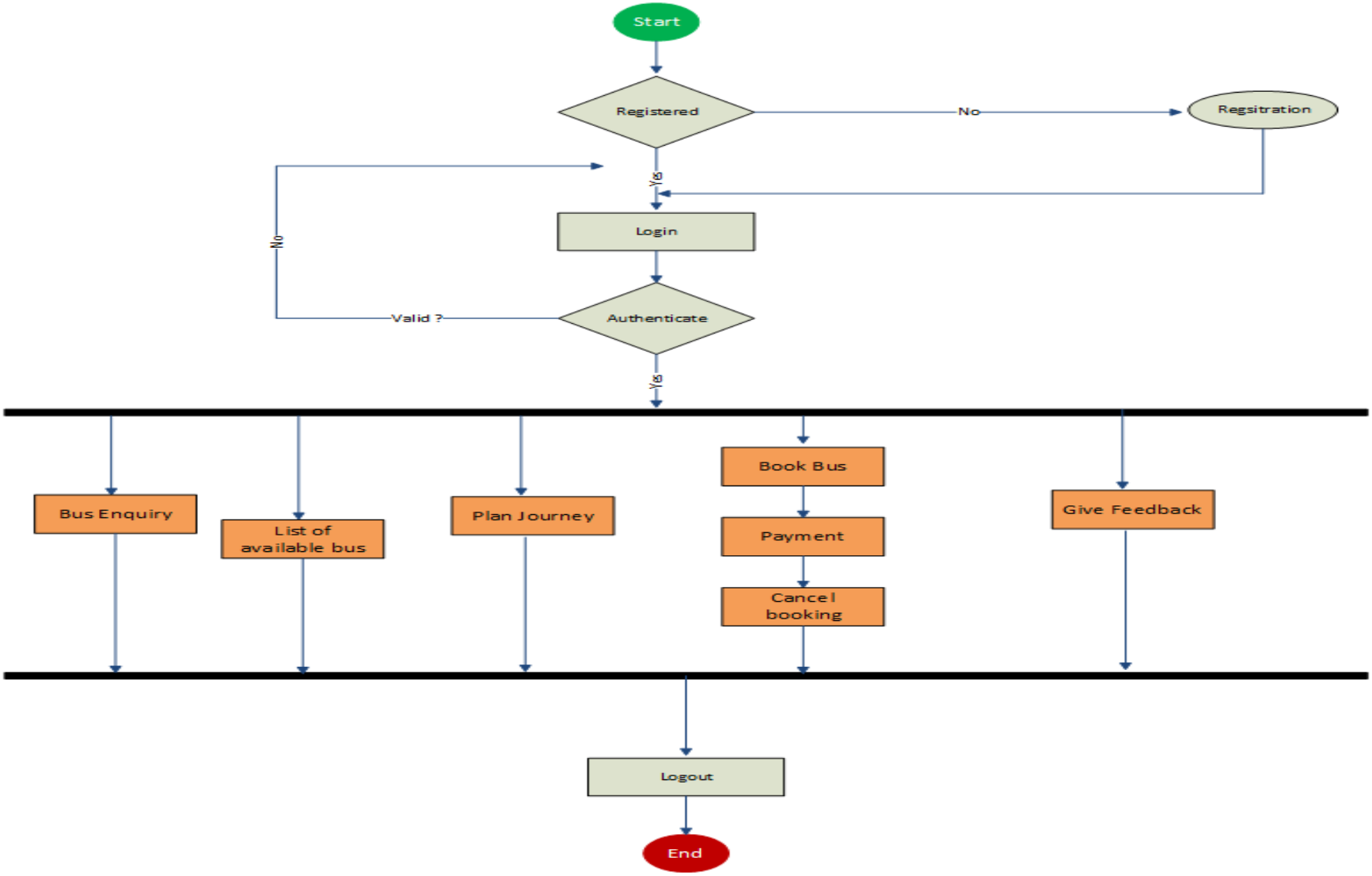

ETM App

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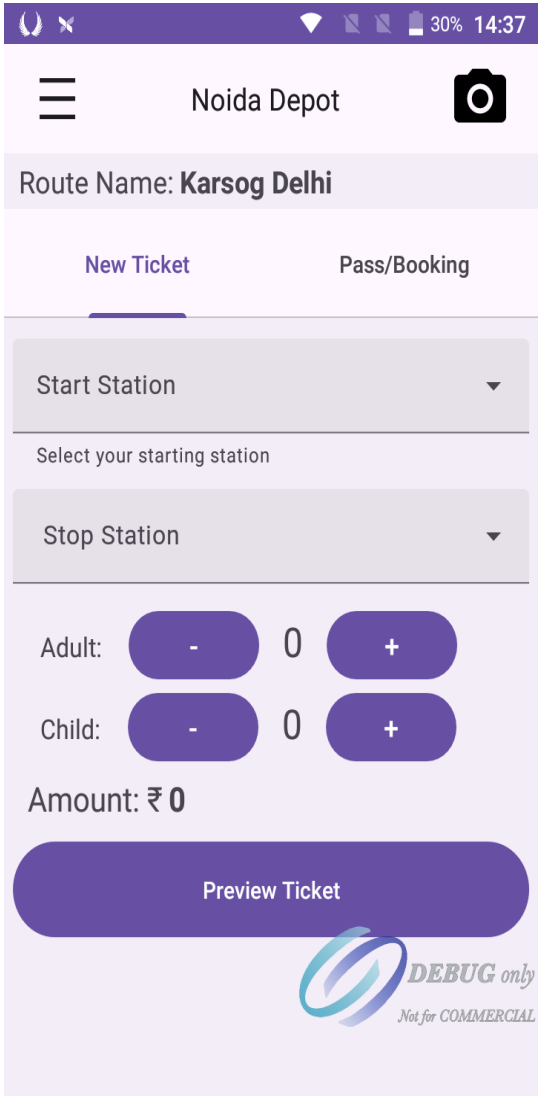

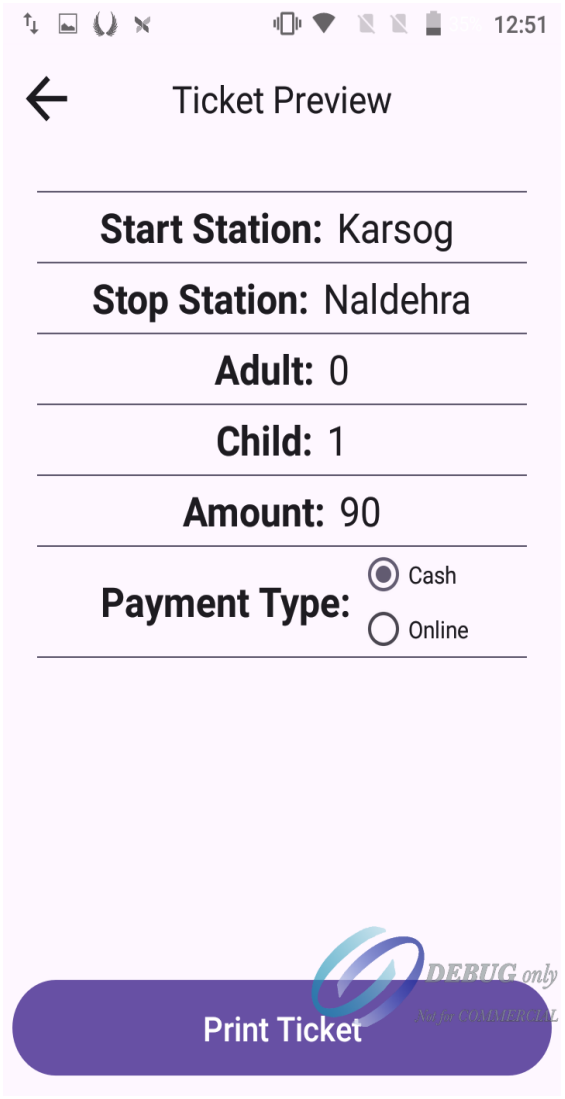

ETM App

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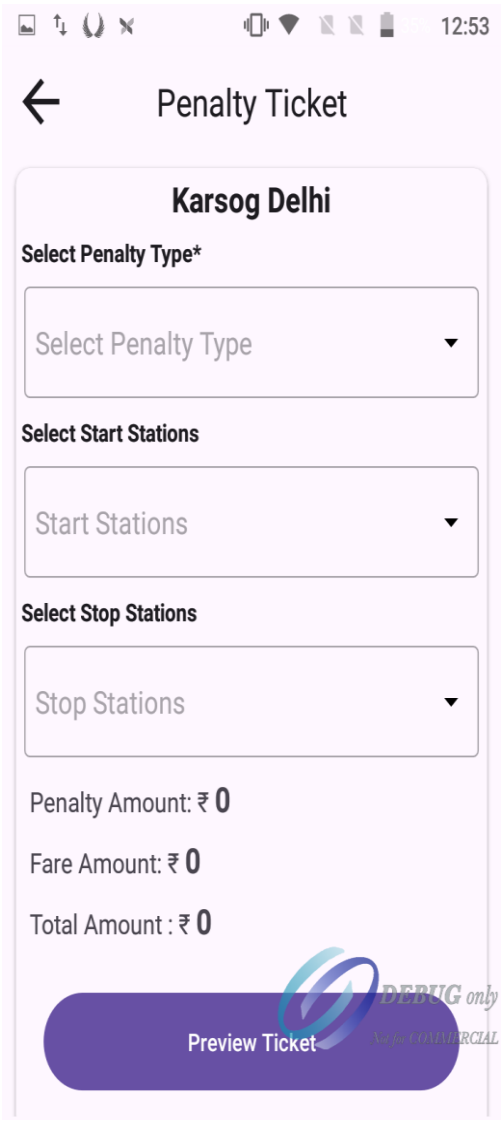

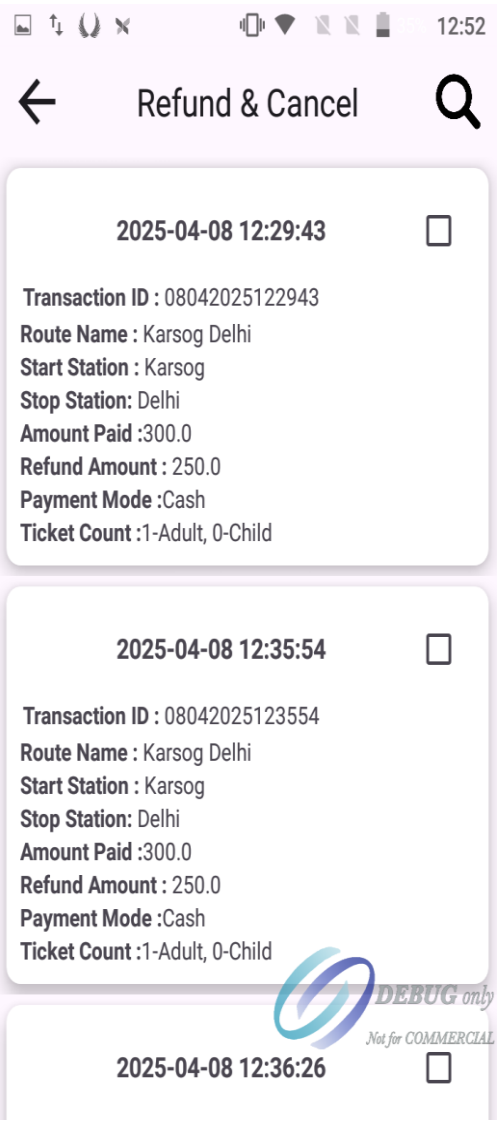

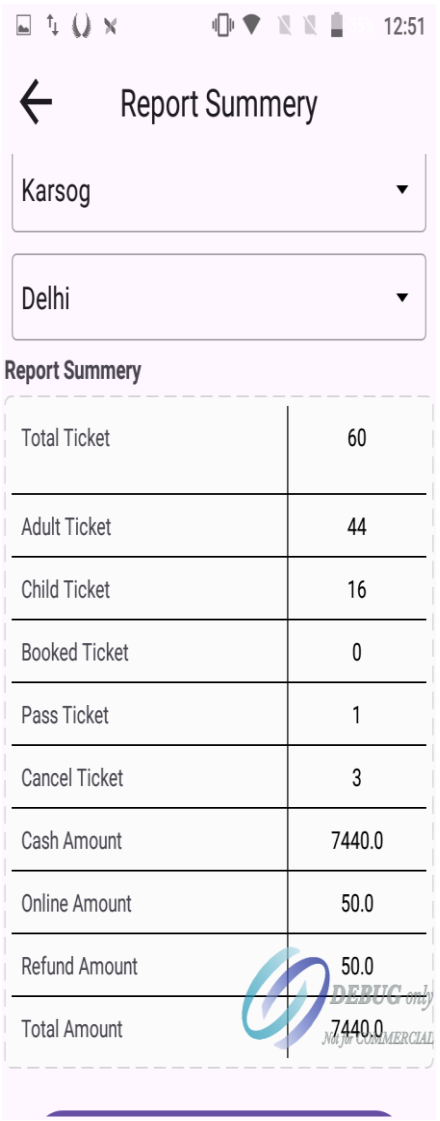

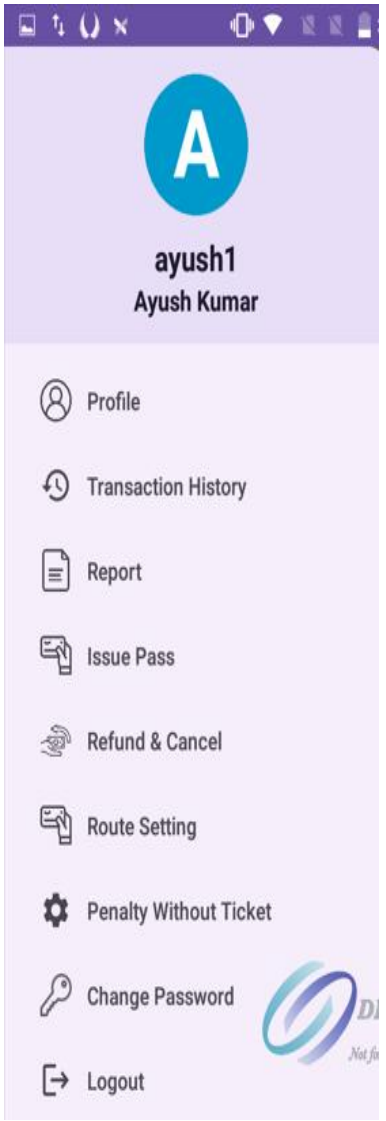

Citizen App

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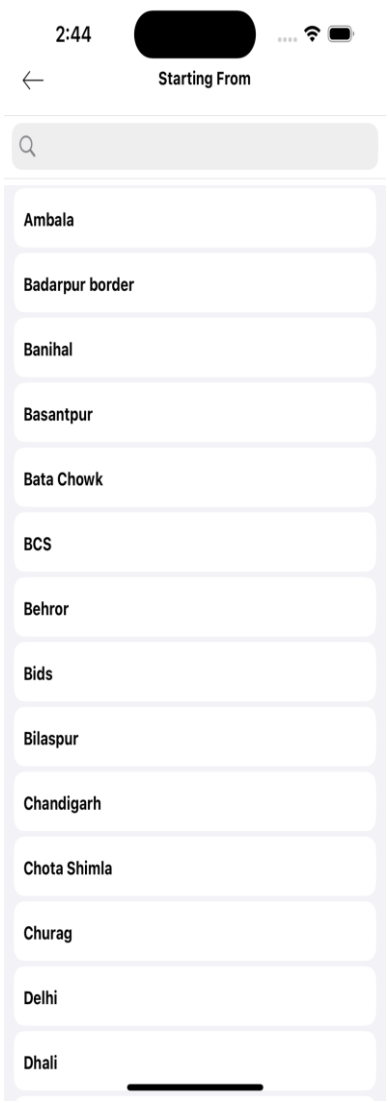

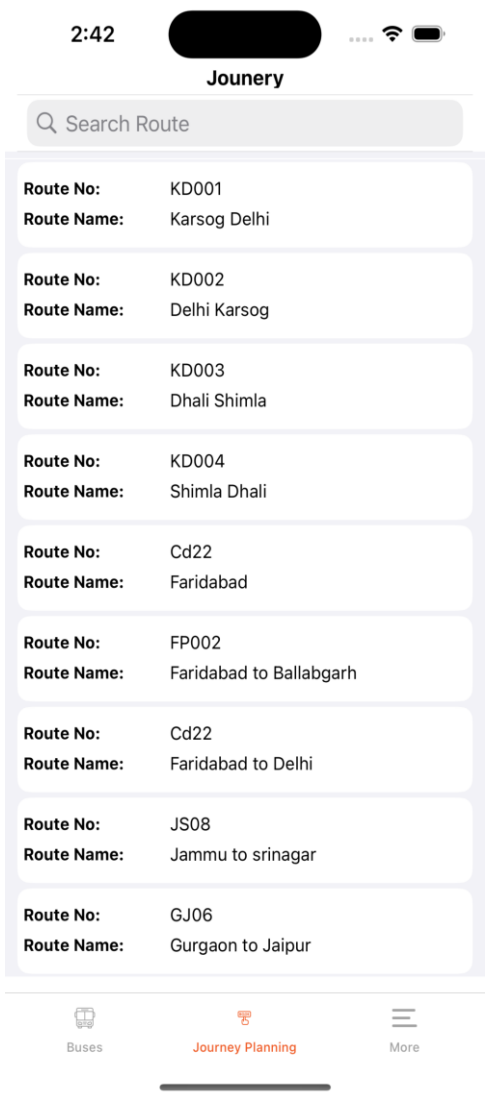

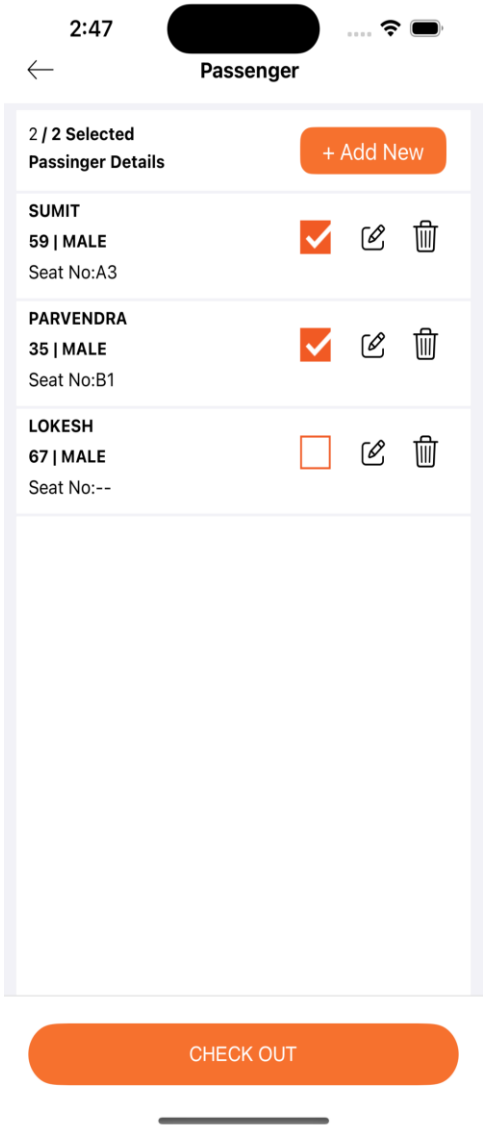

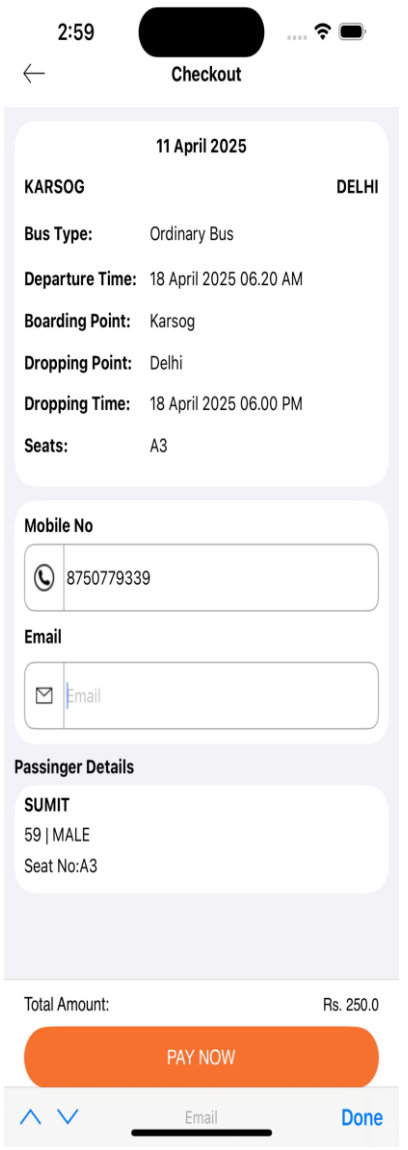

Citizen App

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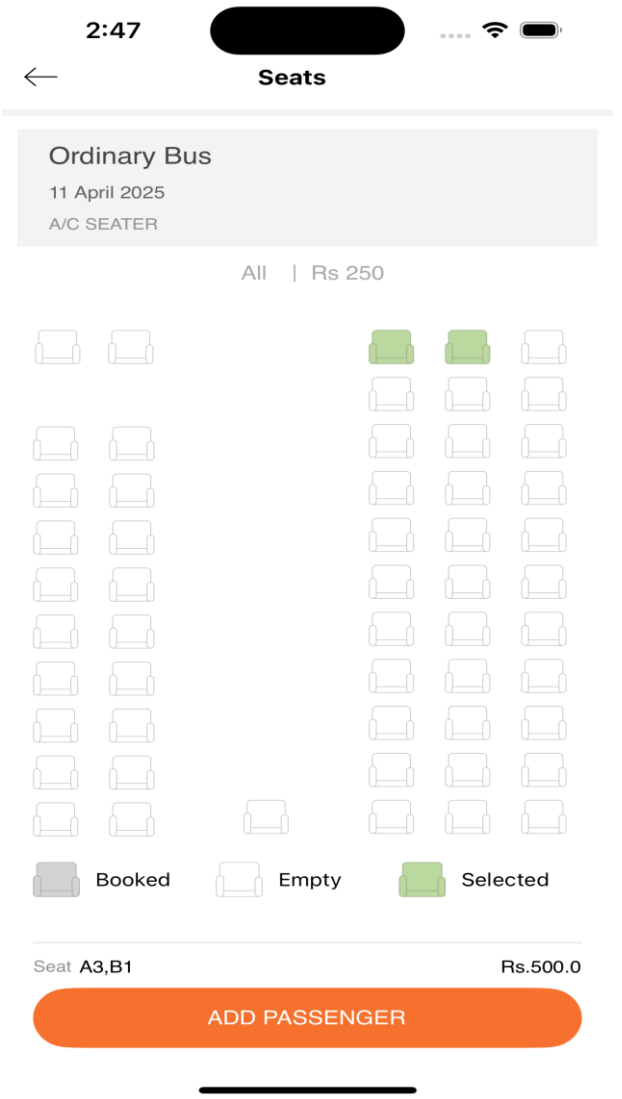

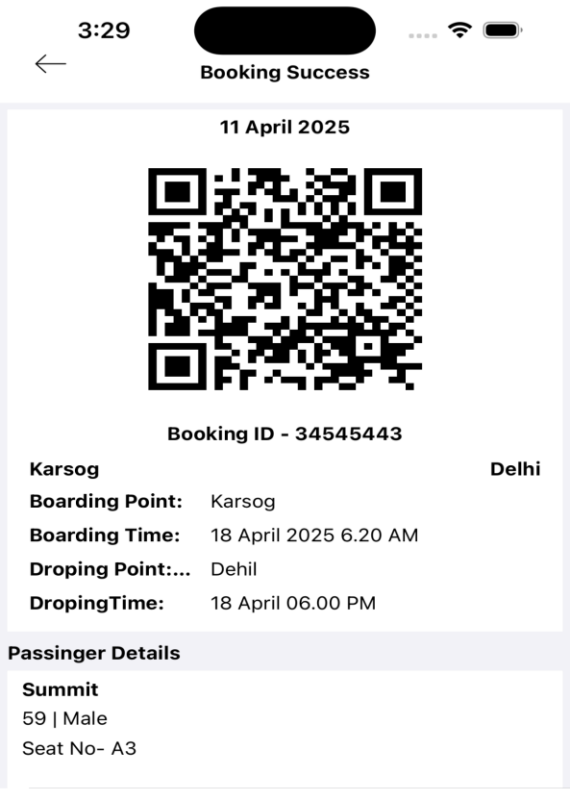

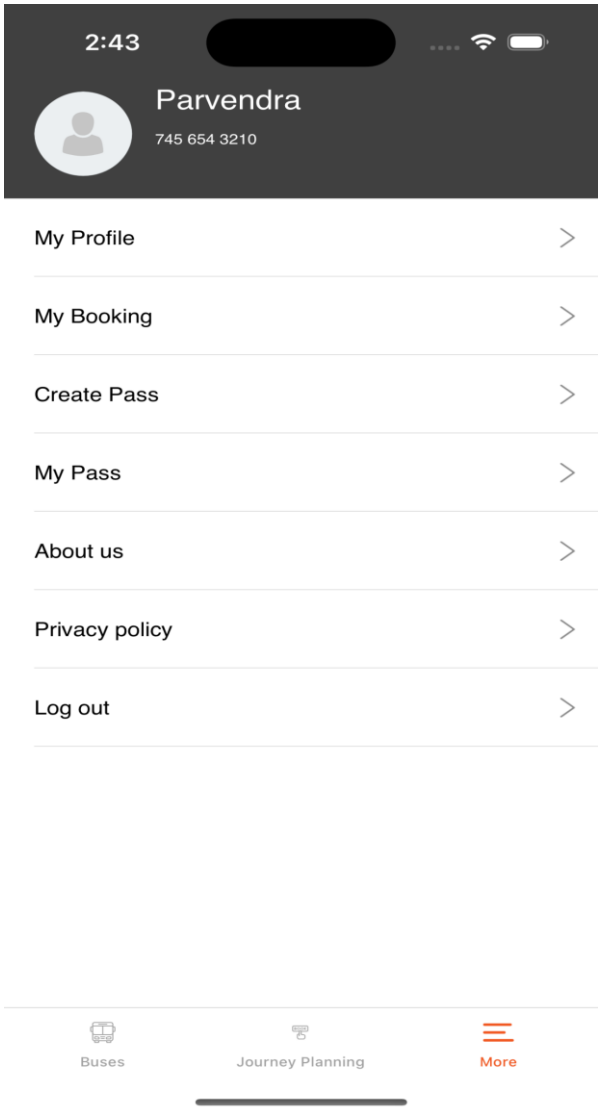

Functional Modules

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Client Utilities

Passenger Utilities

Trip Details tracker

Inventory Management & Vehicle maintenance

Command & Control Center

IT – Infrastructure Requirements

Client Utilities

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Live Vehicle Tracking – Vehicle Offloaded / CR in-house

Emergency Alert

Call for assistance

Fuel Efficiency Report

Driver Behavior

Vehicle Tracking (OBD3)

- A/C ON/OFF
- Fuel Level Monitoring
- Odometer Reading
- Battery Status

Vehicle Alerts (OBD)

- Low Fuel
- A/C Idling
- Over speeding
- Tow Away

Personnel Management

Passenger Utilities

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Passenger Information System (App/Web Portal)

ETA for arriving bus and subsequent buses

Info about bus capacity , seats empty & Standing Space (Automatic Passenger counting Device Infrared/Face capture)

Bus Location on Route Map – for the intended bus

Source-Destination based bus search

Electronic Ticketing

Payment through E-Wallets/ Cr/Dr Cards/Cash/Net Banking

Recharge Stations at Bus stands and Bus Depots

Internet based booking / Recharging (for smart card users)

Ticketing machines with conductors

Bus card Validator (??)

Card Personalization Device

Emergency Features

Report incidents instantly.

Provision to add video / image evidence

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