American International University- Bangladesh

Faculty of Science and Technology

Department of Computer Science

SOFTWARE ENGINEERING [C]

Course Teacher: FARZANA BENTE ALAM

PROJECT TITLE : Traffic rules and regulations in Bangladesh

GROUP NO : [2]

Group Member

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PROJECT TITLE : Traffic rules and regulations in Bangladesh

Objective:

The main objective to use this software to reduce traffic jams in all city of Bangladesh. Now adays traffic jam is a major problem. Due to traffic, people can't move properly. Many of us can't attend the classes, offices at due time. Also , people died in ambulance for jam. Also for over speed accident occurs lot and peple died for it. And for wrong parking jam occurs too . Moreover, the road become narrow. And, It is too much pathetic . Life become miserable for all , and can't move freely.

So, For this problem, we decide to use a Application which is called **Traffic rules and regulations in Bangladesh .** to reduce the jam and people can move freely. If we discuss about the project and the application , there many way to reduce the current problem . First of all , if anyone cross the speed limit by car or bike and other vehicle ,he or she have to take tickets which is damage the person .and by taking this step many people try to maintain their vehicle speed .

anothe if we talk about traffic police , we also reduce the traffic police in bangladesh . because by this application we may introduce some of camers and somer software ,which is very common in abroad . this feature capture person and persons vehicle , which goes around over speed or wrong parking or carry over weight and also if any one use mobile phone when hw or she drive the car this feature capture it and without any traffic police, the victim have to carry a ticket so it should be clearly damage the person and slowly the total problems reduce . also by another feature all road car maintain the traffic rules without traffic police .

Key Features:

1. Over speed .
2. Signal break .
3. Wrong parking .
4. Wrong way road .
5. Over loaded truck or carrying over weight vehichle.
6. Suddenly Bus stop for long time .
7. Call ditective . (Using mobile phone when he or she was drive)
8. Traffic congestion .ETC

Benefits:

1. Traffic jam reduces .
2. Driver's won't break the signal easily .
3. Road will be good and the road will not be damaged by overloaded car or trucks .

4. Reduces the accident in Bangladesh .
5. Proper rules for all types of people . in this application everyone equal for this problmes .
6. All roads are not easily damage so it is also benefit side .

Solutions:

To solve the problem at first the traffic should be reduces. Using this Application , drivers can't neglect the rules and regulation, if deny then drivers have to give penalty for that. Moreover by this Application allow the signal after 5 minutes so that there is no jam. Also this Application have some function for which the truck won't be overloaded and the road will not be destroyed. I think there is no previous solution of this application in Bangladesh . so we try to make it clear and try to traffic free country .

Functional Requirement :

1: Software fundamental : There are some software which are uses for identified the issue and this software are mini camera , Measurement sensor, normal sensor . Mini camera capture the vehicles information and hidden camera ,and , sensor measurement other things.

2: Information Collector : Information Collector User will be able to generate to Collect the users information And pass the information and any issues to the Control panel .

3: Control panel : Control panel should be collect the users information from information collector and then check the rules break list and then make a list of fine for the rules breaking users also alert the users by SMS . Also monitoring the expired date for pay the fine .

4: User verification : Every user should be verified by providing Phone number , NID , driving licenses copy , Vehicles number plate .

5 : User details : User will be able to see their fine information and the expired deadline of submitting the fine .

6 : Payment System : If users break the rules at that time control panel send a fine information and on that information there are a code of the fine list .then the user pay the fine by online payment system and uses the code for identify his account .

7: Over speed : If users cross the speed limit , the sensor software notify if by itself and pass the information to the information collector

8: Signal break : If the users break the system or break any signal line during traffic , then the camera capture the vehicles number plate and also capture the breaking system .

9: Call detective : Hidden camera basically notify the information who uses the mobile phone during driving . so the camera capture the photo and pass it to the control panel . and control panel user should be identify the person and make a fine list for the user.

10: Wrong parking : If users park the vehicles in wrong road for more then 10 minutes at that time the sensor will be notify the control panel and the user of control panel should be step or make a fine for the owner of the vehicle.

11: Wrong way : If the users break the rules and then go through the wrong road at that time the hidden camera capture the number plate of the vehicles .

12: Motorcycle safety issues : If any users use motorcycle and they don't follow instruction like wearing helmet and not allow two person in one motorcycle . at that time the mini camera captures the motorcycle number plate and pass the information to the information collector.

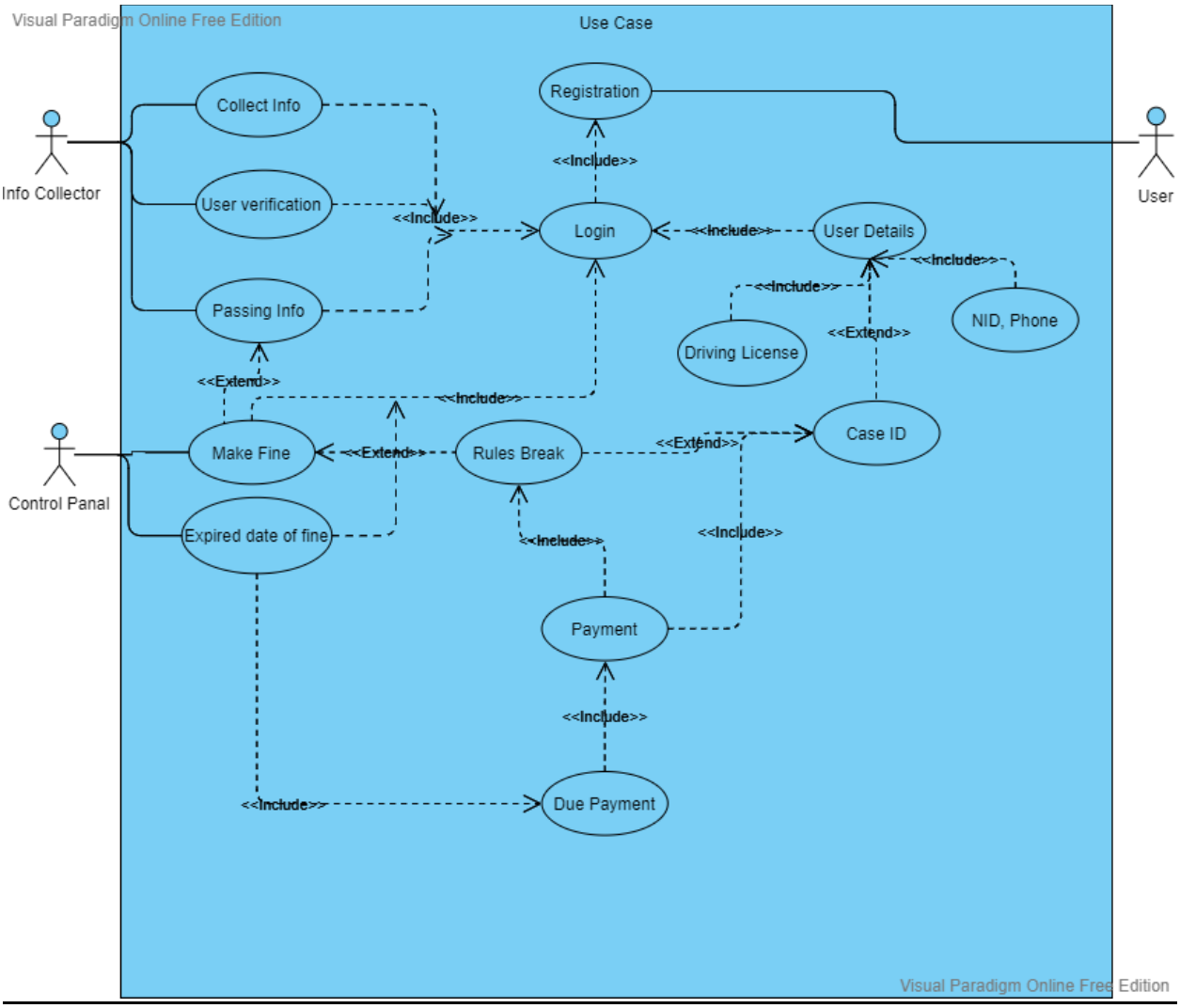
13: Over loaded truck or carrying over weight vehicles: In one way road there are a sensor in the middle of the road and every vehicle must be cross the road over the sensor and if any truck carry over loaded the sensor notify it and the hidden camera pass the number plate picture on the control panel .

14 : License issue : If the users break rules for more then 5 times in one month at that time the license of the user must be wipe out for 6 month .

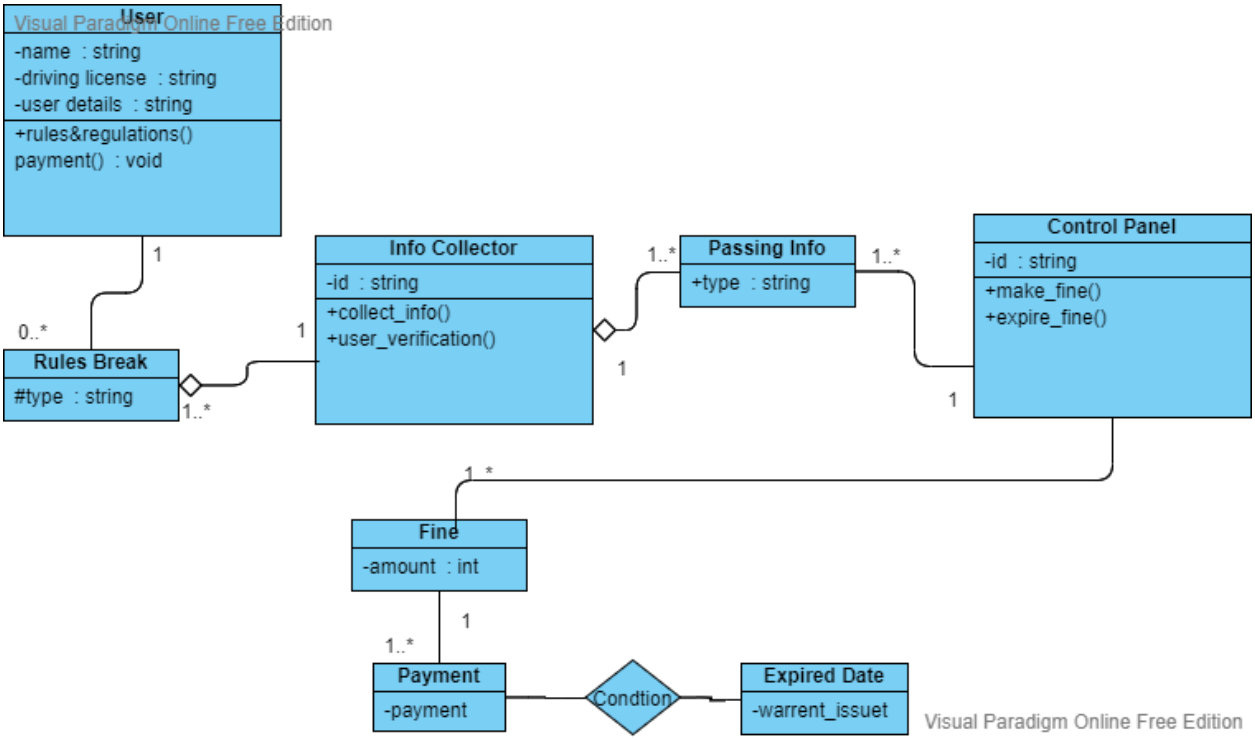
15: Warrant issue : If any person break any rules and the person not payment the fine at that time the control panel must be make a warrant issue for the vehicle.

14: User Review : User will be able to review the whole application and also rating the application part.

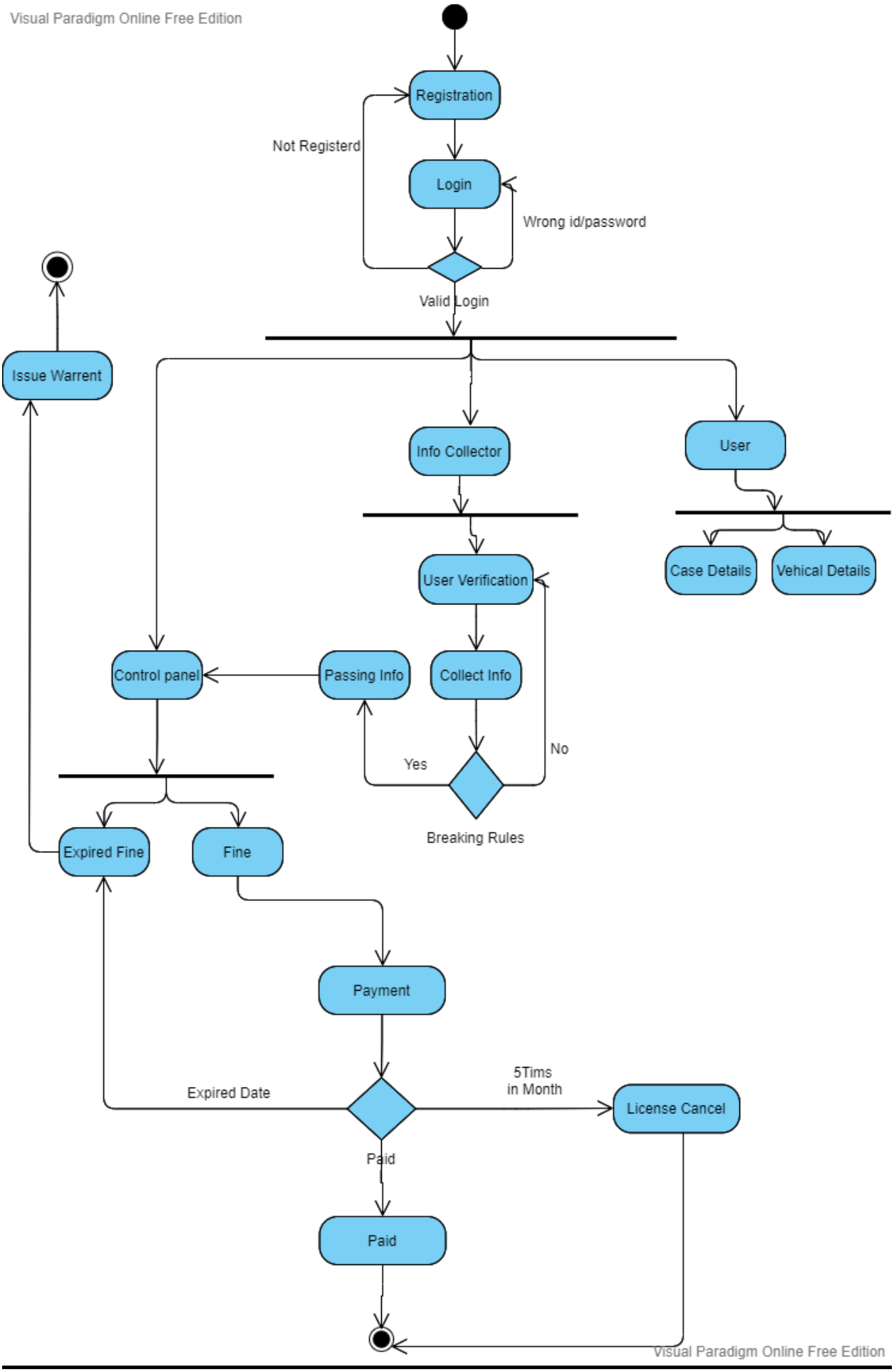
Use Case Diagram



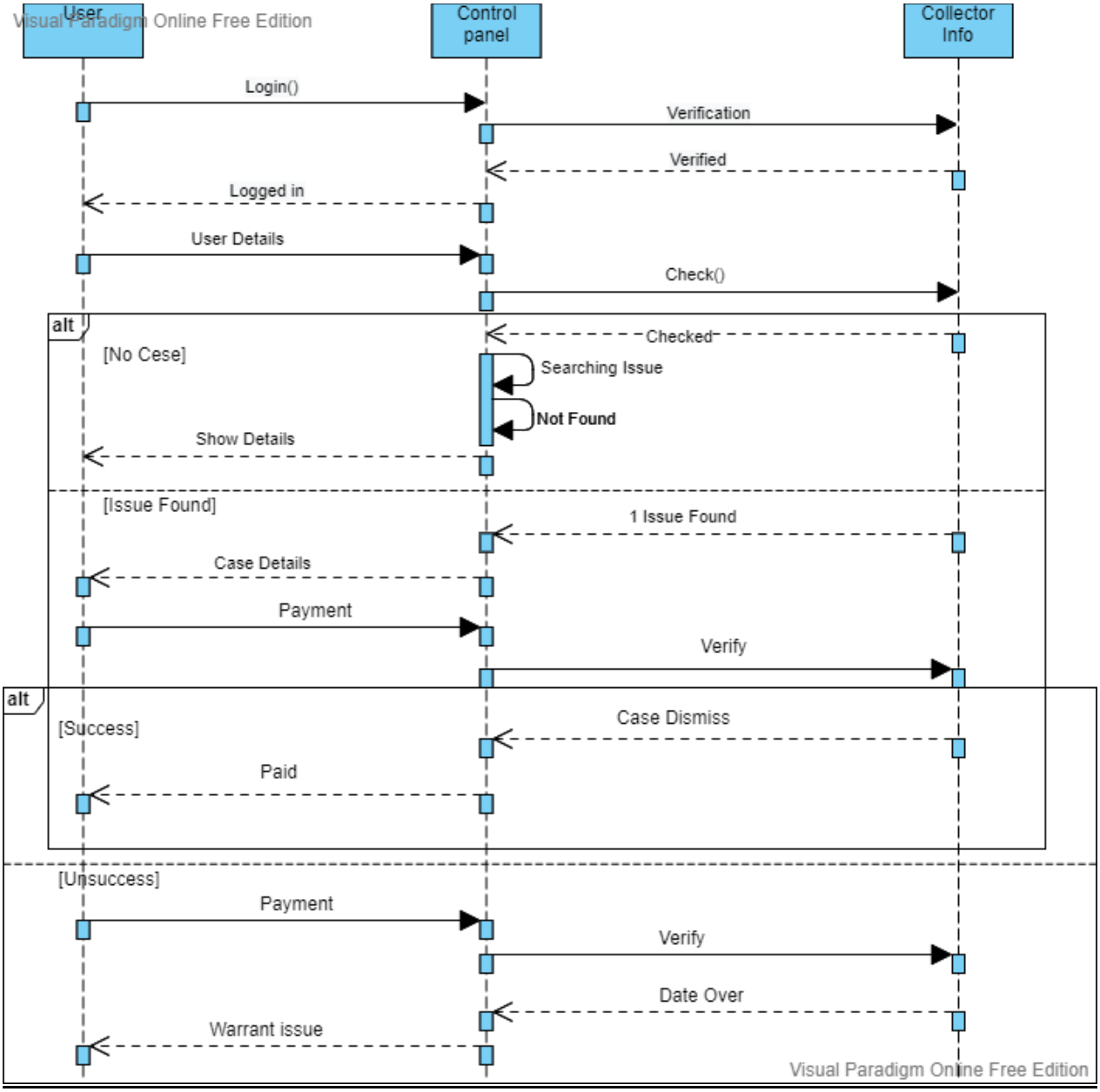
Class Diagram:



Activity Diagram


Visual Paradigm Online Free Edition
Registration
Not Registerd
Login
Wrong id/password
Valid Login
Issue Warrent
Info Collector
User
User Verification
Case Details
Vehical Details
Control panel
Passing Info
Collect Info
Yes
No
Breaking Rules
Expired Fine
Fine
Payment
Expired Date
5Tims
in Month
License Cancel
Paid
Paid
Visual Paradigm Online Free Edition

Sequence Diagram



Description of the used Software Process Model

The incremental model goes with our project. Our project is Smart traffic system or Traffic rules and regulations in Bangladesh. As the project is small but the settings and requirements are high just like in our projects consists of camera, identify ,overload System are included .

Moreover the process is lengthy ,it needs to checks all the stages again and again. So, if there is an error then it could be fix at the time of developing . Also , change can be make at later on by adding or removing. That's why incremental model goes with our projects.

Normally to other model there is no scope for funding schedule, risk, programme complexity ,but in case of incremental there is possibility for this benefits.

Again, the requirements are clearly understood for incremental just like as the project has lengthy development schedules, a new technology, can also early release when products arises, it have high -risk features . This method is more used for web applications .

At the time of need to have basic functionality delivered as soon as possible . requirement are needed for the project are prioritized . Finally, most of the requirement needed are known before to the starting of the project , but they are expected to change as the project progresses .

As the settings and requirements are high , so, the scrum role and method goes with it . Because it makes the agreement when the requirement are completed and can make final decisions of the tasks .

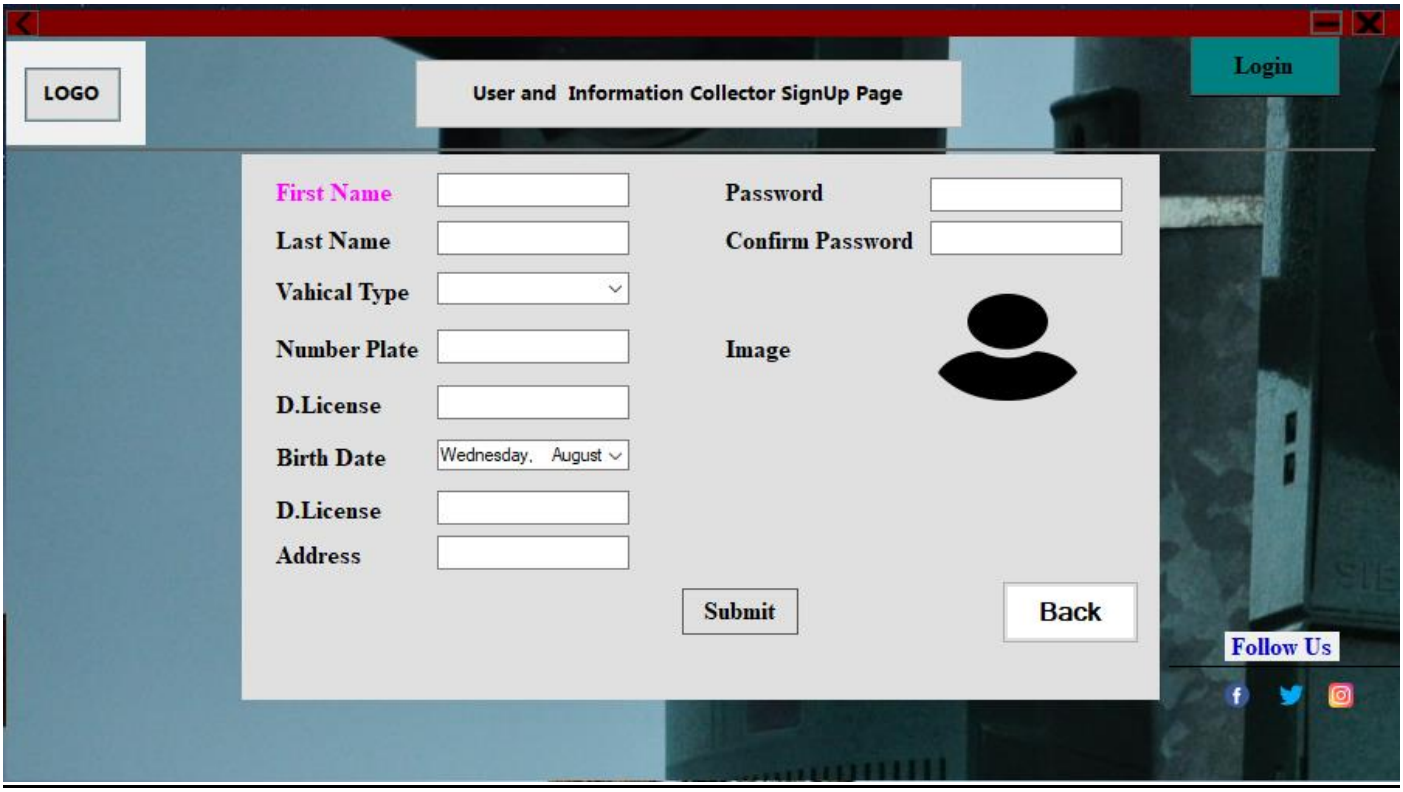
If there is an error then it can fix it. Moreover there is no function to change the system every few months , which is highly recommend for this project.

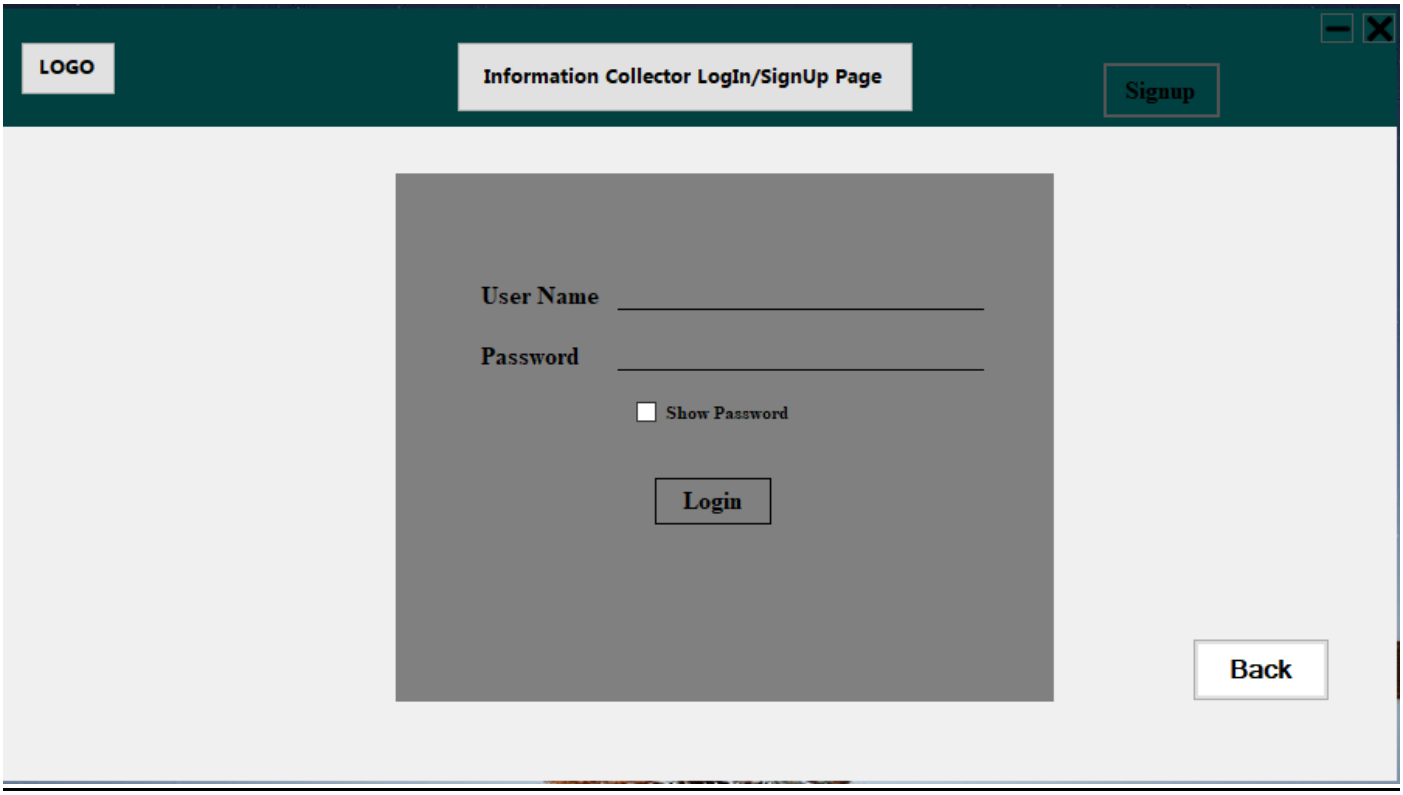
In case of other role and method there are constantly changing requirements or work with customers Who arenot sure what they want the system to do. But , in case of scrum there is high chance to work with the customers.

A small number programmer prefarable for others, in case of scrum a large number programmer prefarable which suits with our project. For others it able to create automated and functional tests but for scrum its not recommended and for our projects too.

So, from this view we can said that, the incremental model and scrum role and method are suitable for our projects

SOFTWARE DEGINE

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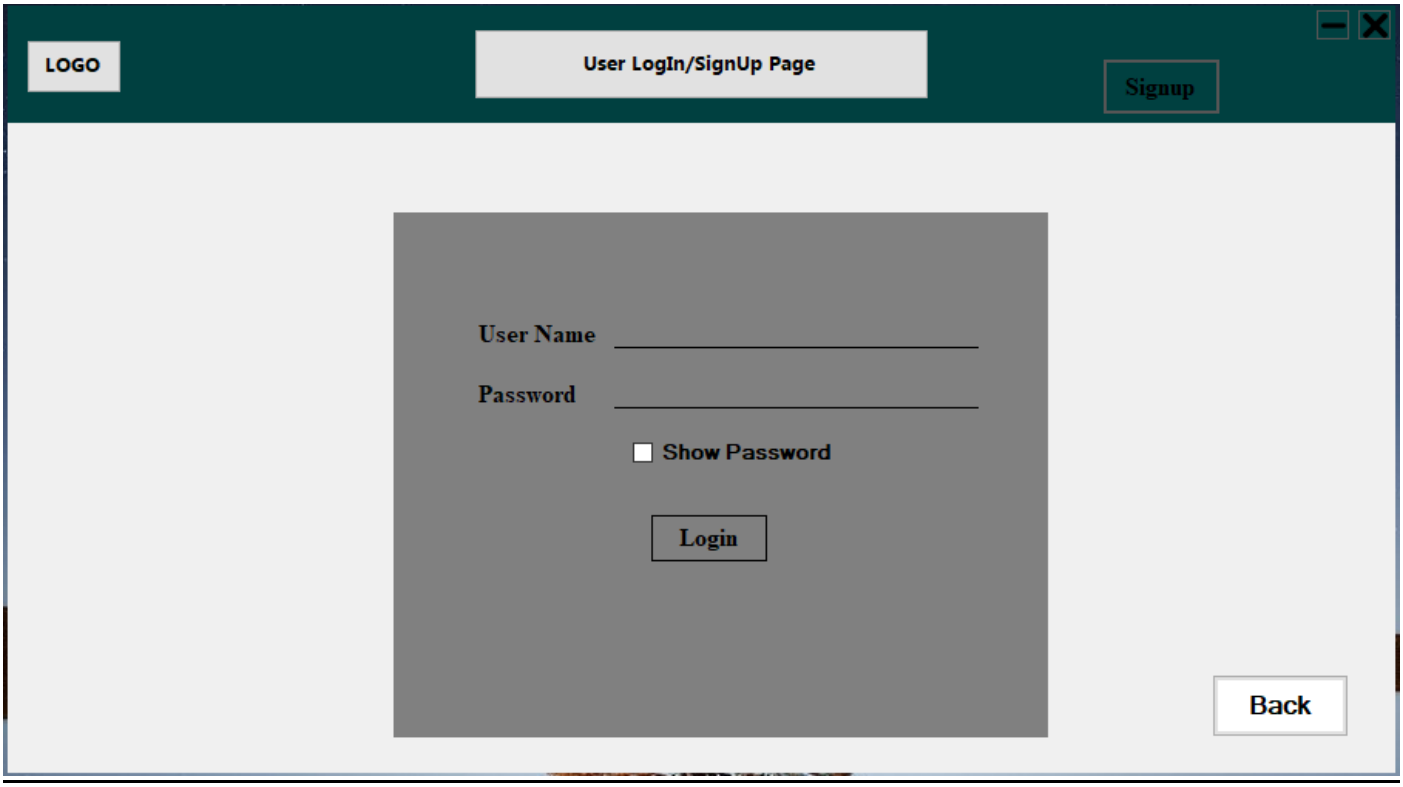
Information Collector LogIn/SignUp Page
Signup
User Name
Password
Show Password
Login
Back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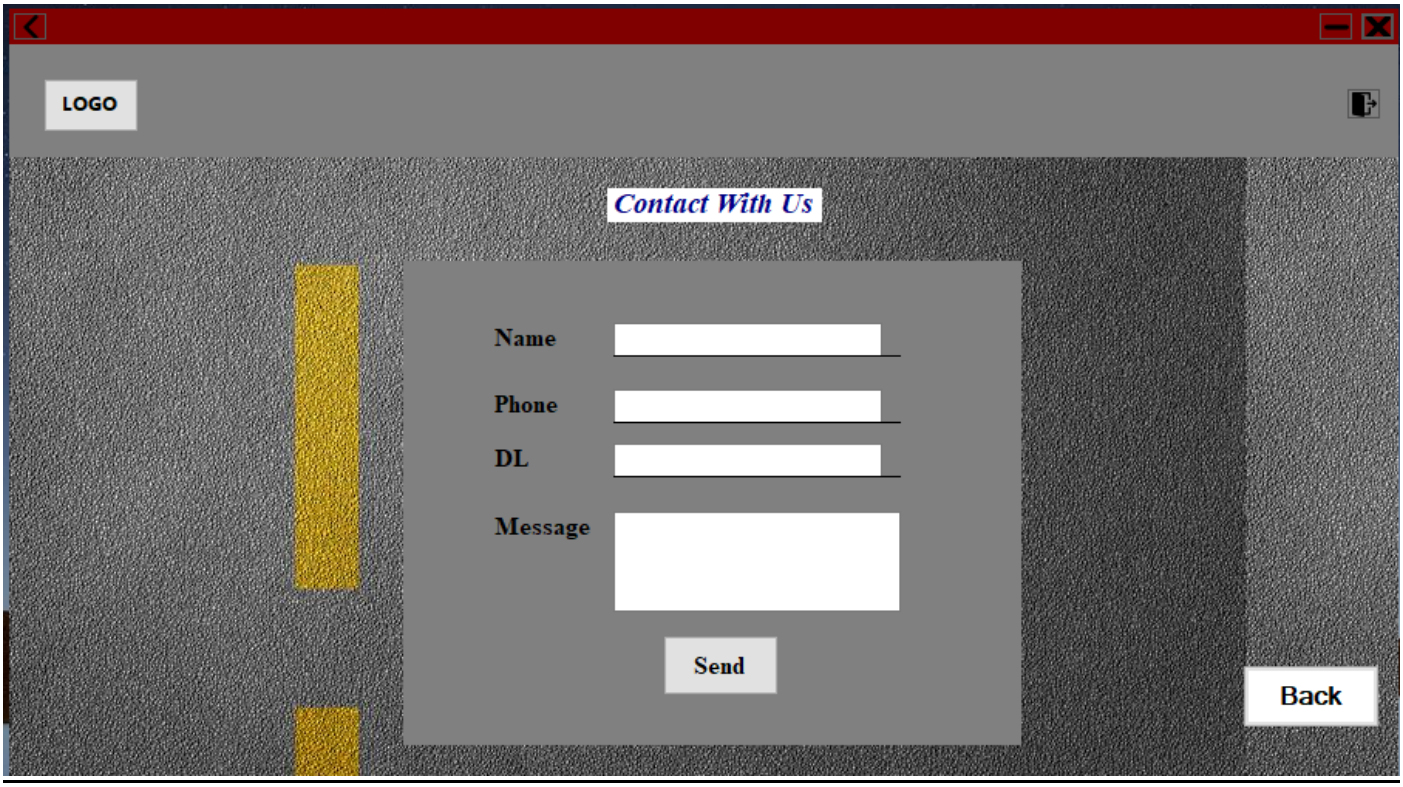
User LogIn/SignUp Page
Signup
User Name
Password
Show Password
Login
Back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Contact With Us
Name
Phone
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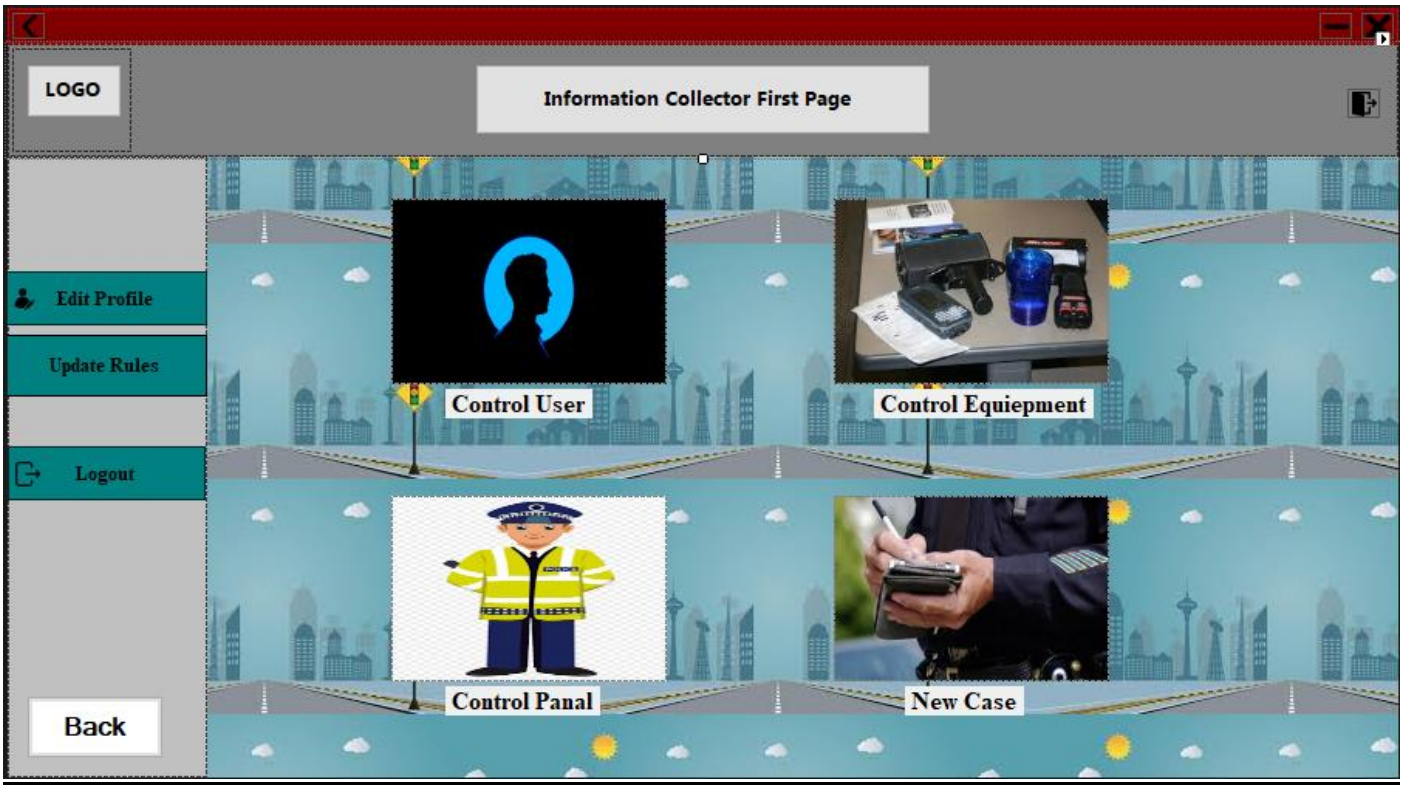
Message
Send
Back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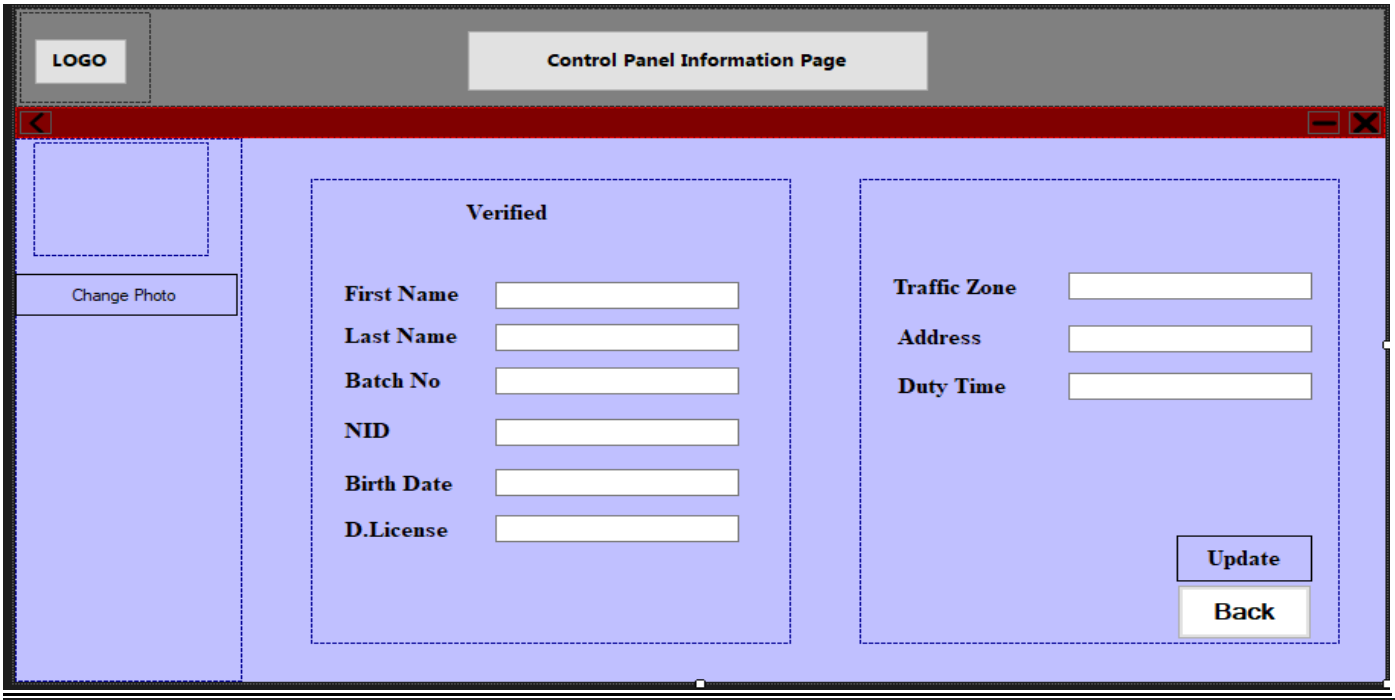
Information Collector First Page
Edit Profile
Update Rules
Logout
Control User
Control Equiepment
Control Panal
New Case
Back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Change Photo
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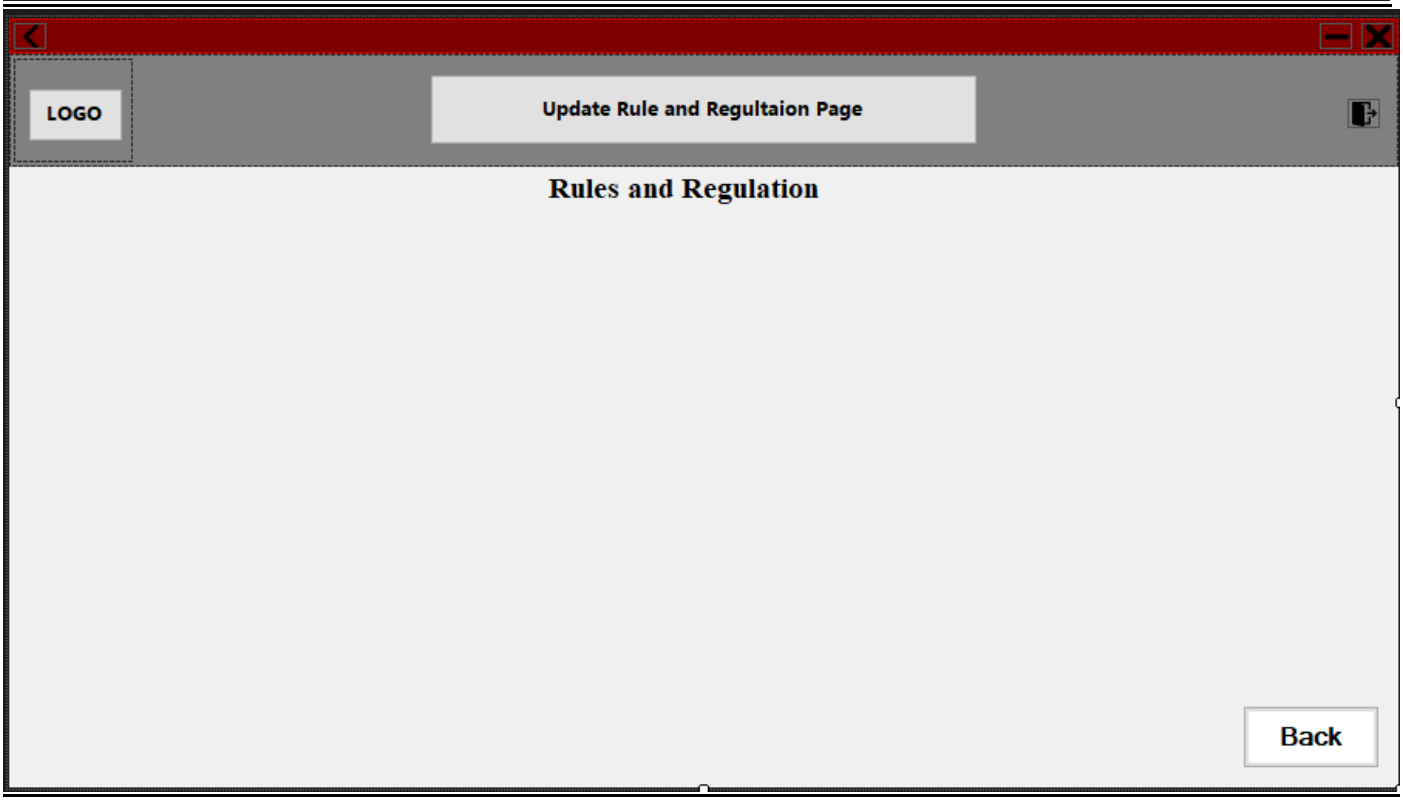
First Name
Last Name
Batch No
NID
Birth Date
D.License
Traffic Zone
Address
Duty Time
Update
Back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Update Rule and Regultaion Page
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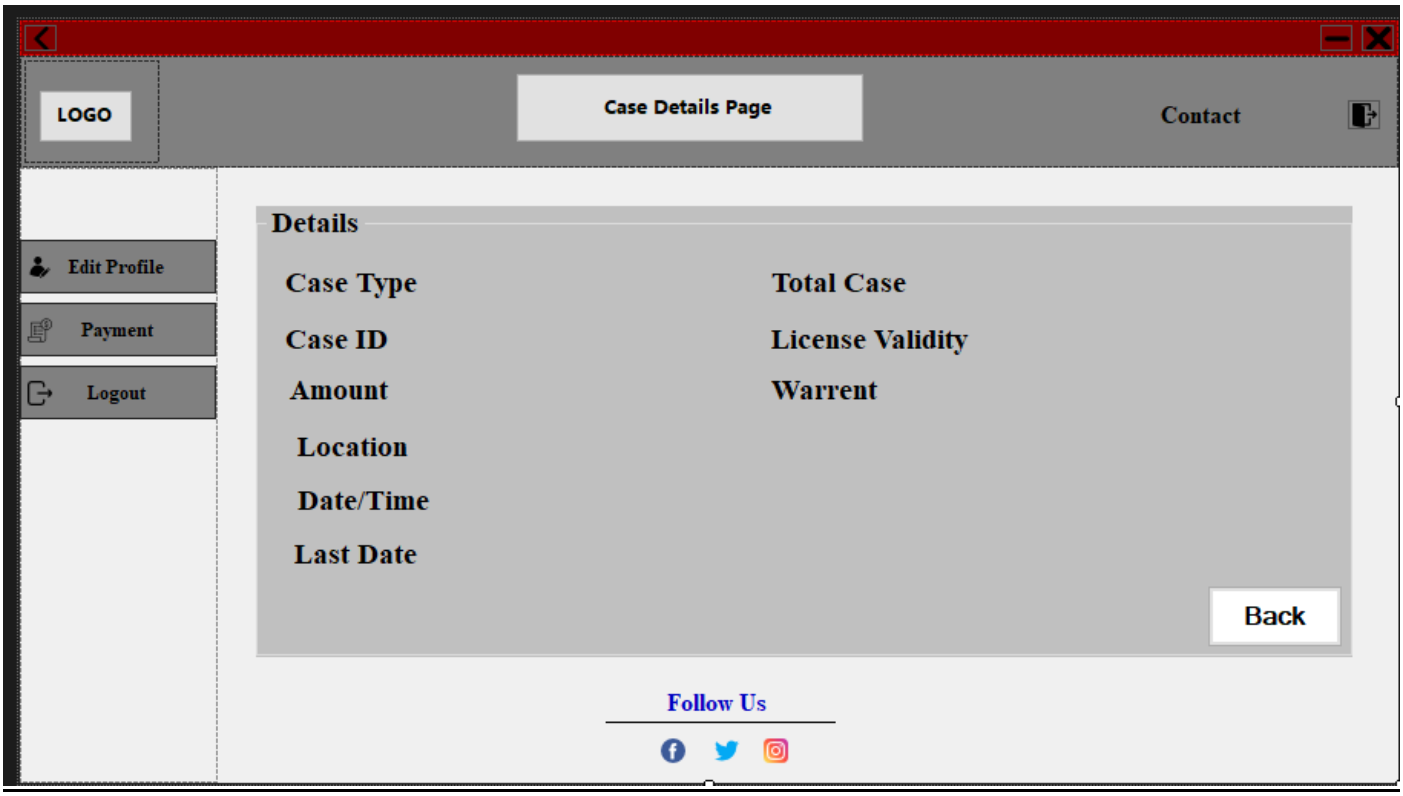
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Case Details Page
Contact
Edit Profile
Payment
Logout
Details
Case Type
Case ID
Amount
Location
Date/Time
Last Date
Total Case
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Follow Us


LOGO
User Update Profile Page
Change Photo
First Name
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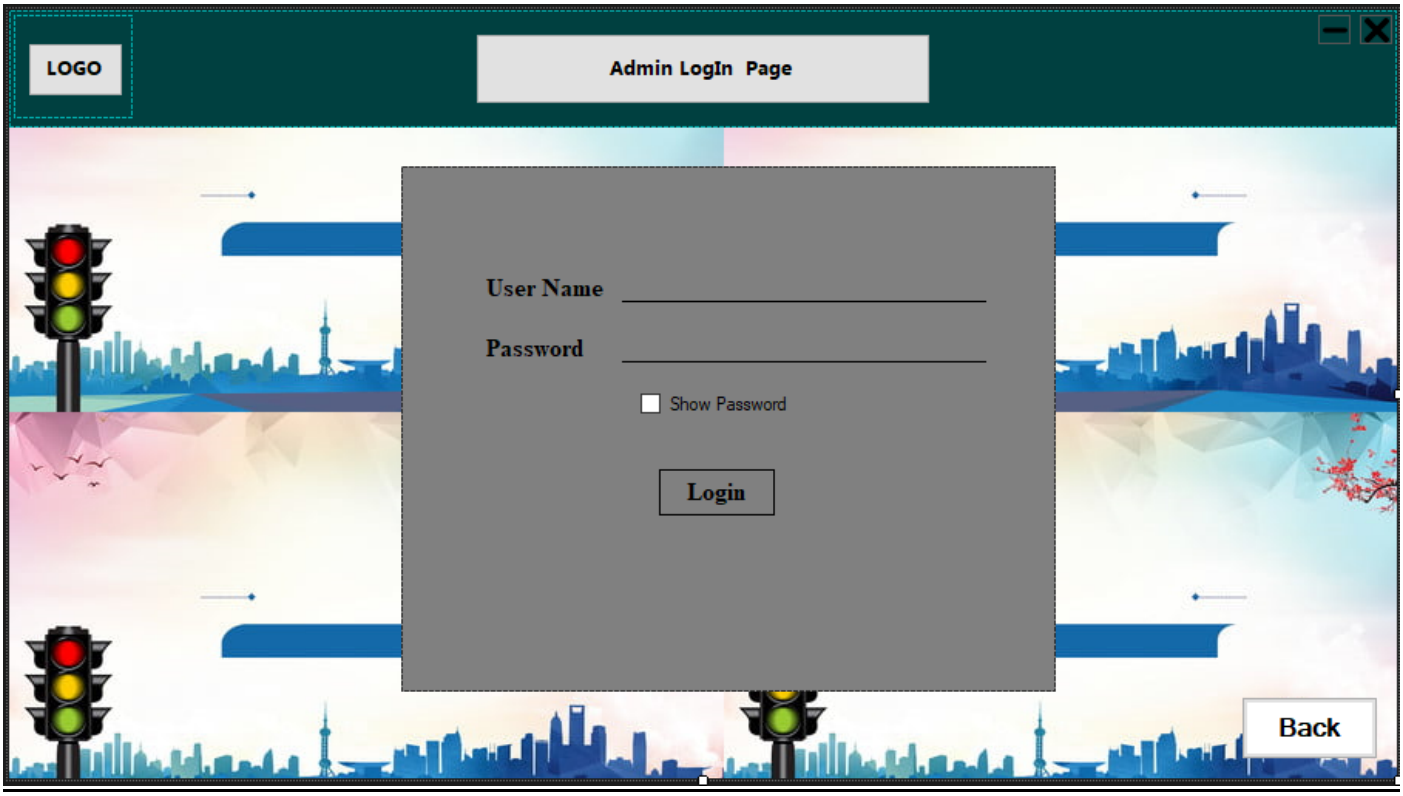
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Password
Show Password
Login
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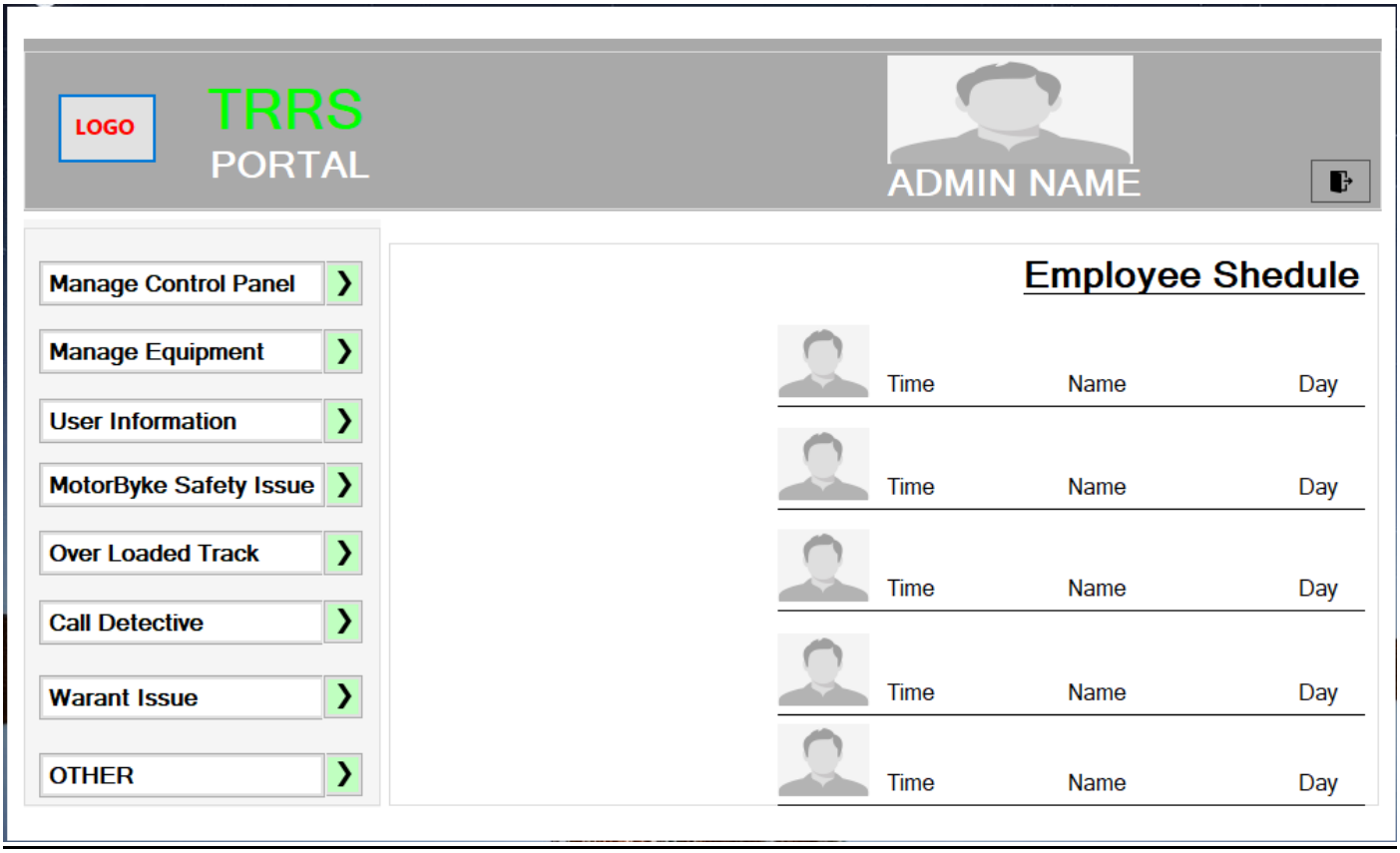
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PORTAL
ADMIN NAME
Manage Control Panel
Manage Equipment
User Information
MotorByke Safety Issue
Over Loaded Track
Call Detective
Warant Issue
OTHER
Employee Shedule
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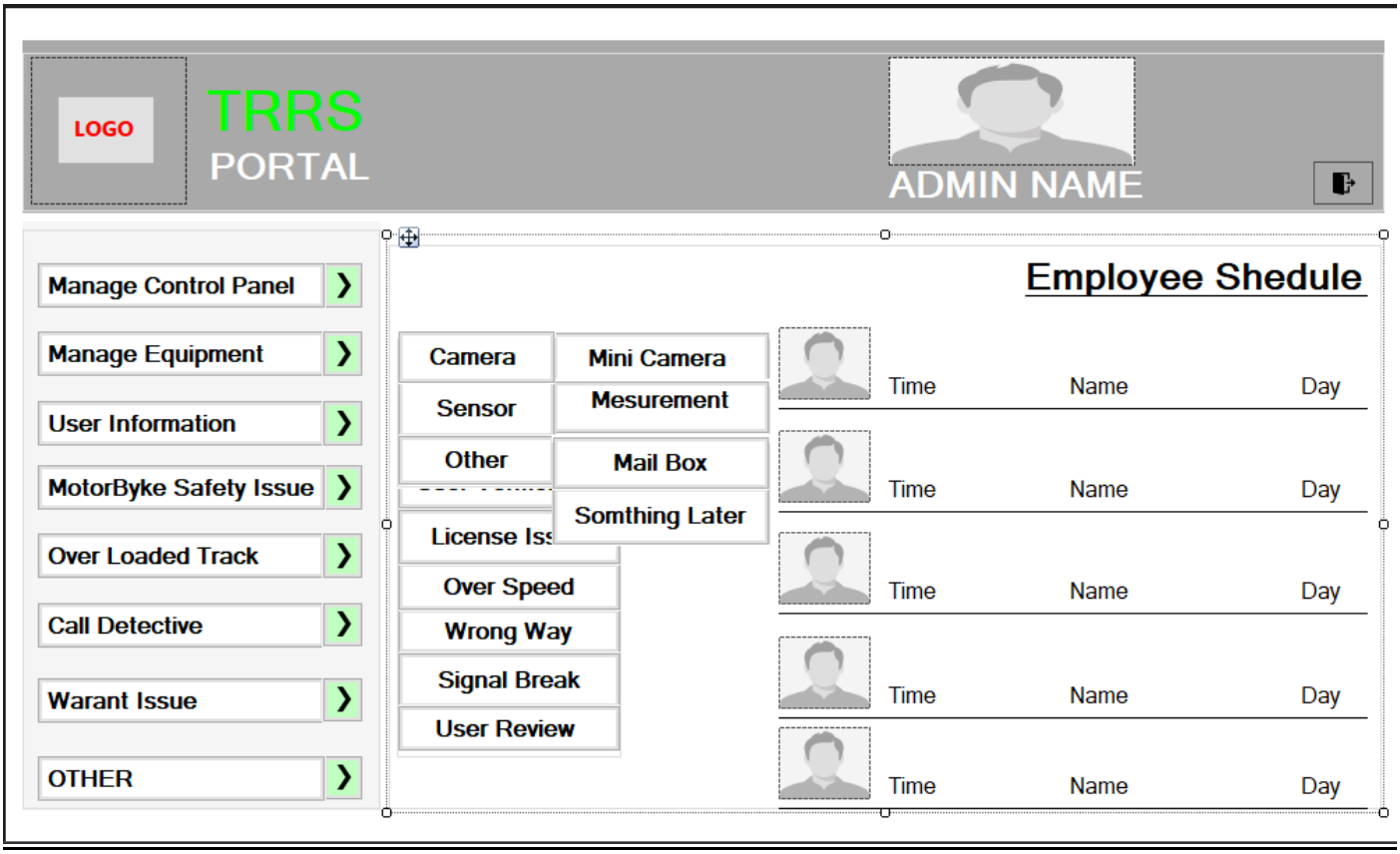
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Manage Equipment
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MotorByke Safety Issue
Over Loaded Track
Call Detective
Warant Issue
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Employee Shedule
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Mini Camera
Sensor
Mesurement
Other
Mail Box
Somthing Later
Over Speed
Wrong Way
Signal Break
User Review
Time
Name
Day


Employee Details
TOTAL Employee
COUNT ROW
Add
Modify
Delete
Search by Id
NAME
AGE
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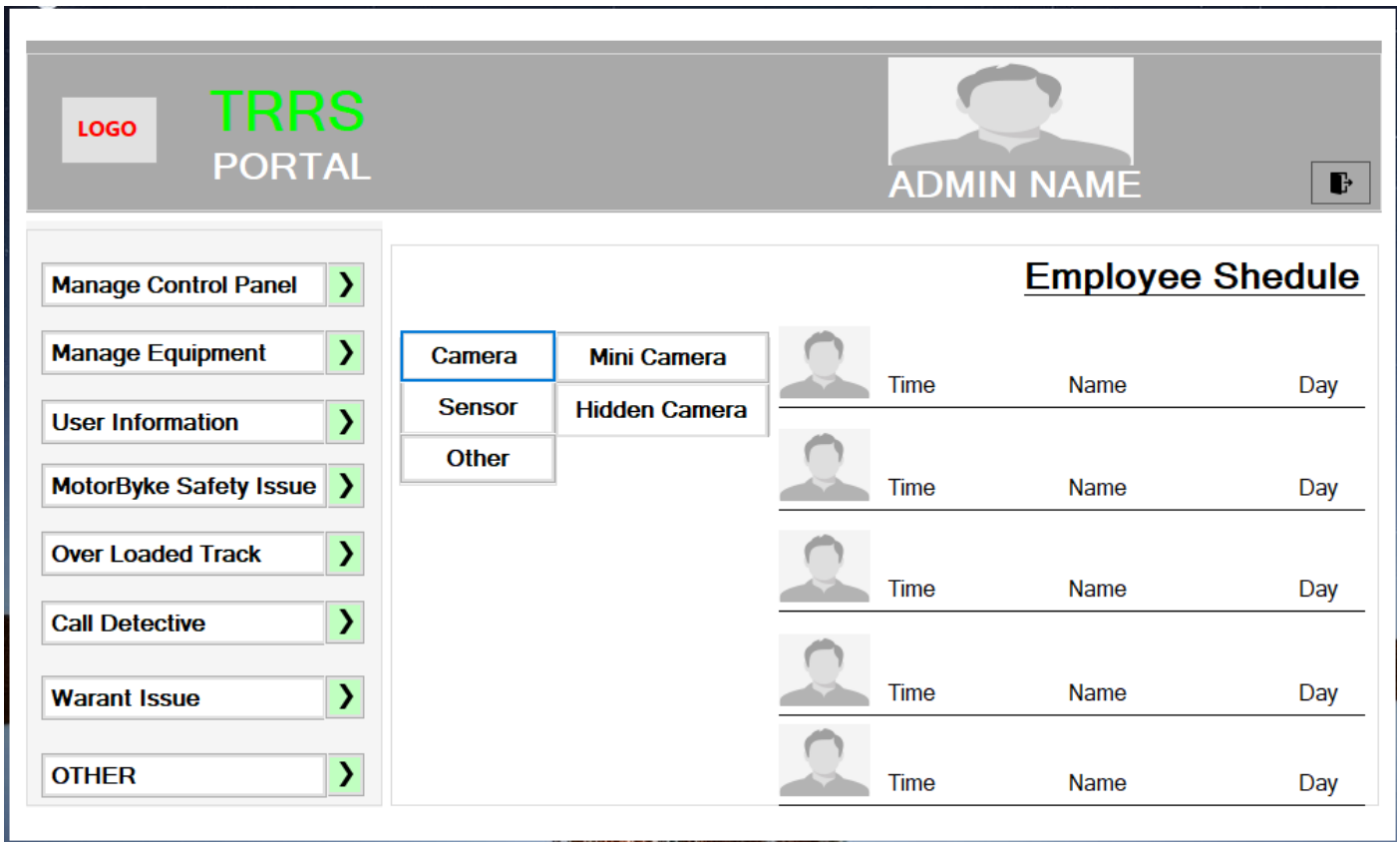
GENDER
MALE
FEMALE
ADDRESS
CONTACT_NO
PASSWOARD
Set Image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Call Detective
Warant Issue
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Employee Shedule
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Sensor
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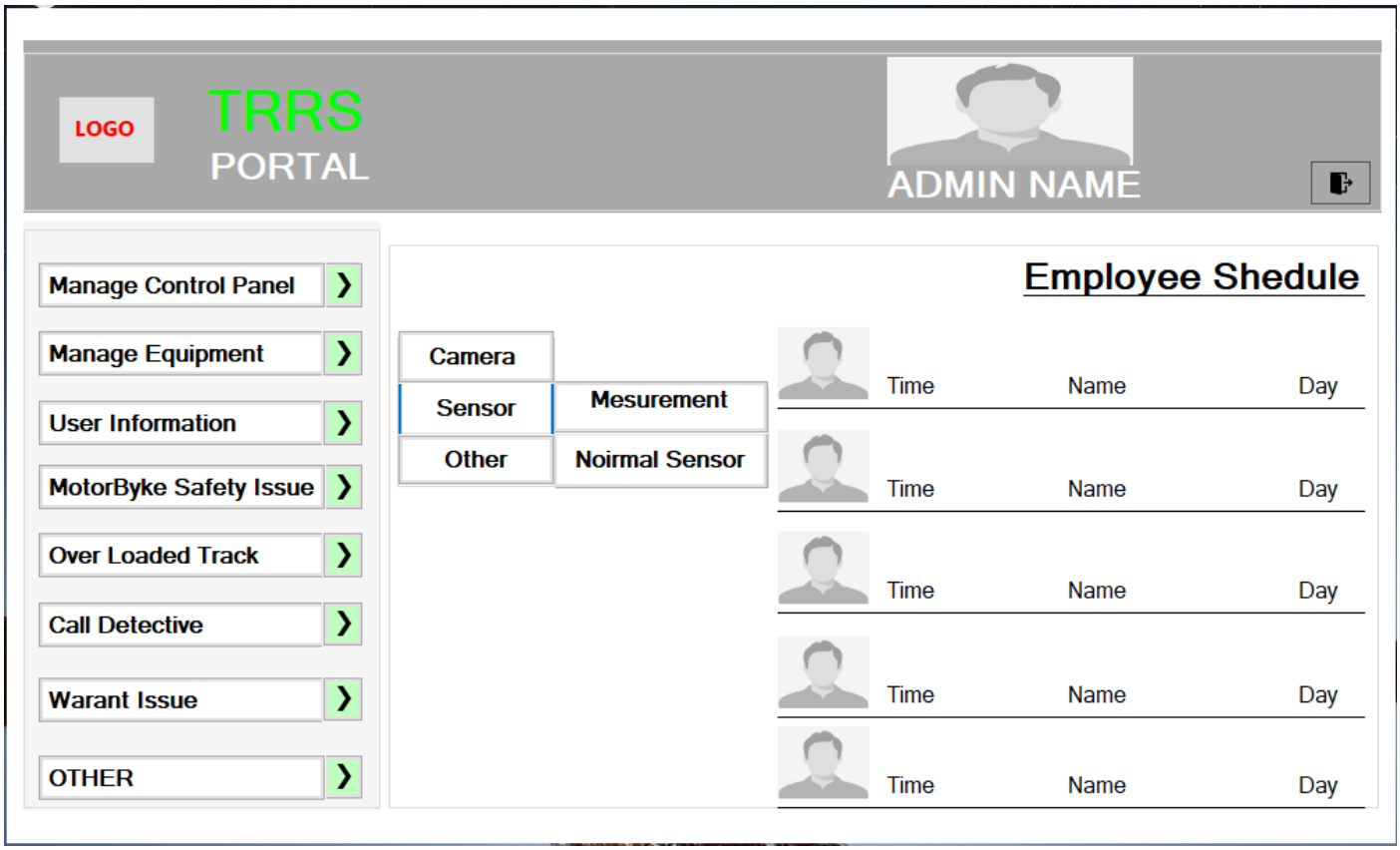
LOGO
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MotorByke Safety Issue
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Call Detective
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Employee Shedule
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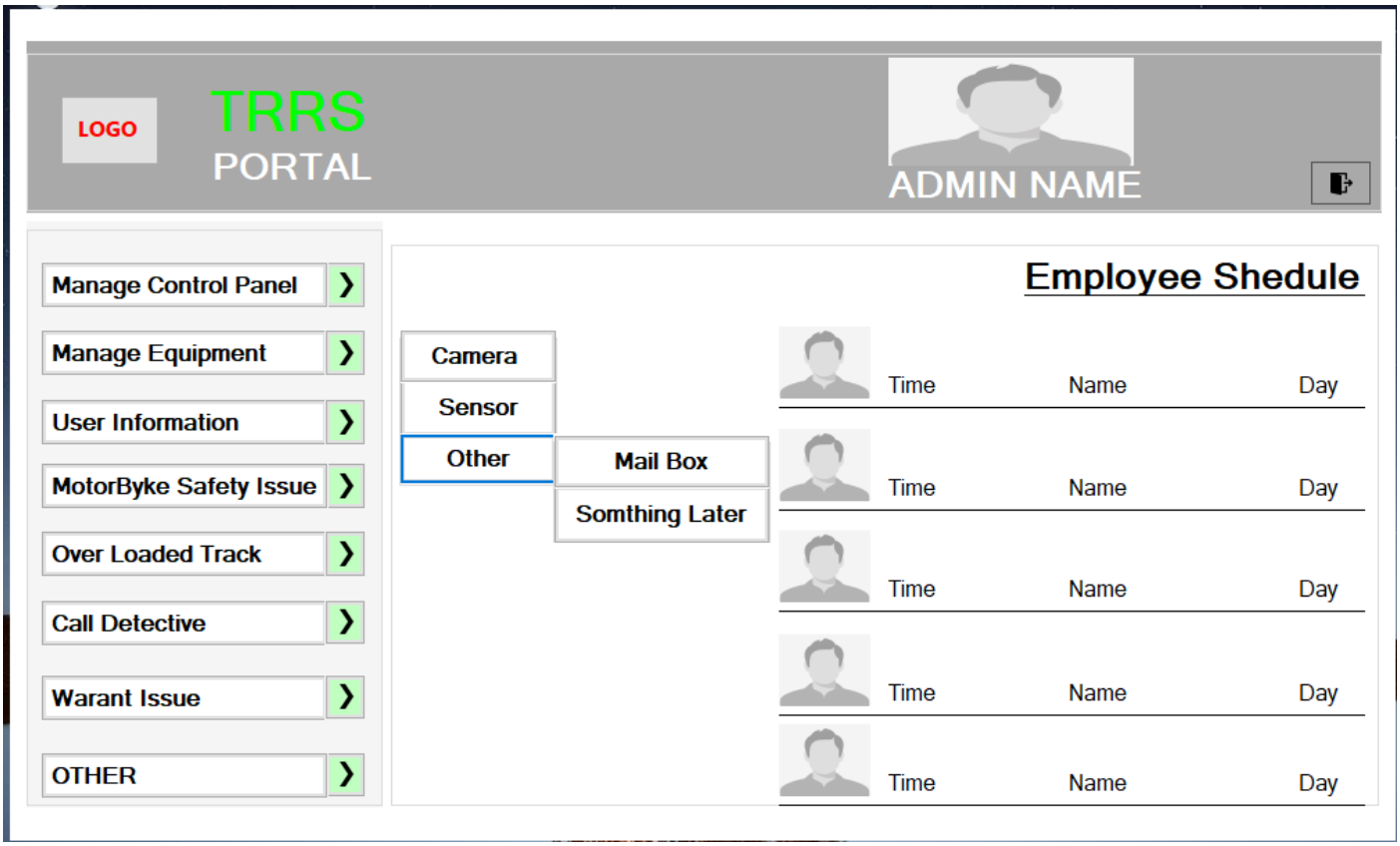
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Call Detective
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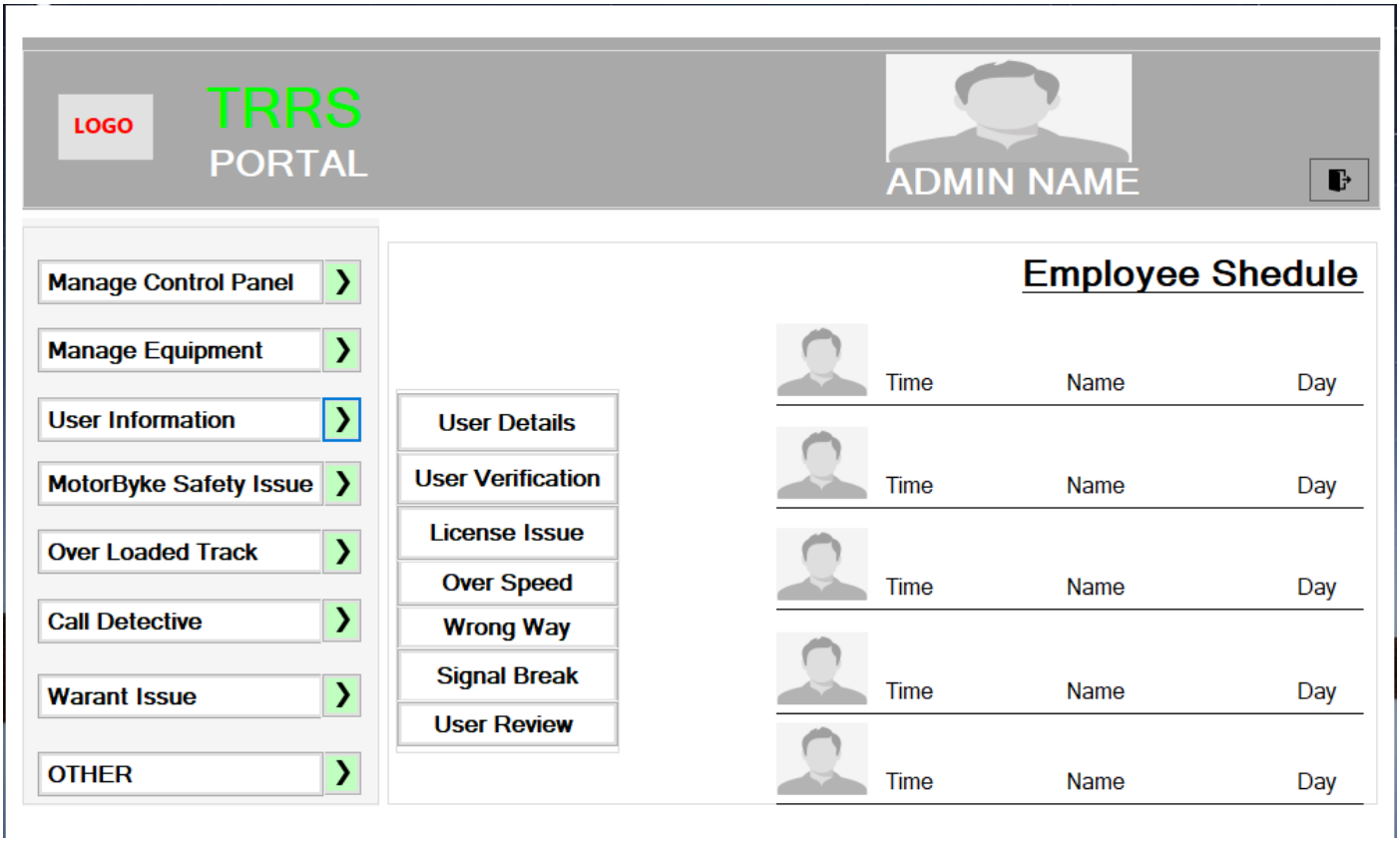
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Manage Equipment
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Over Loaded Track
Call Detective
Warant Issue
OTHER
User Details
User Verification
License Issue
Over Speed
Wrong Way
Signal Break
User Review
Employee Shedule
Time
Name
Day
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Name
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Time
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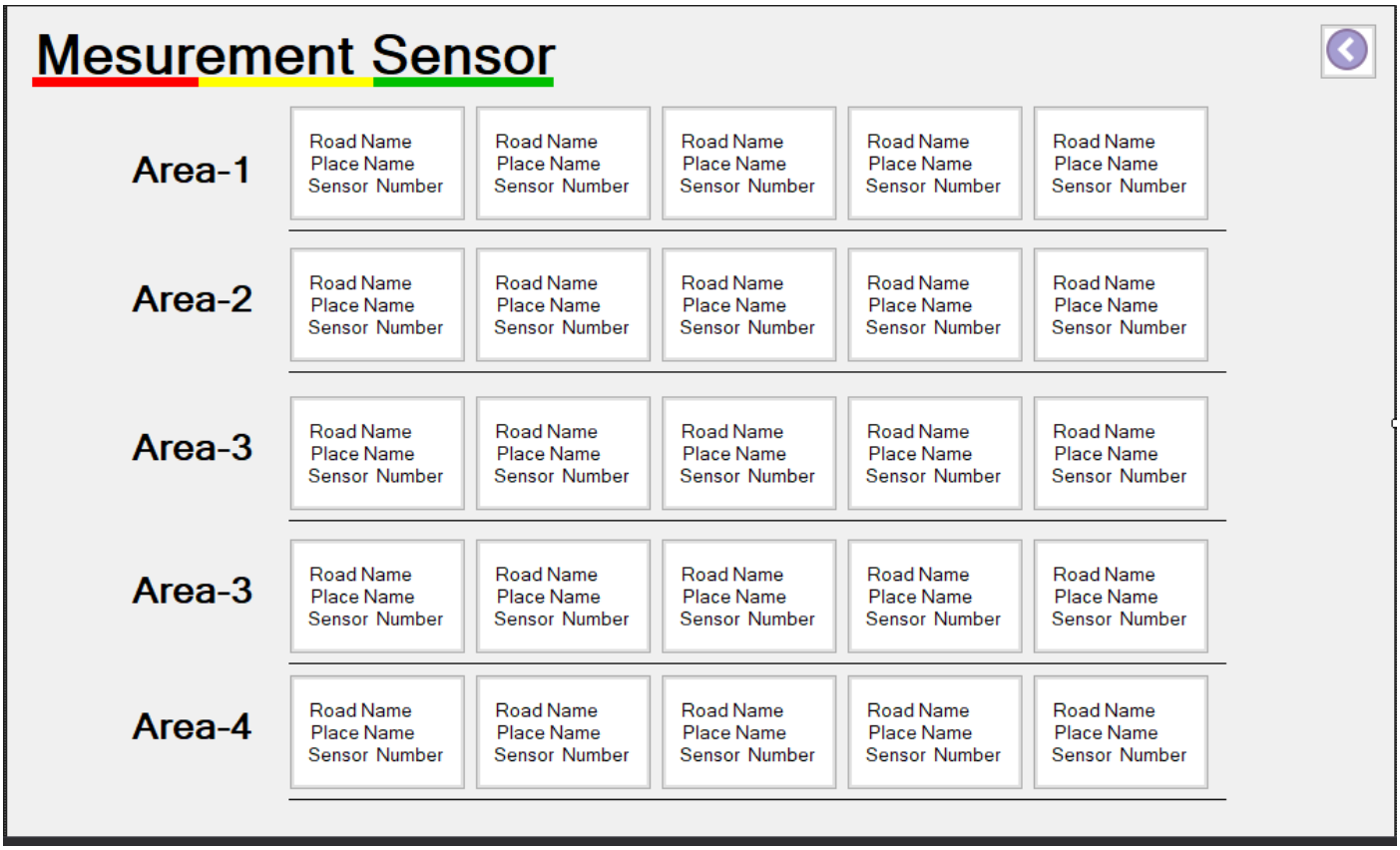
Time
Name
Day

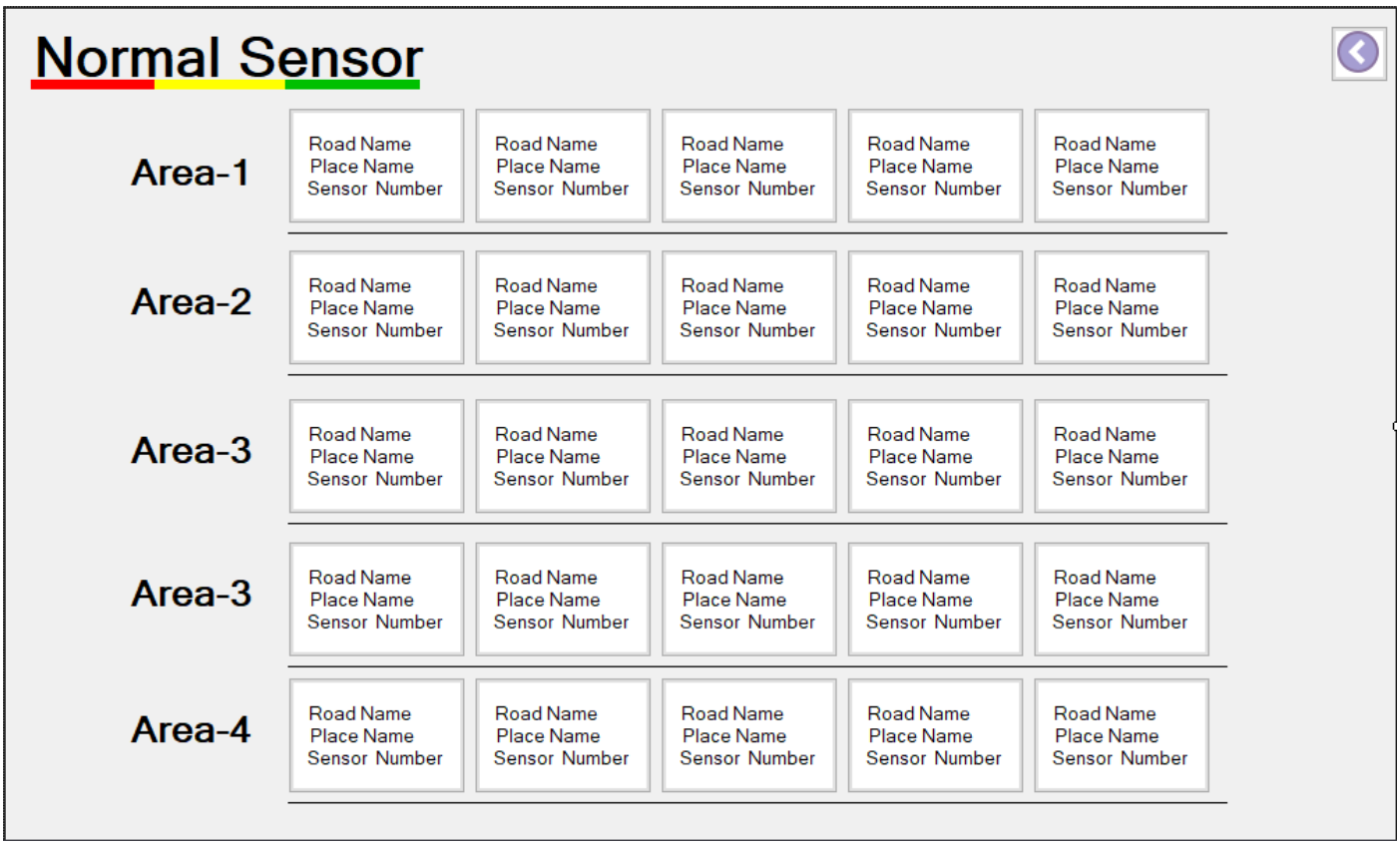
Mini Camera

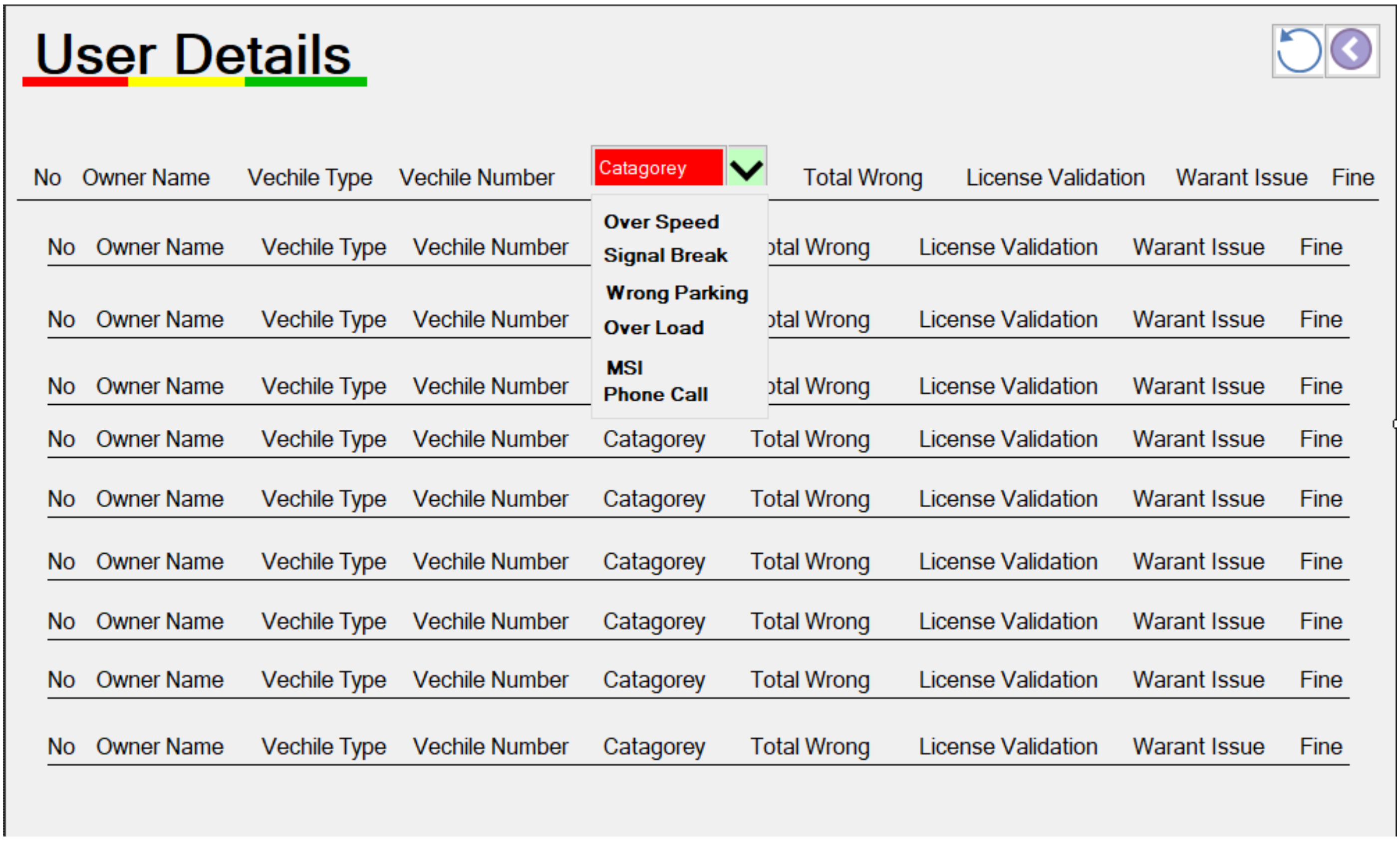
Area-1	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number
Area-2	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number
Area-3	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number
Area-3	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number
Area-4	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number

Hidden Camera

Area-1	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number
Area-2	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number
Area-3	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number
Area-3	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number
Area-4	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number	Road Name Place Name CCTV Number


Mesurement Sensor
Area-1
Area-2
Area-3
Area-3
Area-4
Road Name
Place Name
Sensor Number


Normal Sensor
Area-1
Area-2
Area-3
Area-3
Area-4
Road Name
Place Name
Sensor Number


User Details
No Owner Name Vechile Type Vechile Number Catagorey Total Wrong License Validation Warant Issue Fine
Over Speed
Signal Break
Wrong Parking
Over Load
MSI
Phone Call
No Owner Name Vechile Type Vechile Number otal Wrong License Validation Warant Issue Fine
No Owner Name Vechile Type Vechile Number otal Wrong License Validation Warant Issue Fine
No Owner Name Vechile Type Vechile Number otal Wrong License Validation Warant Issue Fine
No Owner Name Vechile Type Vechile Number Catagorey Total Wrong License Validation Warant Issue Fine
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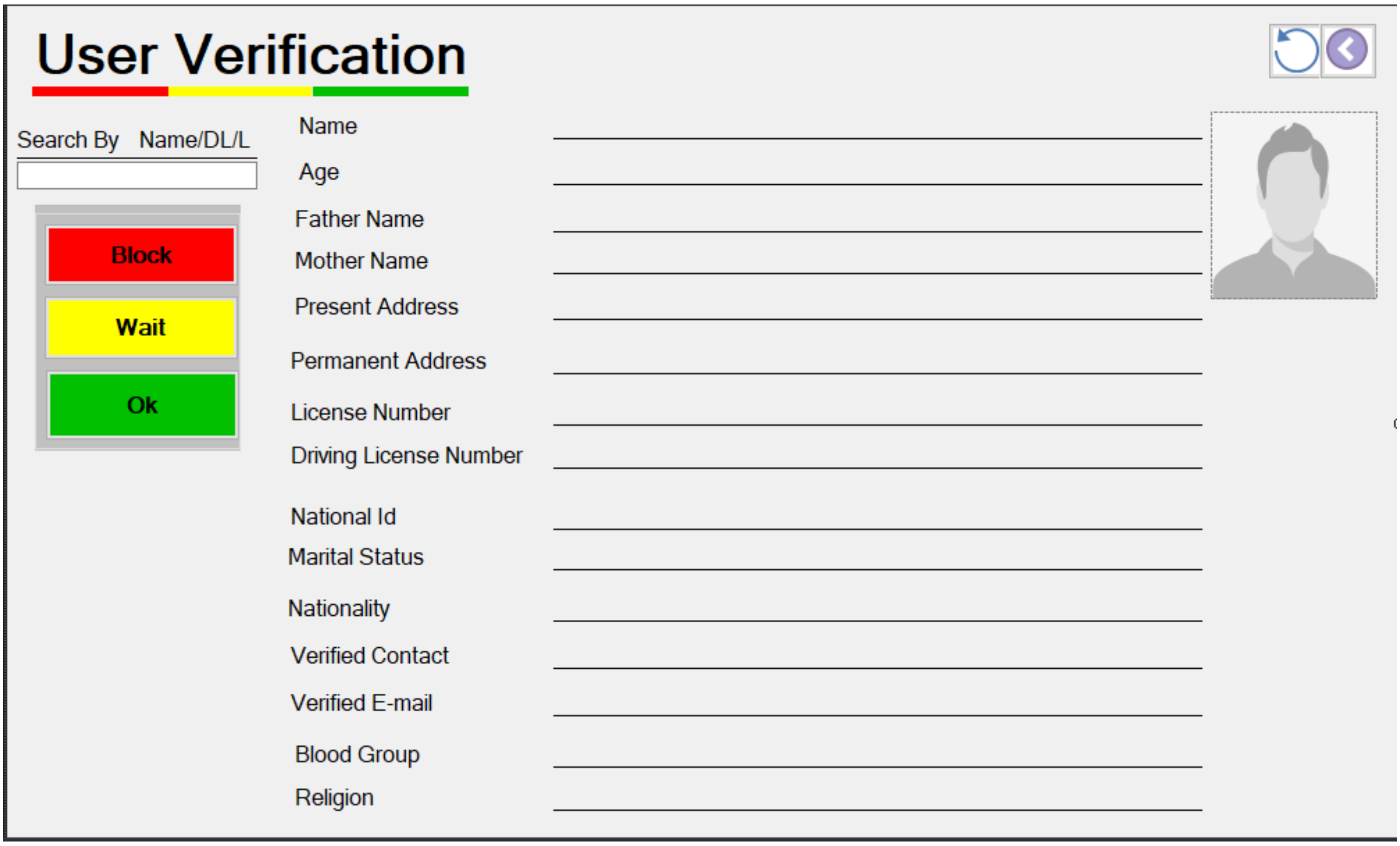
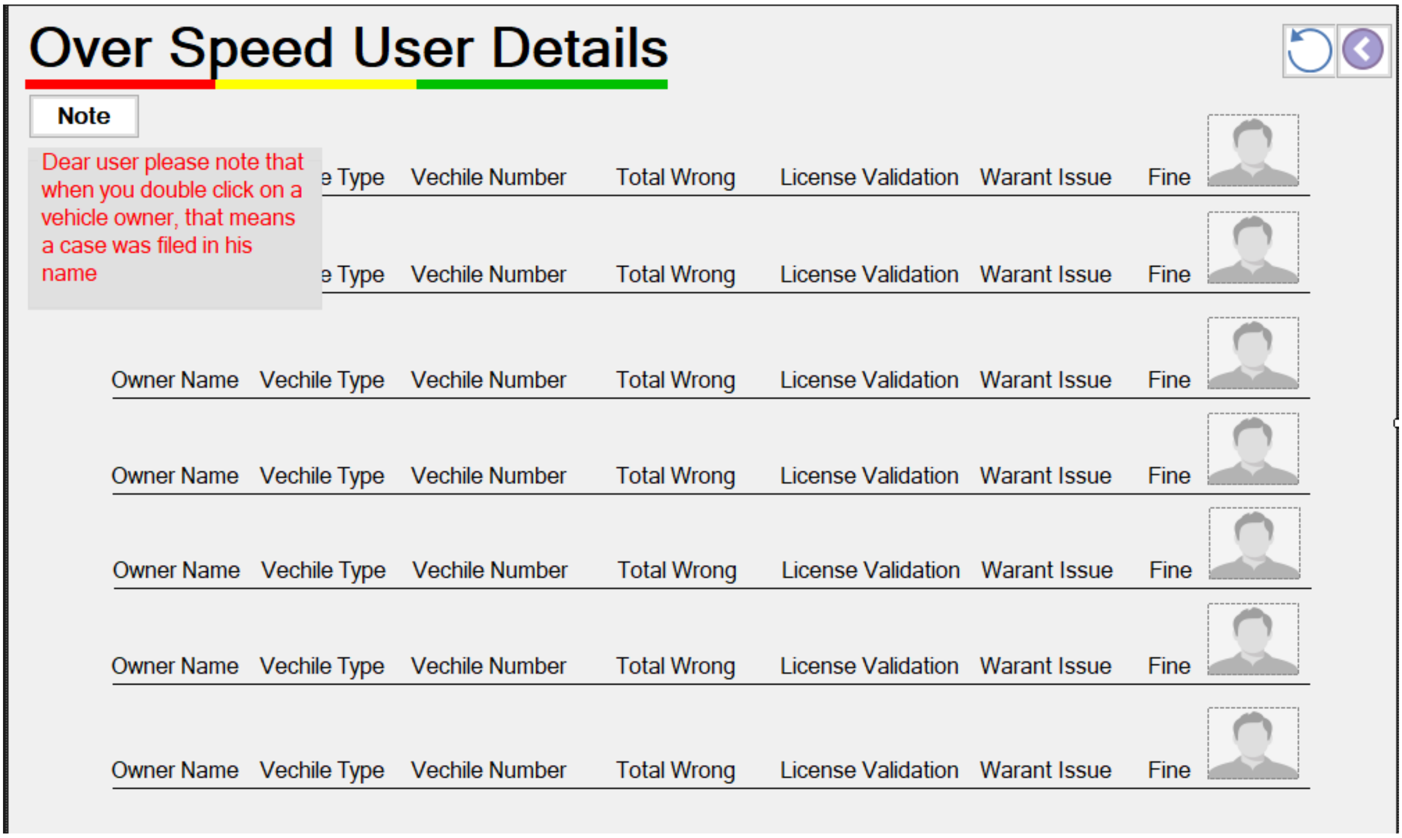
No Owner Name Vechile Type Vechile Number Catagorey Total Wrong License Validation Warant Issue Fine


User Verification
Search By Name/DL/L
Block
Wait
Ok
Name
Age
Father Name
Mother Name
Present Address
Permanent Address
License Number
Driving License Number
National Id
Marital Status
Nationality
Verified Contact
Verified E-mail
Blood Group
Religion


Over Speed User Details
Note
Dear user please note that when you double click on a vehicle owner, that means a case was filed in his name
e Type Vechile Number Total Wrong License Validation Warant Issue Fine
e Type Vechile Number Total Wrong License Validation Warant Issue Fine
Owner Name Vechile Type Vechile Number Total Wrong License Validation Warant Issue Fine
Owner Name Vechile Type Vechile Number Total Wrong License Validation Warant Issue Fine
Owner Name Vechile Type Vechile Number Total Wrong License Validation Warant Issue Fine
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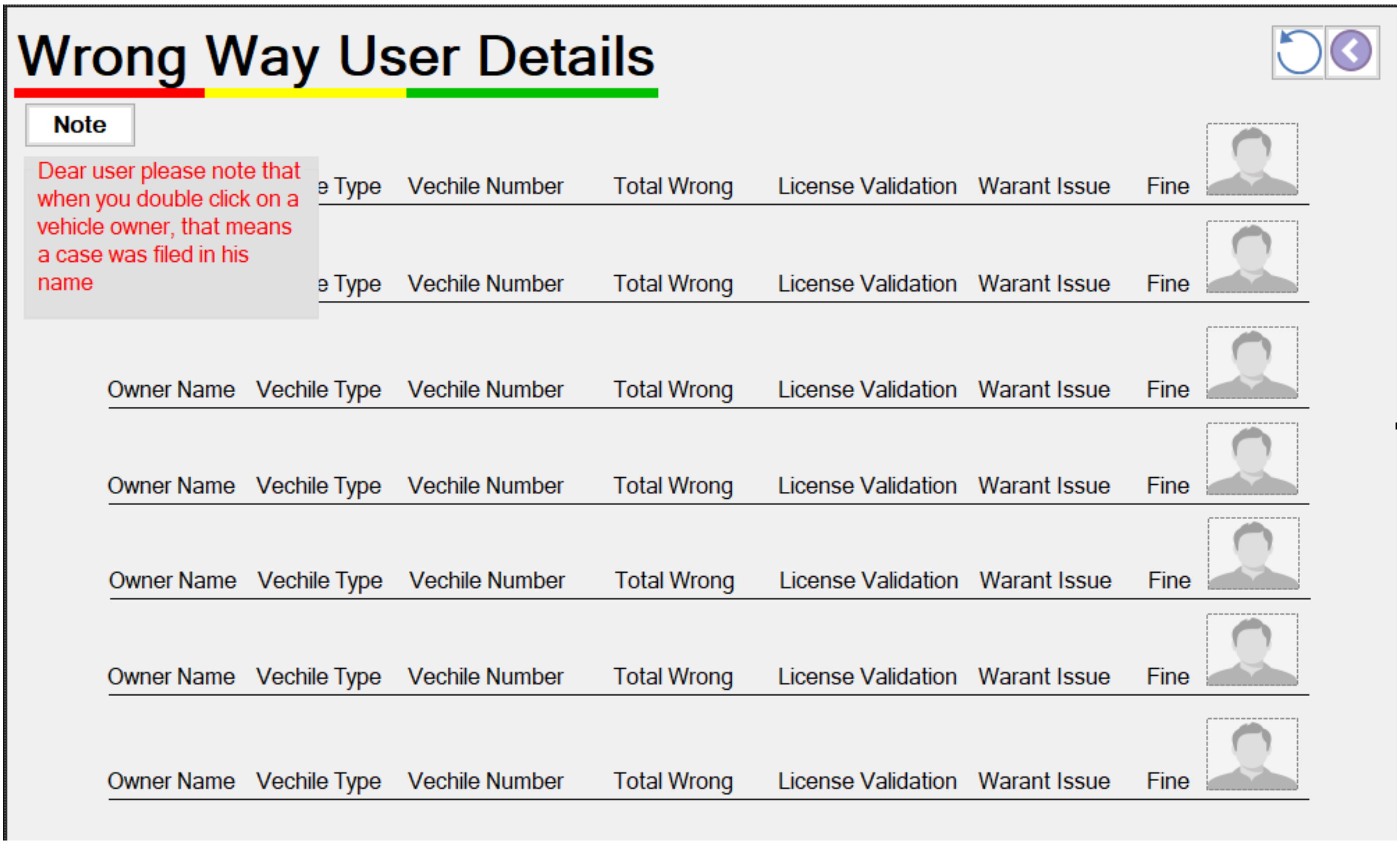
Wrong Way User Details
Note
Dear user please note that when you double click on a vehicle owner, that means a case was filed in his name
e Type Vechile Number Total Wrong License Validation Warant Issue Fine
e Type Vechile Number Total Wrong License Validation Warant Issue Fine
Owner Name Vechile Type Vechile Number Total Wrong License Validation Warant Issue Fine
Owner Name Vechile Type Vechile Number Total Wrong License Validation Warant Issue Fine
Owner Name Vechile Type Vechile Number Total Wrong License Validation Warant Issue Fine
Owner Name Vechile Type Vechile Number Total Wrong License Validation Warant Issue Fine
Owner Name Vechile Type Vechile Number Total Wrong License Validation Warant Issue Fine

Signal Break User Details

Note

Dear user please note that when you double click on a vehicle owner, that means a case was filed in his name

Owner Name	Vechile Type	Vechile Number	Total Wrong	License Validation	Warant Issue	Fine
Owner Name	Vechile Type	Vechile Number	Total Wrong	License Validation	Warant Issue	Fine
Owner Name	Vechile Type	Vechile Number	Total Wrong	License Validation	Warant Issue	Fine
Owner Name	Vechile Type	Vechile Number	Total Wrong	License Validation	Warant Issue	Fine
Owner Name	Vechile Type	Vechile Number	Total Wrong	License Validation	Warant Issue	Fine
Owner Name	Vechile Type	Vechile Number	Total Wrong	License Validation	Warant Issue	Fine
Owner Name	Vechile Type	Vechile Number	Total Wrong	License Validation	Warant Issue	Fine

MotorByke Safety Issue

No	Owner Name	Vechile Number	Catagorey	Total Wrong	License Validation	Warant Issue	Fine

- Over Speed
- Signal Break
- Wrong Parking
- Over Load
- Helmate

No	Owner Name	Vechile Number	Catagorey	Total Wrong	License Validation	Warant Issue	Fine
No	Owner Name	Vechile Number	Catagorey	Total Wrong	License Validation	Warant Issue	Fine
No	Owner Name	Vechile Number	Catagorey	Total Wrong	License Validation	Warant Issue	Fine
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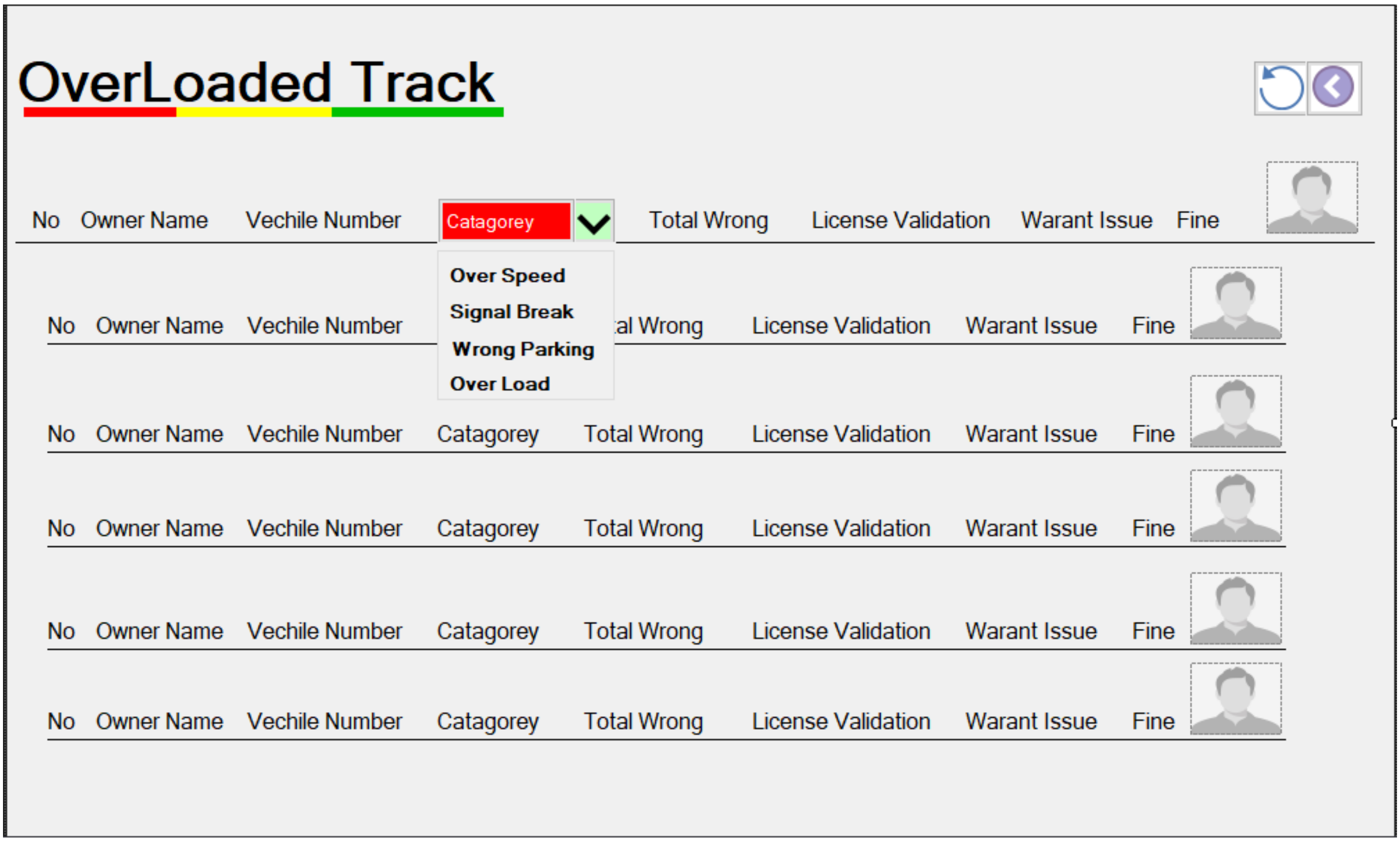
No	Owner Name	Vechile Number	Catagorey	Total Wrong	License Validation	Warant Issue	Fine


OverLoaded Track
No Owner Name Vechile Number Catagorey Total Wrong License Validation Warant Issue Fine
Over Speed
Signal Break
Wrong Parking
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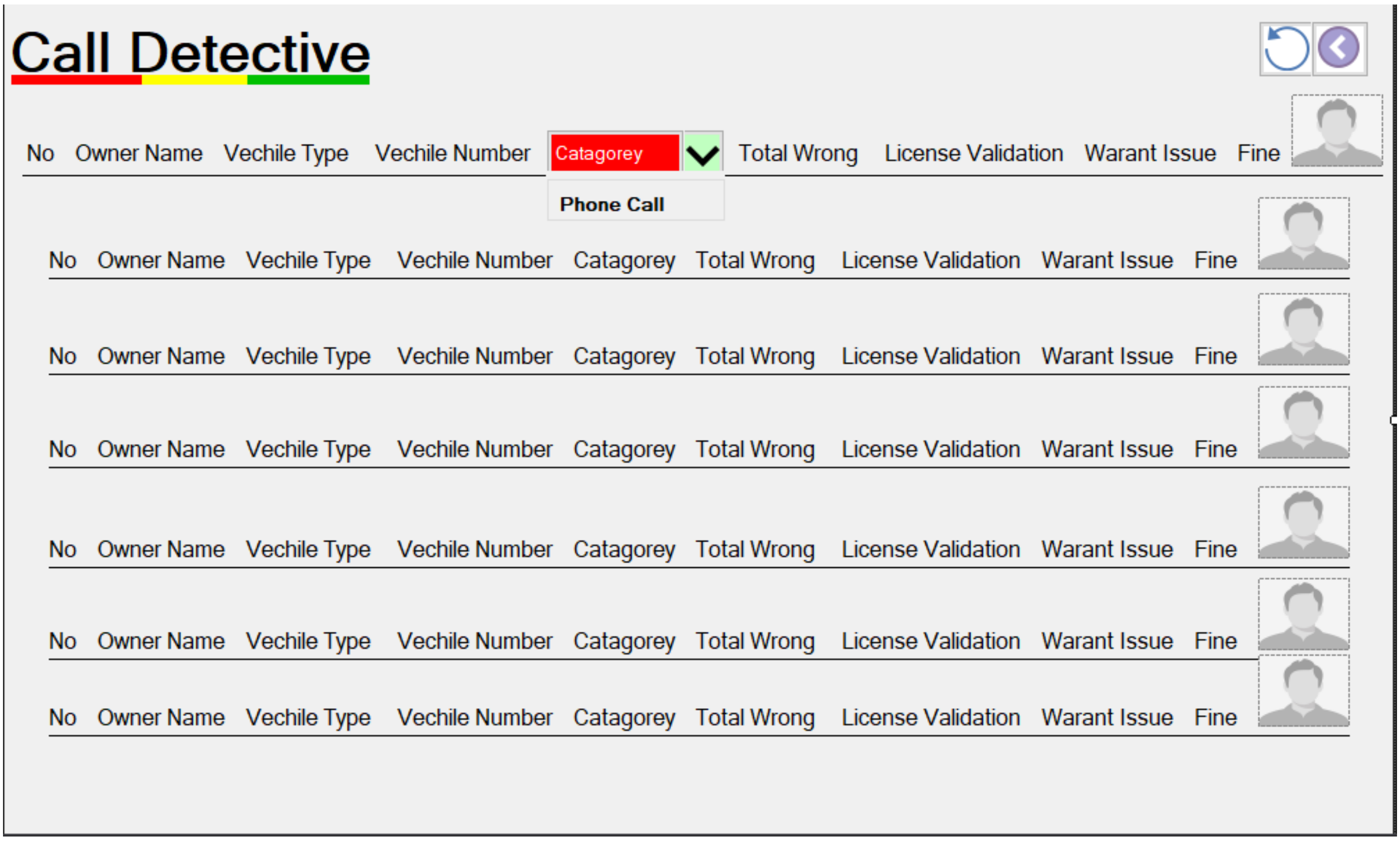
Call Detective
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Phone Call
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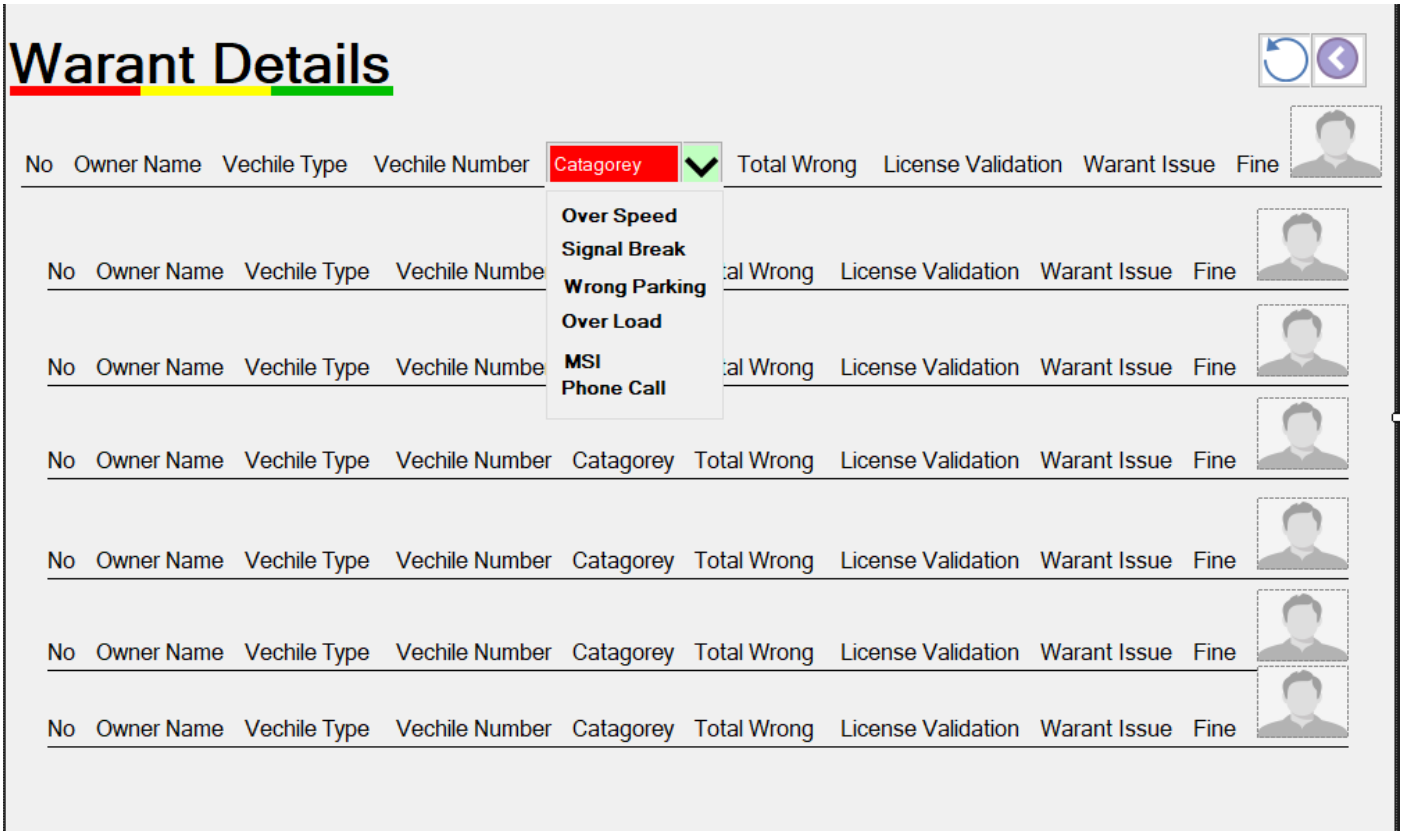
Warant Details
No Owner Name Vechile Type Vechile Number Catagorey Total Wrong License Validation Warant Issue Fine
Over Speed
Signal Break
Wrong Parking
Over Load
MSI
Phone Call
No Owner Name Vechile Type Vechile Numbe al Wrong License Validation Warant Issue Fine
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TEST PLANNING

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_1			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Login session			Test Execution date: 13.11.2022	
Test Title: Verify login with valid username and password				
Description: Test website login page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter user name, password 3.click submit	username:------ password: ------	user should login Into application	As expected,	Pass

Project Name: : Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_2			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name: Info collector			Test Execution date: 13.11.2022	
Test Title: Collect info by justification				
Description: Test website Info Collector login page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter username, password, vehicle name, vehicle number, image 3.click submit	username:------ password:-------	Info should get by verification	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_3			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name: Contact option			Test Execution date: 13.11.2022	
Test Title: Able to contact with any issue				
Description: Test website Contact page				
Precondition (If any): User must open TRRB website				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter name , Contact no	xxxxxxxxxxx	Contactable	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_4			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Payment Session			Test Execution date: 13.11.2022	
Test Title: Verify Payment by using id and mobile number				
Description: Test website Payment page				
Precondition (If any): User must have valid account number				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter account no, money, password 3.click submit	username:------ password: ------	Payment	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_5			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Control User			Test Execution date: 13.11.2022	
Test Title: Verify control user by editing profile				
Description: Test website control user editing page				
Precondition (If any): User must have valid information				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter edit information 3.click submit	Editing profile	Edit Done	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_6			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : User Verification			Test Execution date: 13.11.2022	
Test Title: Verification by using NID				
Description: Test website user verification page				
Precondition (If any): Admin must have login TRRB portal				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter NID, name , license 3.click submit	NID:---------- Name:------- License:-------	Verification Done	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_7			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Control panel added session			Test Execution date: 13.11.2022	
Test Title: Added control panel employee by Admin				
Description: Test website employee added page				
Precondition (If any): Admin must have login TRRB portal				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter employee NID, name , address, ETC 3.click submit	NID:---------- Name:------- Address:-------	Employee added done	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_8			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Measurement Session			Test Execution date: 13.11.2022	
Test Title: Verify all Camera working good				
Description: Test website admin measurement page				
Precondition (If any): Admin must have login TRRB portal				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter CCTV No, area no, road no ,road name 3.click submit	CCTV NO:-------- Area No:--------- Road No:-------- Road Name:-----	Verification done	As expected,	Pass

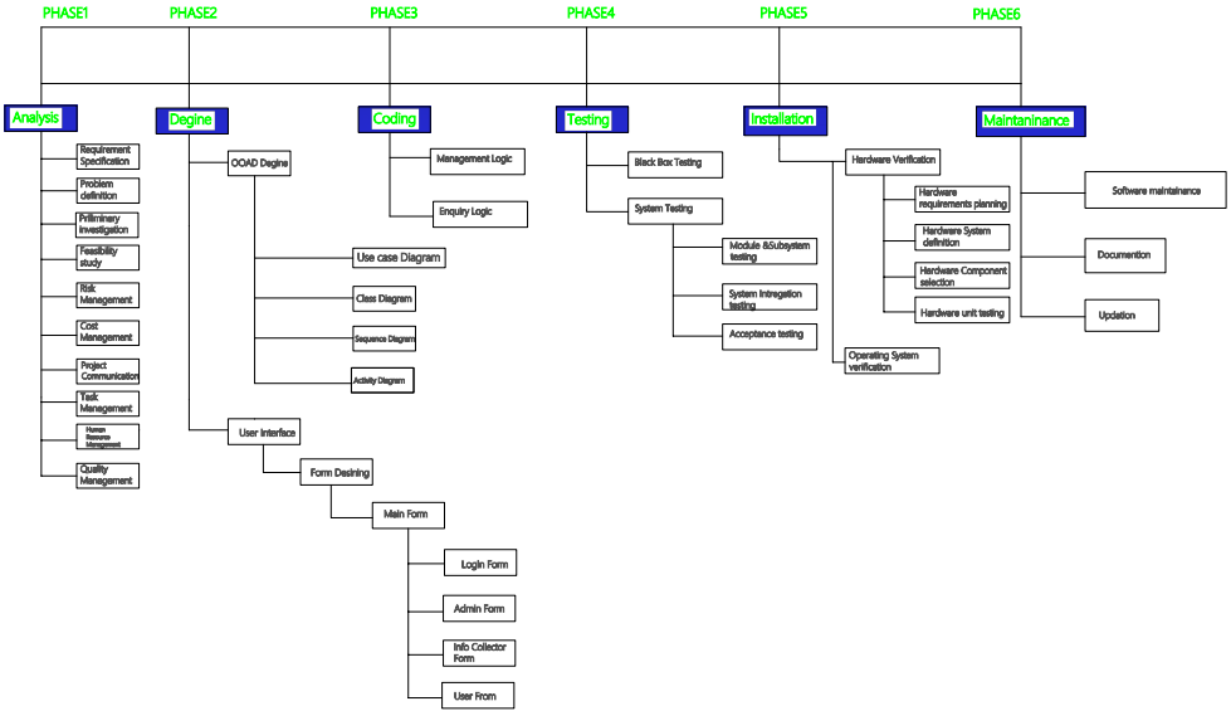
Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_9			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Control Panel session			Test Execution date: 13.11.2022	
Test Title: Control Panel Checking				
Description: Test website control panel page				
Precondition (If any): User must have valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter id and password 3.click submit	Id:---------- Password:-----	Checking done	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_10			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Motorbike Safety Issue			Test Execution date: 13.11.2022	
Test Title: Motorbike safety issue by using owner name, vehicle number				
Description: Test website Admin and control panel page				
Precondition (If any): Users must have login valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter owner name, vehicle number, driving license 3.click submit	Owner Name:-- Vehicle No:----- Driving license:-	Motorbike Safety issue done	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_11			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Call detective session			Test Execution date: 13.11.2022	
Test Title : Call detective by using owner name, vehicle number				
Description: Test website Admin page				
Precondition (If any): Users must have login valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter contact number 3.click submit	xxxxxxxxxxx	Call detective done	As expected,	Pass

Project Name: Traffic rules and regulations in Bangladesh			Test Designed by: Tuhin	
Test Case ID: FR_12			Test Designed date: 11.07.2021	
Test Priority (Low, Medium, High): Medium			Test Executed by: Desktop	
Module Name : Warrant Details Session			Test Execution date: 13.11.2022	
Test Title : Warrant details by using owner name, vehicle number				
Description: Test website Admin and Control panel page				
Precondition (If any): Users must have login valid username and password				
Test Steps	Test Data	Expected Results	Actual Results	Status (Pass/Fail)
1.Go to website 2.Enter Owner name, vehicle number 3.click submit	Owner Name:---- Vehicle No :-------	Warrant details done	As expected,	Pass

WORK BREAKDOWN STRUCTURE



Function points Metrics

Information Domain Value	Count		Simple	Average	Complex		
(FP unadjusted)							
Number of external inputs (EIs)	12	*	3	4	6	=	48
Number of external outputs (EOs)	30	*	4	5	7	=	150
Number of external inquiries (EQs)	9	*	3	4	6	=	6
Number of internal logical files (ILFs)	6	*	7	10	15	=	60
Number of external interface files (EIFs)	3	*	5	7	10	=	21
						Count	315

COCOMO (Constructive Cost Model)

PM : person-months needed for project (labor working hours)
SLOC : source lines of code
P : project complexity (1.04-1.24)
DM : duration time in months for project (week days)
T : SLOC-dependent coefficient (0.32-0.38)
ST : average staffing necessary

Software Project Type	**Coefficient** <Effort Factor>	**P**	**T**
Organic	2.4	1.05	0.38
Semi-detached	3.0	1.12	0.35
Embedded	3.6	1.20	0.32

- **Effort => PM = Coefficient$_{<Effort\ Factor>}$*(SLOC/1000)^P** [100,000 SLOC/1000 = 100k SLOC]

  = 2.4*(5000/1000)^1.05

  = 13 months = 52 weeks

- **Development time => DM = 2.50*(PM)^T**

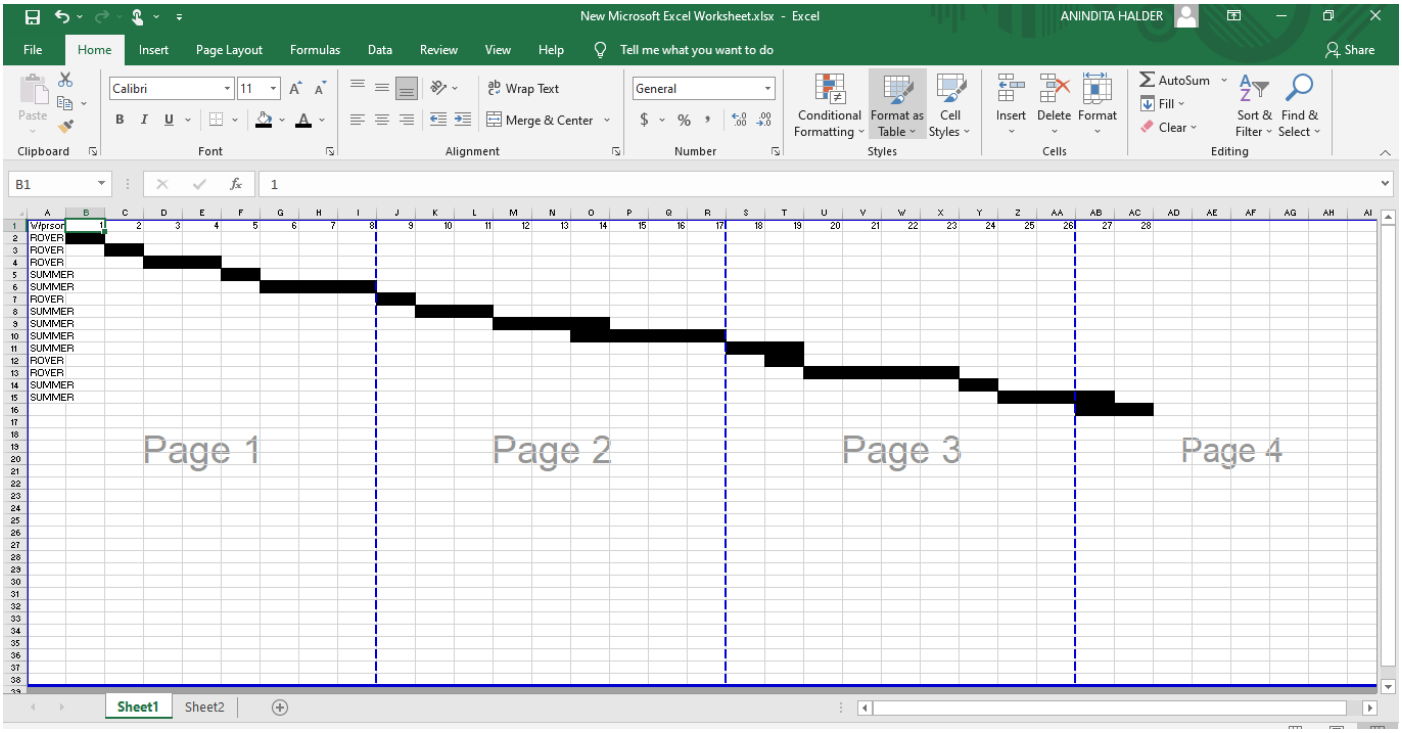
  = 2.50*(13)^0.38

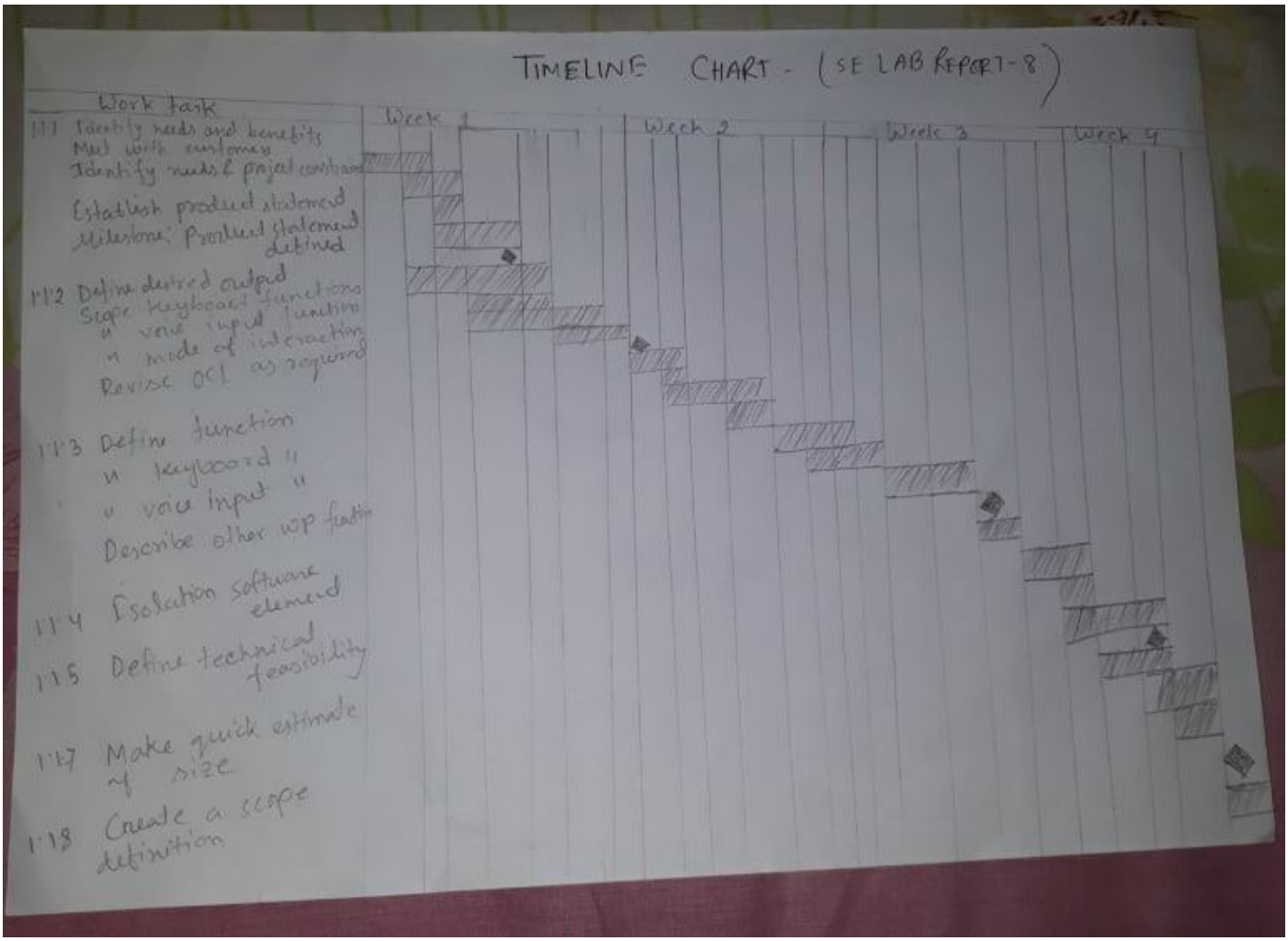
  = 6.6= 7months= 28 weeks =(28*22day) = 616 Persons_days

- **Required number of people => ST = PM/DM**

  = 13/7 = 1.8 = 2 staff

PROJECT TIMILINE CHART


New Microsoft Excel Worksheet.xlsx - Excel
ANINDITA HALDER
Page 1
Page 2
Page 3
Page 4
Sheet1
Sheet2


TIMELINE CHART - (SE LAB REPORT-8)
Work Task
Week 1
Week 2
Week 3
Week 4

Earned value analysis (EVA)

Task	Planned Effort	Actual Effort
1	8	8.5
2	9.5	9
3	5	5
4	1	2
5	12	15
6	20	18
7	16	17
8	15	14
9	10	10
10	6	6.5
11	13	
12	6	
13	4	
14	7	
15	11	

Budgeted Cost of Work Performed (BCWP) = 84.5

Budgeted Cost of Work Scheduled (BCWS) = 125.5

Actual Cost of Work Performed (ACWP) = 105

Total Task = 38

Effort Estimated = 616 Persons Days

Budget at Completion (BAC) = DM*22 =28*22 = 616

Schedule Performance Index (SPI) = BCWP/BCWS = 84.5/125.5 = 0.70

Schedule Variance (SV) = BCWP – BCWS =84.5-125.5 = -41 Persons Days

Cost Performance Index (CPI) = BCWP/ACWP = 125.5/105 =1.20

Cost variance, CV = BCWP – ACWP =125.5-105 = 20.5

% Schedule for Completion = BCWS/ BAC = 125.5/616 =20.37 % of Work

[% of work scheduled to be done at this time]

% Complete = BCWP/ BAC = 84.5/616 = 13.72 %

[% of work completed at this time]

Building Risk Table

Risks	Category	Probability	Impact	RMMM
Estimated size of project	PS	80%	2	
Team members do not work well together	ST	20%	2	
Key personnel are only part-time	ST	20%	4	
The product take more than time expected to design and implement for unfamiliar areas	DE	50%	2	
Lack of needed specialization increases defects and reworks	ST	40%	2	
Development of extra software functions that are not needed	DE	20%	3	
Operations in unfamiliar software environment causes unforeseen problems	TE	25%	4	
Strict requirements for compatibility with existing system	DE	20%	3	
Components developed separately cannot be integrated easily, requiring redesign	DE	30%	3	
Development of the wrong software functions requires redesign and implementation	DE	5%	3	
Finding will be lost	CU	40%	1	
Customer will change requirement	PS	100%	4	
Technology will not meet expectations	TE	30%	1	
Staff inexperienced	ST	30%	2	
Staff turnover will be high	ST	70%	2	

Impacts Value:
1-> Catastrophic || 2-> Critical || 3-> Marginal || 4-> Negligible