

Graymatics

Video Analytics as a Service – Instruction Manual for UrbanVision

See through the clutter

GRAYMATICS

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1 Introduction

1.1 Overview

This document is an instruction manual for UrbanVision users who would access the Graymatics platform. It has step-by-step screenshots of the functionalities for the users within the product specification. Listed at the end of this document are a list of analytics and applications specifically for UrbanVision.

1.2 Type of users for UrbanVision

UrbanVision Admin:

- Create admin accounts and client accounts.
- Edit information of user accounts, change passwords, choose analytics algorithms available for the client's account.
- Can create a “unique” client account for a client that does not have any subdivision.

UrbanVision Client:

- General client account that can create branch accounts for their different locations.
- If this account is set as “unique”, it will also have the functionalities of the branch account.
- View reports of different branches and live streams.

UrbanVision Branch:

- Add users working in the branch.
- Add cameras for the location and users for Facial Recognition.
- View dashboards, heatmaps.

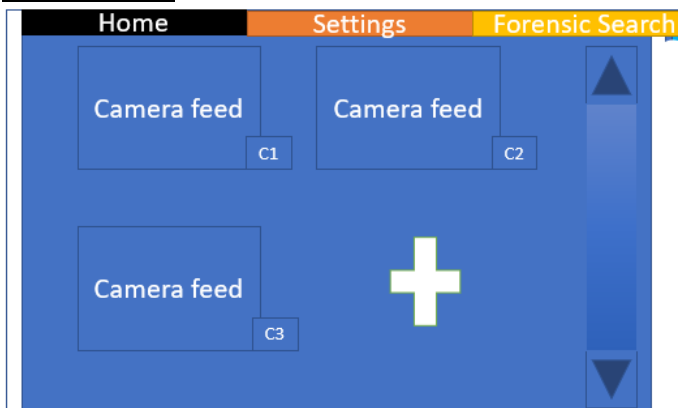
UrbanVision Regular User:

- Visualize live streams and dashboards
- Monitoring account for the branch, limited editing capabilities.

1.3 Kinds of Activities for UrbanVision

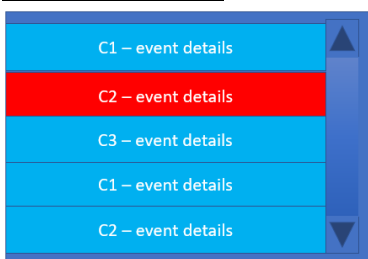
- **Monitor** – Monitor cameras in real-time, and track notification panel. Depending on the application, this could include traffic cameras or cameras installed at the exterior of buildings to capture analytics specialized for UrbanVision. The notification panel does not need to be continuously monitored, as events which need action will be highlighted in red.

Camera Panel:



- **Configurations** – For User management, Camera configurations, Analytics and corresponding parameters in each camera etc. (explained in detail in next sections)
- **Notifications** – Should the user needs to access details of any event (displayed on the notification panel – any color), the details page shall be available on clicking the event on the notification panel.

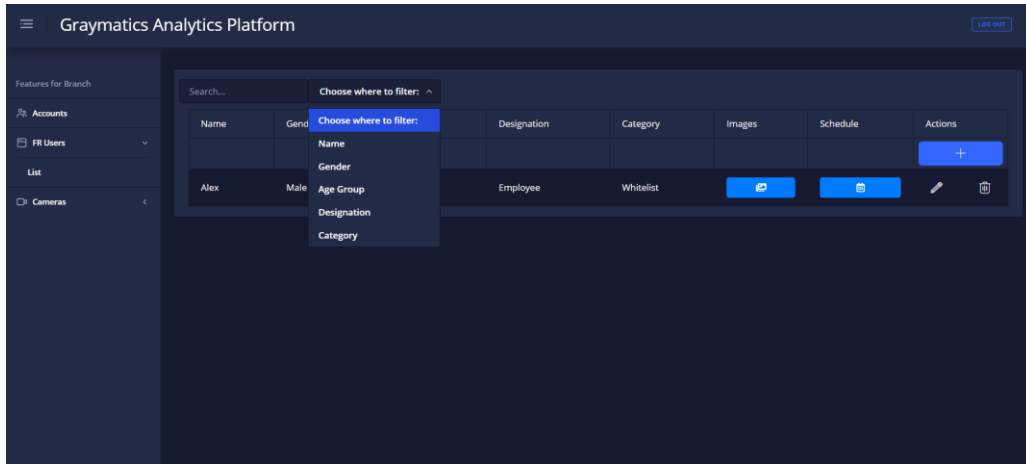
Notification Panel:



- **Forensic Search** – This feature is accessible on an independent page to access camera events based on keyword searches. Also includes filtering features based on camera, time. Details including image, 10 sec video grab, camera ID, and time shall be displayed.

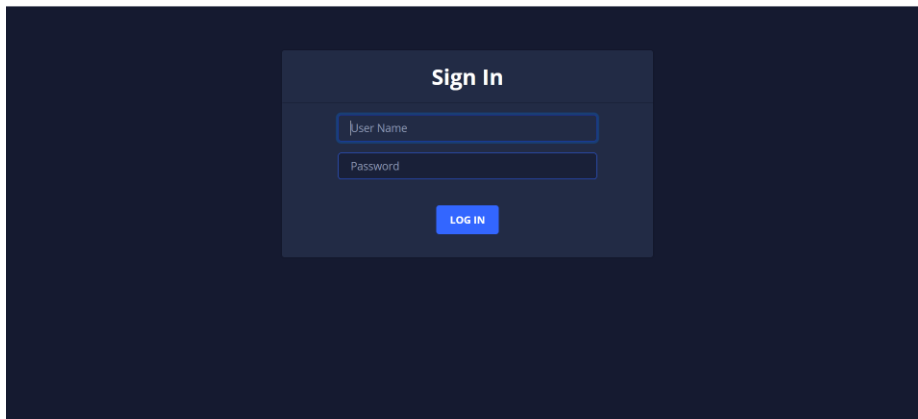
In each report, authorized users can search for a particular list of events of entries by entering keywords in the Search box above.

An example under the UrbanVision package would be accident detection analytics. Through the forensic search, users can include key words such as 'Red car' to filter through within the search box.



1.4 Login page

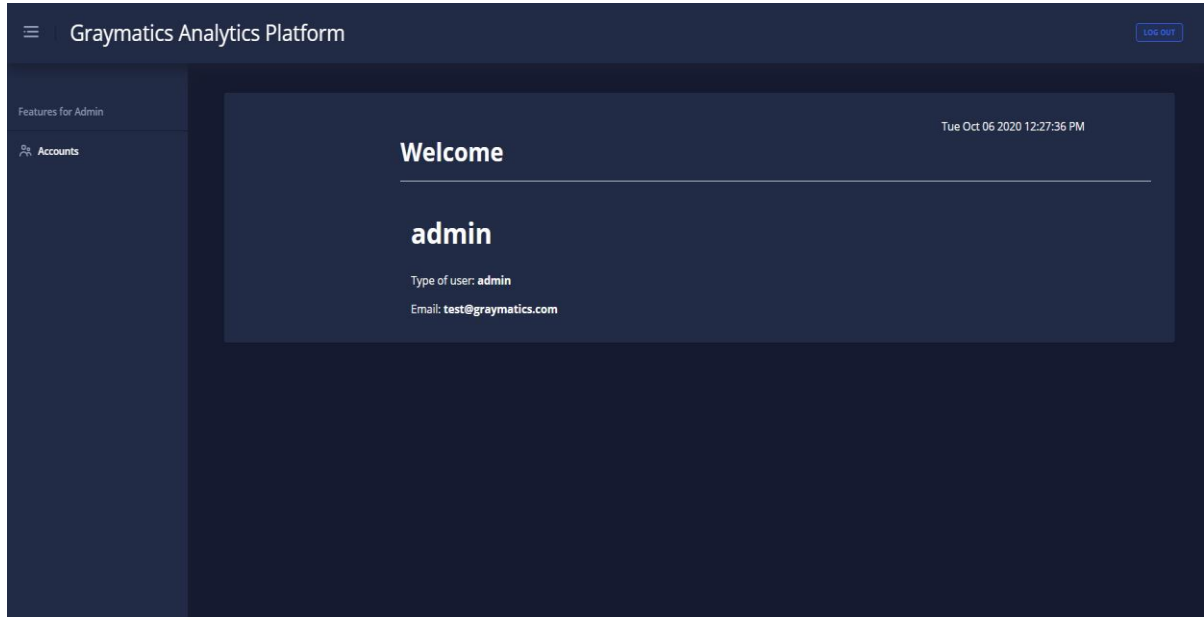
Enter username and password in this screen:



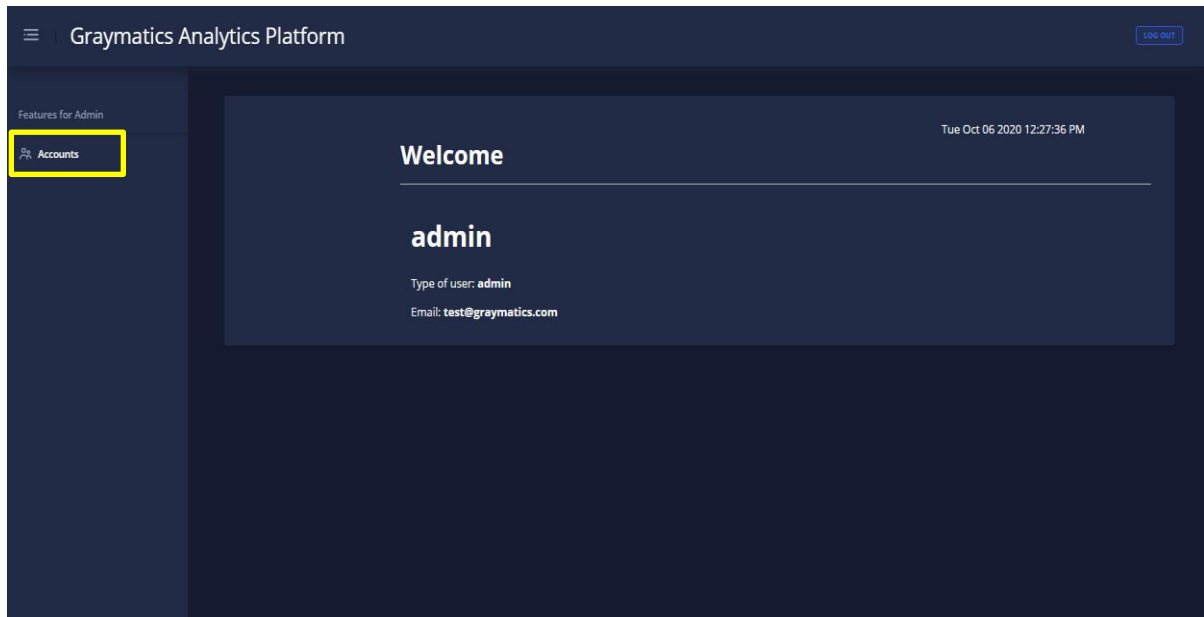
2 Detailed Steps for UrbanVision

2.1 Admin User

Log in page:

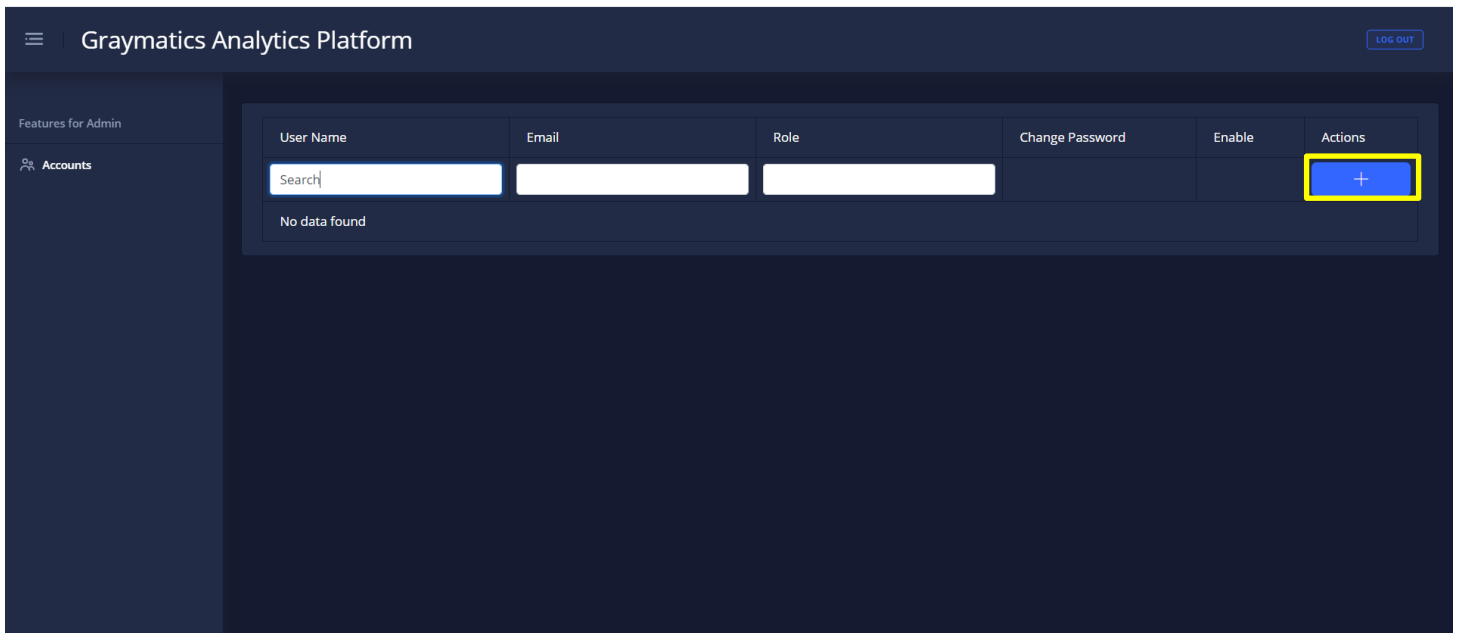


Click Accounts to manage user accounts:

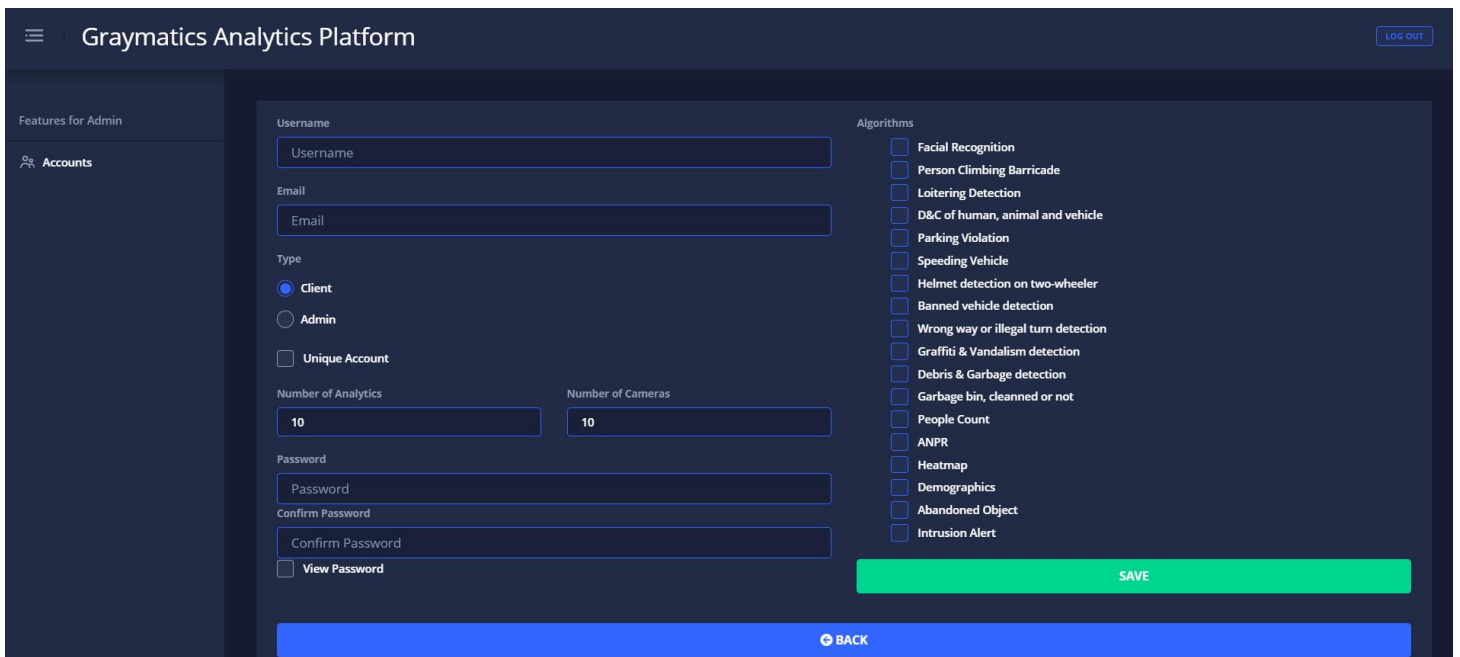


2.1.1 Create Admin/Client Users

Click the + symbol to create new users



In the next screen, enter details of the user to be created:



- Username – Unique login id
- Email – Unique Email id
- Type – Admin or Client – Refer 1.1 for details

For Client users:




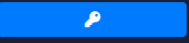


- Check whether the user should be a Unique acc
- Select Number of Analytics, Number of Cameras needed
- Select whether it is a “Unique” Account. Such users also get functionalities of a Branch user

- Choose the Algorithms required and Save the changes

The created users are displayed in the accounts page.

2.1.2 Edit Client/Admin Users

The below highlighted buttons can be used to change passwords, edit users or delete users

User Name	Email	Role	Change Password	Enable	Actions
User Name	Email	Role			+
clientusr1	jagdip@graymatics.com	client		<input checked="" type="checkbox"/>	 
admin_2	santoshk@graymatics.com	admin		<input checked="" type="checkbox"/>	 

To Disable the account, select the Edit option and check the Disable Account checkbox in the next page and save the changes.

Graymatics Analytics Platform LOG OUT

Features for Admin

Accounts

Username: clientusr1

Email: jagdip@graymatics.com

Type: Client Admin Unique Account

Number of Analytics: 10 Disable Account

Number of Cameras: 10

Algorithms:

- Facial Recognition
- Person Climbing Barricade
- Loitering Detection
- D&C of human, animal and vehicle
- Parking Violation
- Speeding Vehicle
- Helmet detection on two-wheeler
- Banned vehicle detection
- Wrong way or illegal turn detection
- Graffiti & Vandalism detection
- Debris & Garbage detection
- Garbage bin, cleaned or not
- People Count
- ANPR
- Heatmap
- Demographics
- Abandoned Object
- Intrusion Alert

SAVE

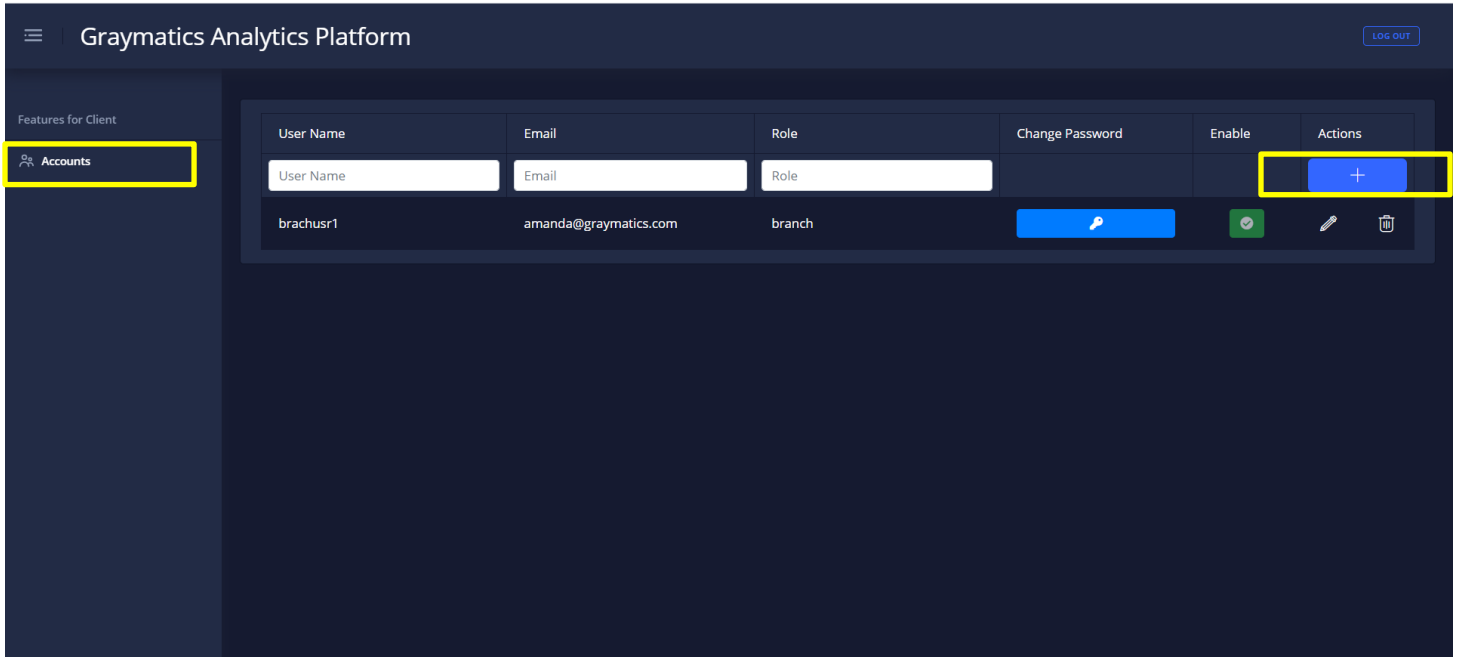
BACK

2.2 Client User (regular)

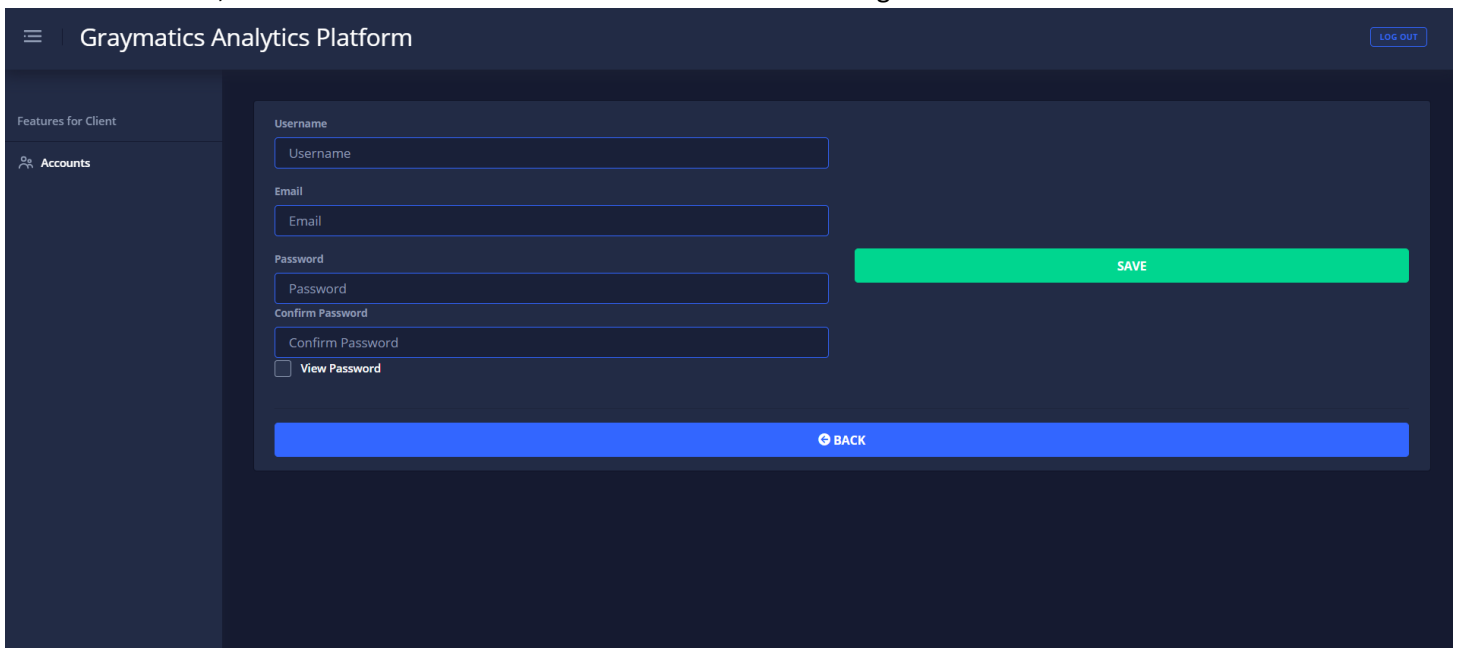
2.2.1 Create Branch Users:

The Client user can create branch users by clicking the “Accounts” button and clicking the ‘+’ button:

This can be applied when the Client User wants to delegate tasks to branch users. For instance, under the UrbanVision analytics – main traffic management control center delegating video surveillance task to a traffic management branch office.

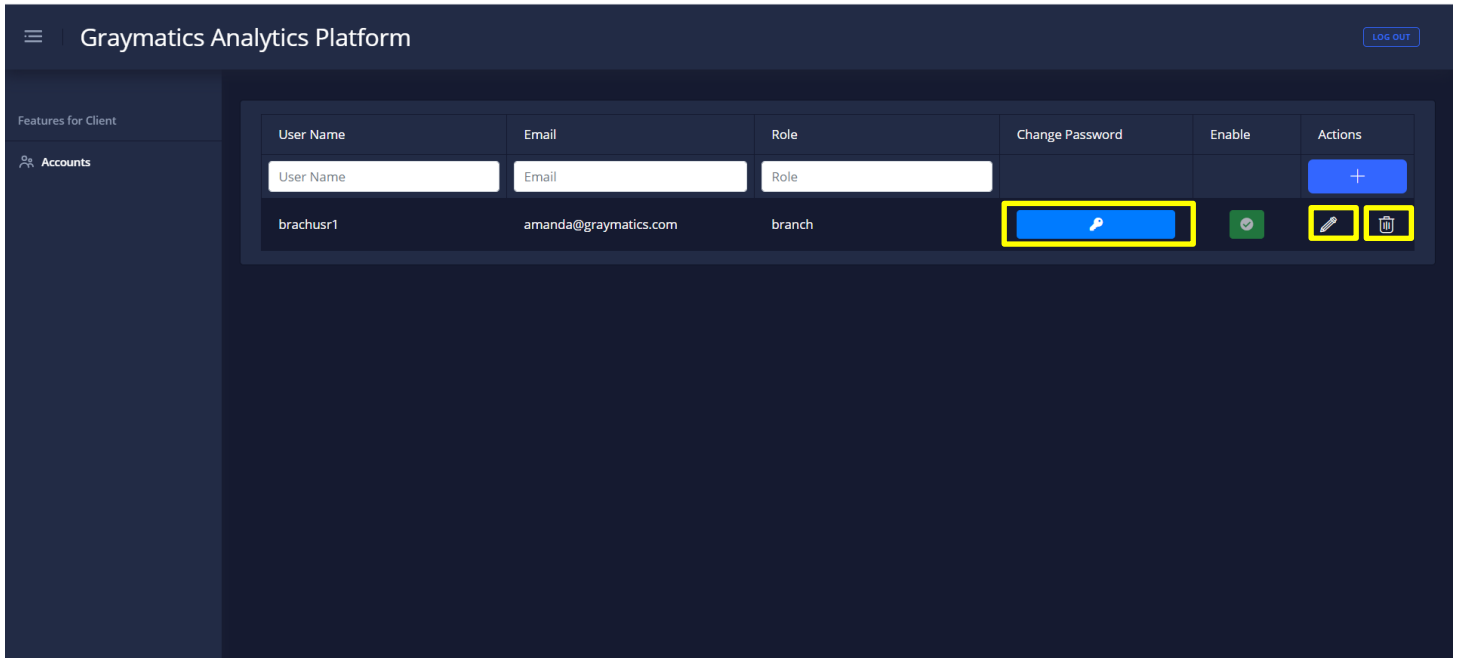


In the next screen, enter the details of the Branch user and save the changes



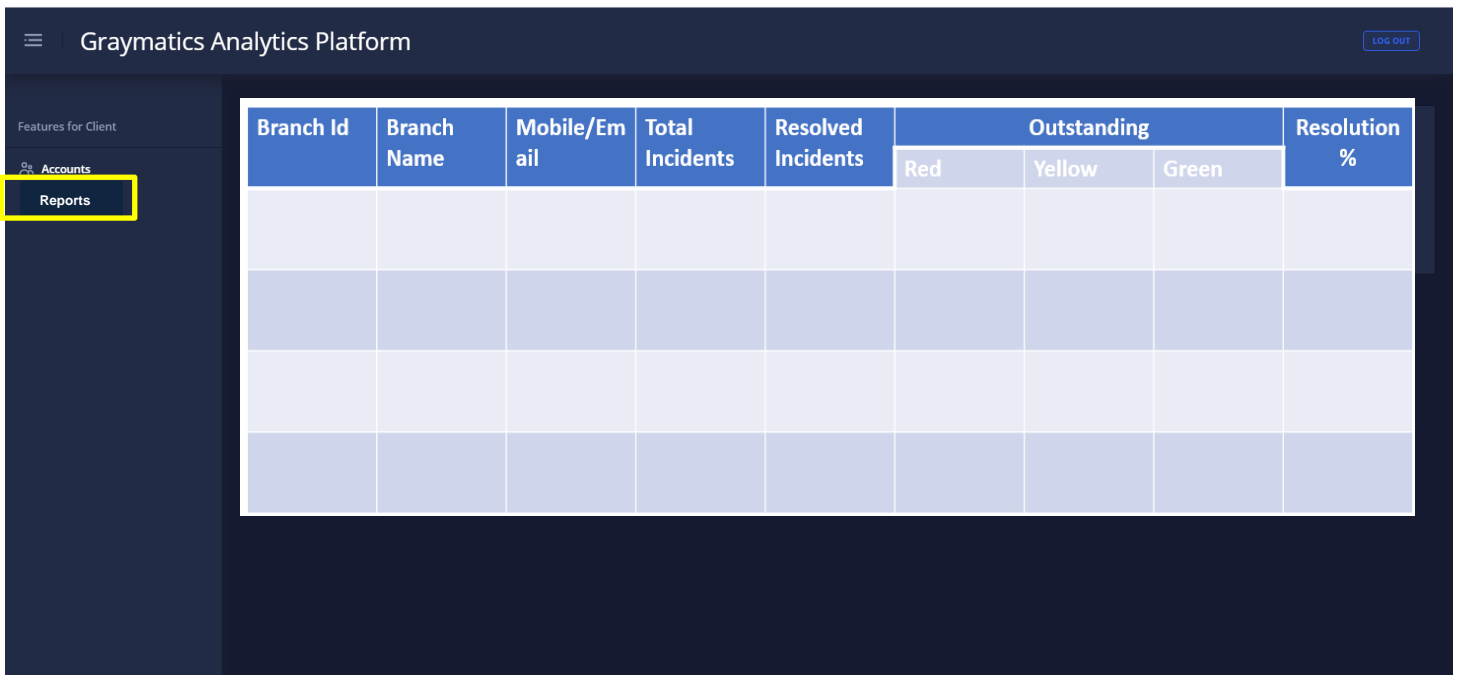
2.2.2 Edit Branch Users:

The Client user can change the password, edit user details and delete the user record by clicking the corresponding buttons as shown below:



2.2.3 View Reports and Live streams of Branches:

The client user can view the status of all branches in a snapshot by clicking the Reports tab in the main menu



Click on the branch of interest to access live feeds:

Graymatics Analytics Platform LOG OUT

Features for Client

Accounts

Reports

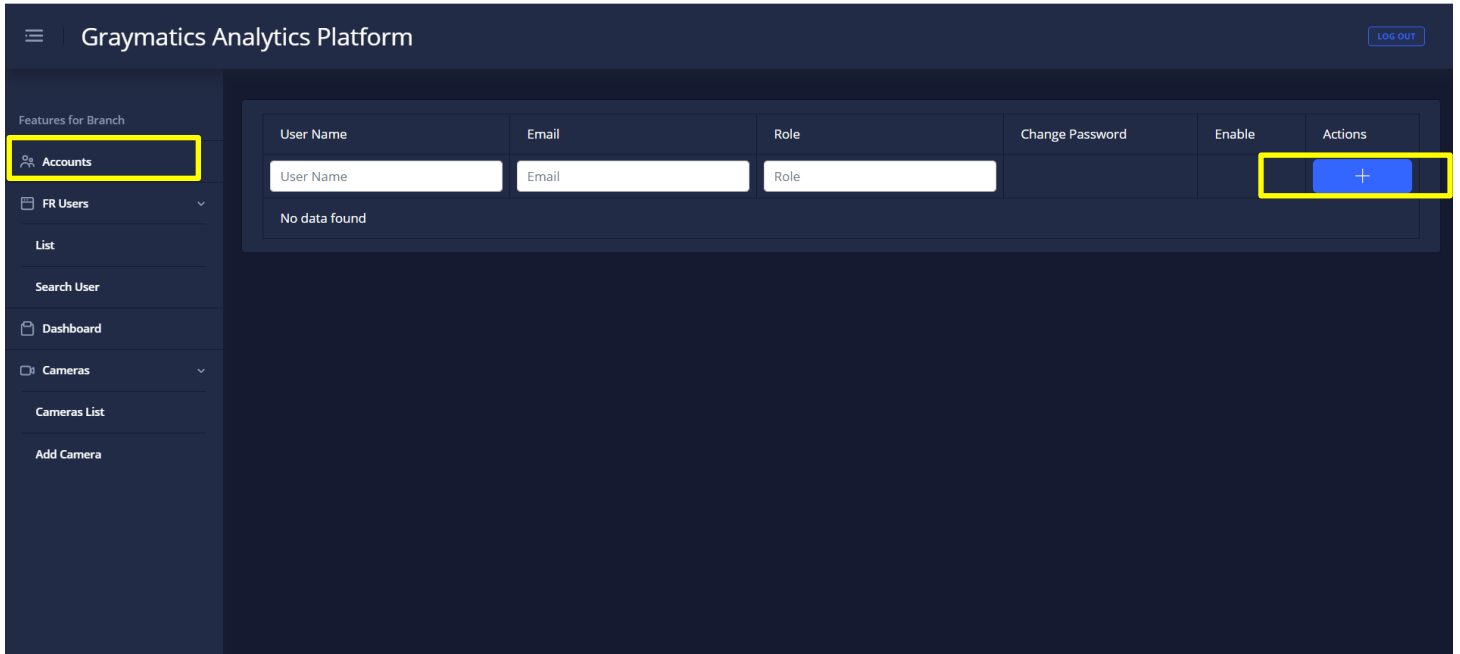
Search Q 10(8) 8(5) 15(10)

Camera Name	Camera Name	Camera Name	Camera Name	<Camera Name> <dd:mm:yy> <hh:mm:ss> Intrusion detected. Two unauthorised persons
Camera Name	Camera Name	Camera Name	Camera Name	<Camera Name> <dd:mm:yy> <hh:mm:ss> 100 people has walked into the store today
Camera Name	Camera Name	Camera Name	Camera Name	<Camera Name> <dd:mm:yy> <hh:mm:ss> Low lighting

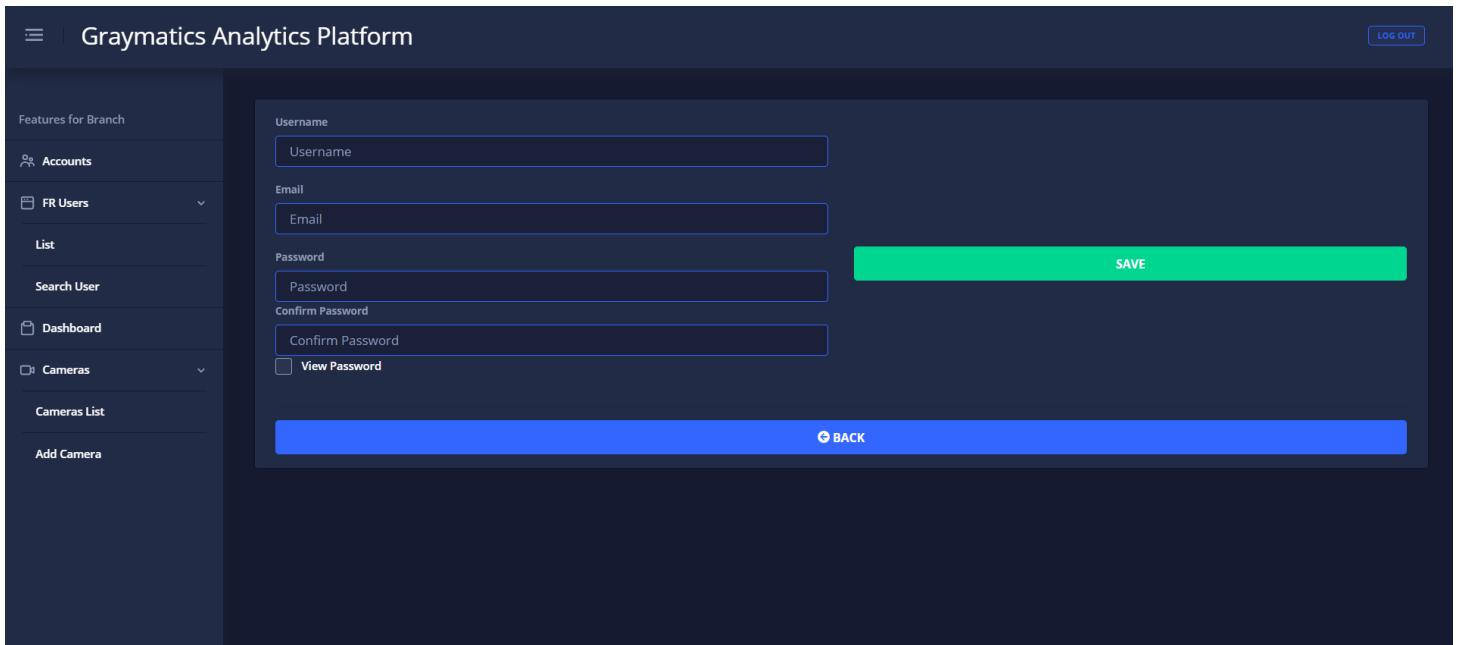
2.3 Client User (Unique) or Branch User

2.3.1 Create Users in the Branch

The Unique Client user or Branch user can add users working in the branch by clicking the Accounts button and + icon



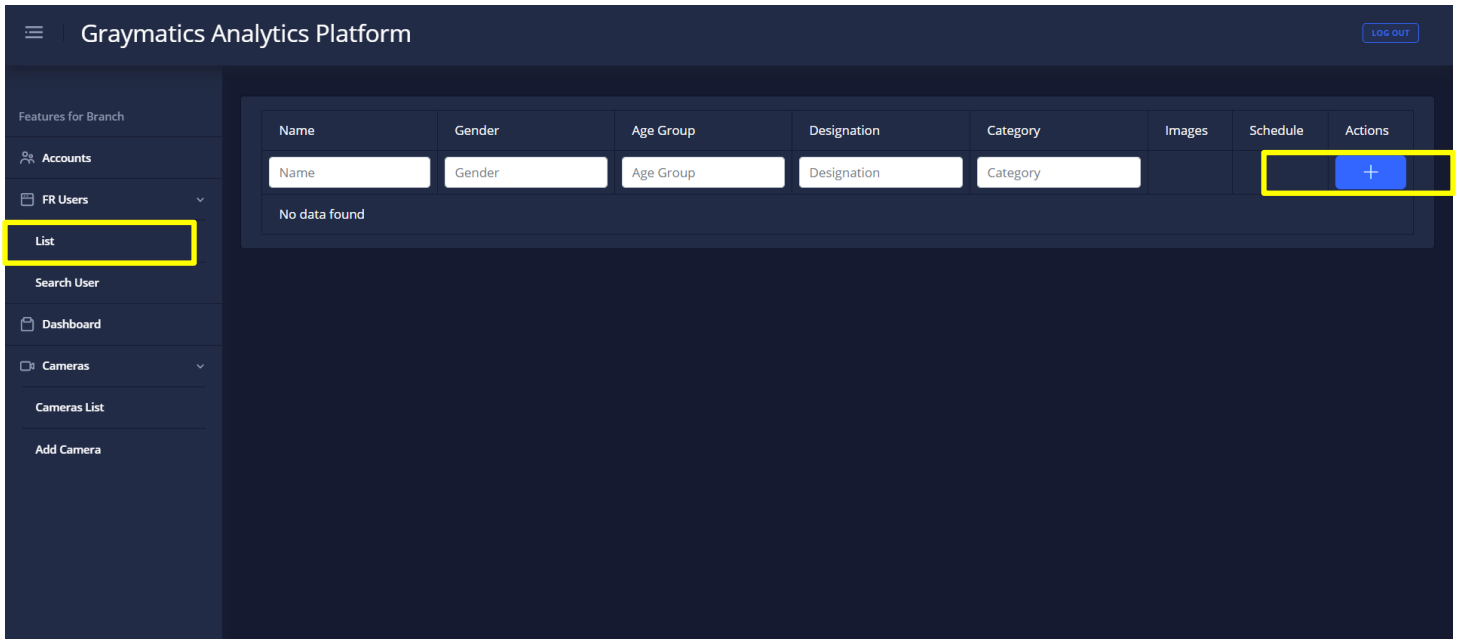
In the next screen, enter details of the user and click Save button



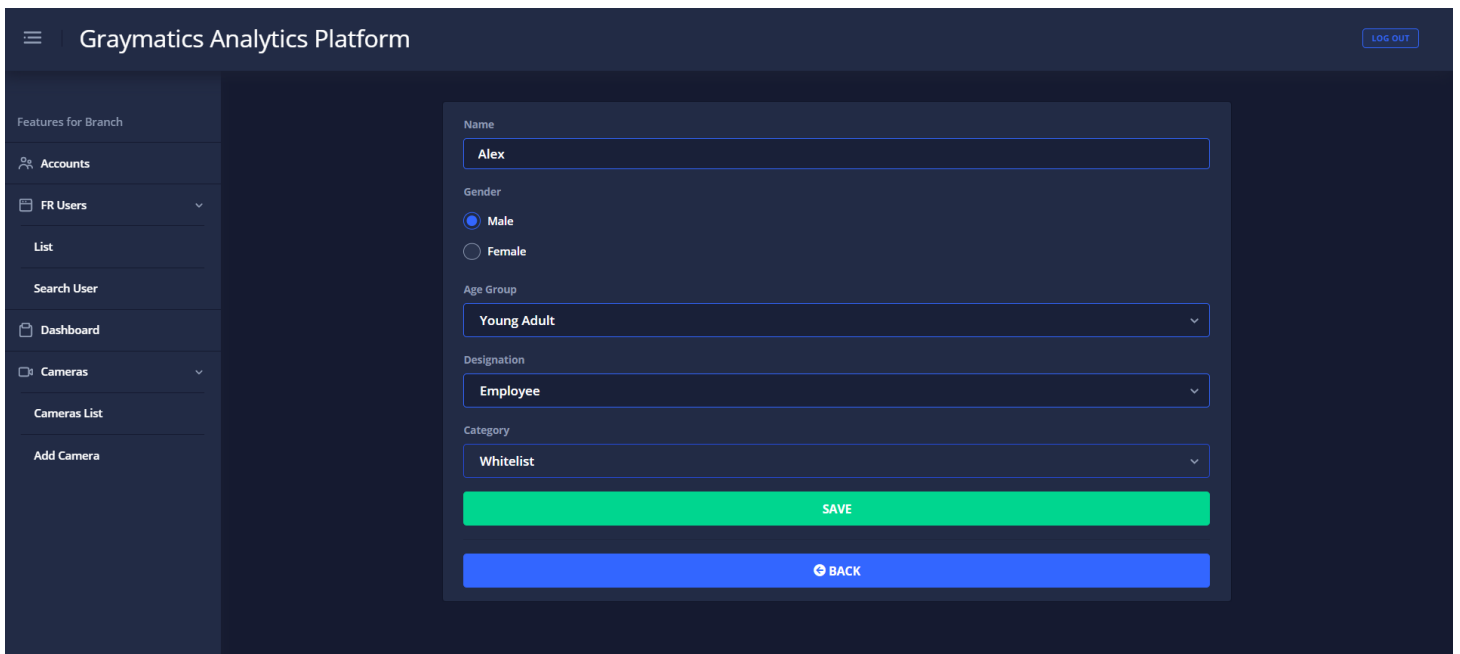
2.3.2 Set up Facial Recognition Details:

To access the list of users for Facial Recognition or set up new users, drop-down the FR Users from the menu and choose "List". To Add new users in the Branch, click the '+' icon

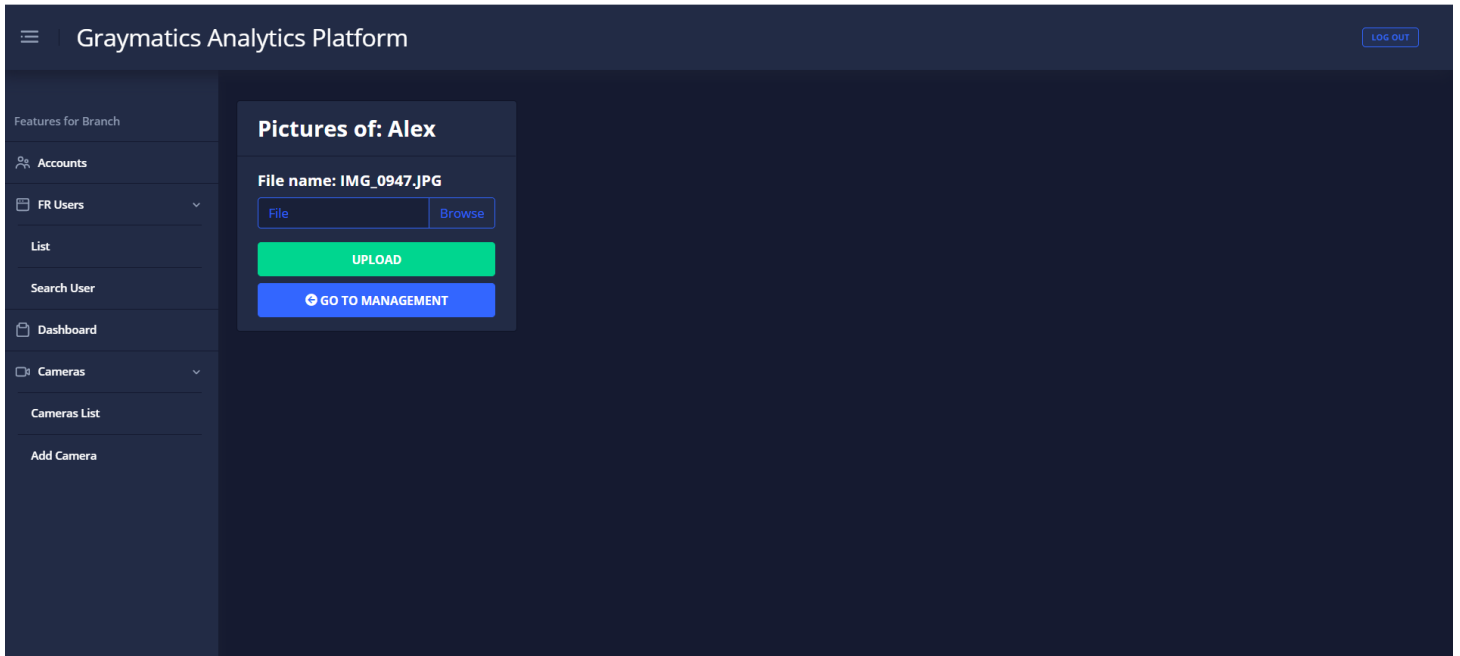
An example for an application like this is to detect traffic infractions under the UrbanVision product solution and identifying the individual responsible.



Enter Name and select Gender, Age group, Designation, Category (Whitelist/Blacklist) and save the details.

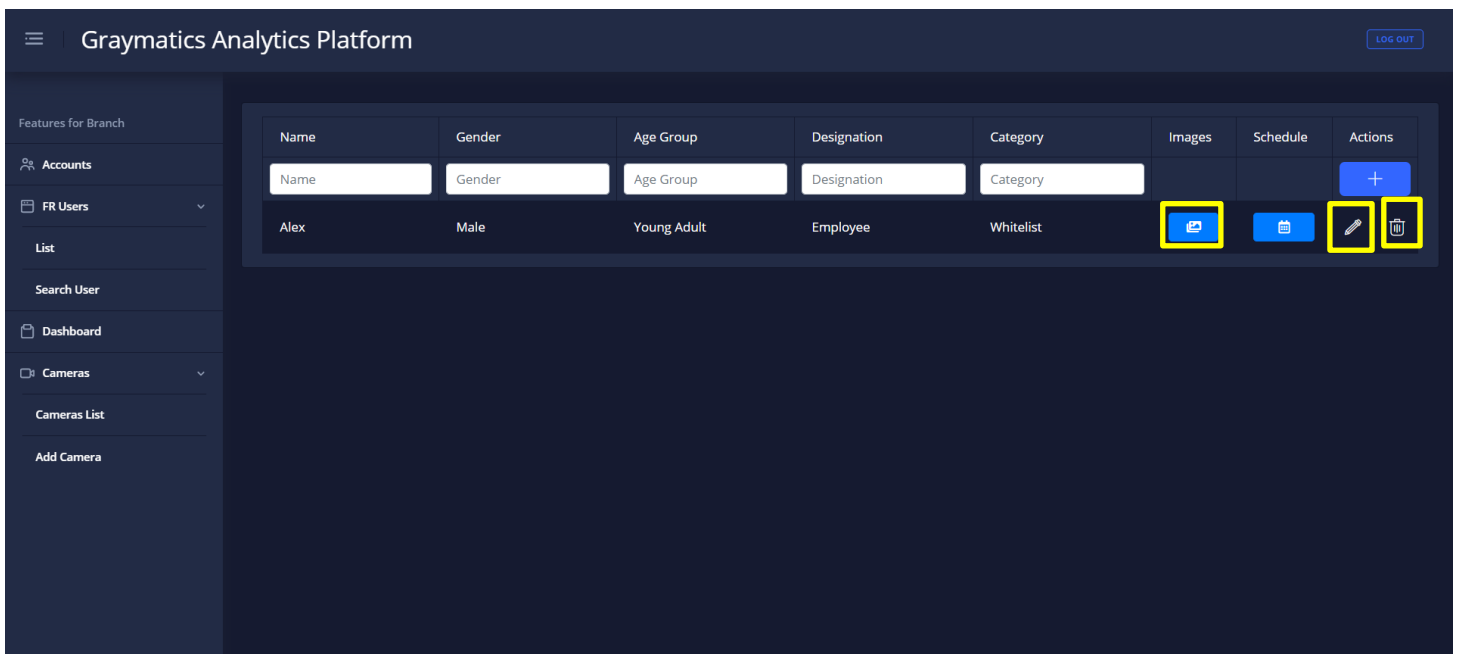


In the next screen, browse for the picture and upload the file



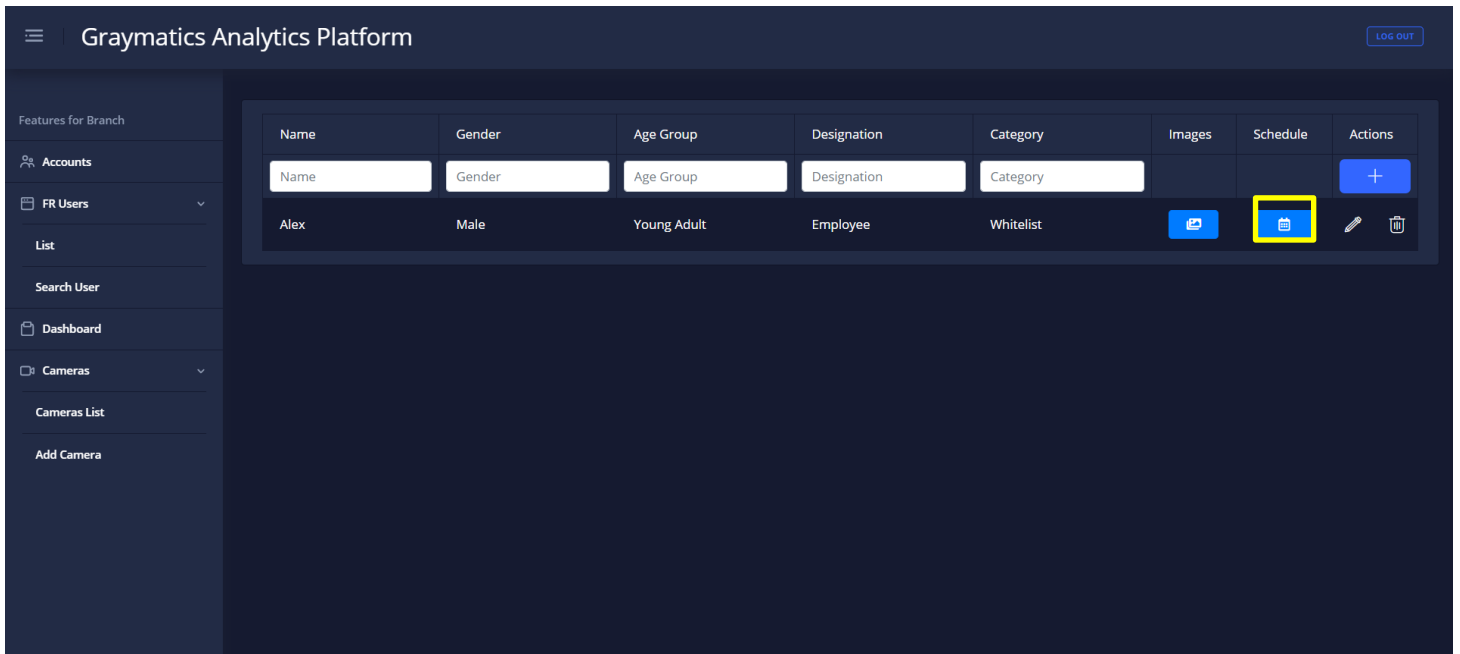
2.3.3 Edit Facial Recognition details

In the main screen, the user details are added. Add more pictures, Edit details or Delete the user by clicking one of the below buttons

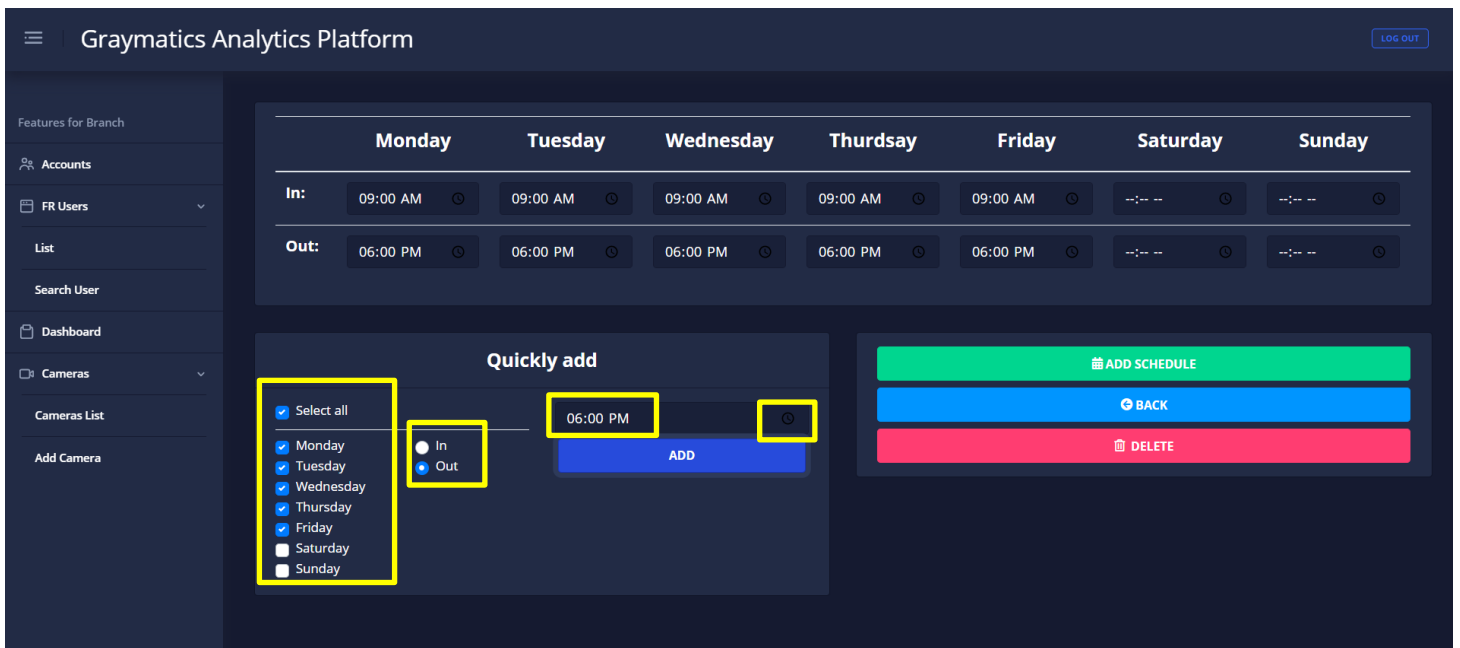


2.3.4 Maintain Schedule of Users:

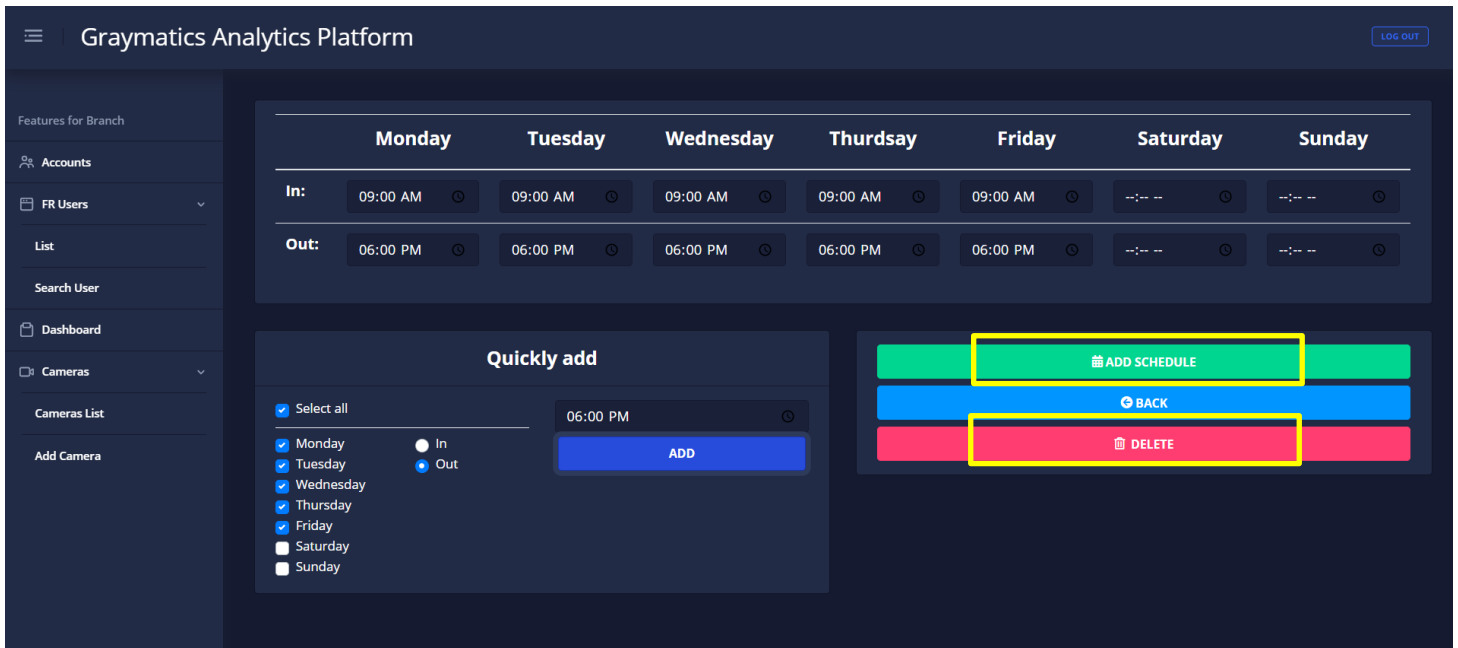
To Maintain the Schedule of a user, click the Calendar icon



To add schedule details, select the days, choose In or Out, type the time or choose from the Clock icon. Click the Add button to add the changes. Any modifications made, would overwrite the existing values.

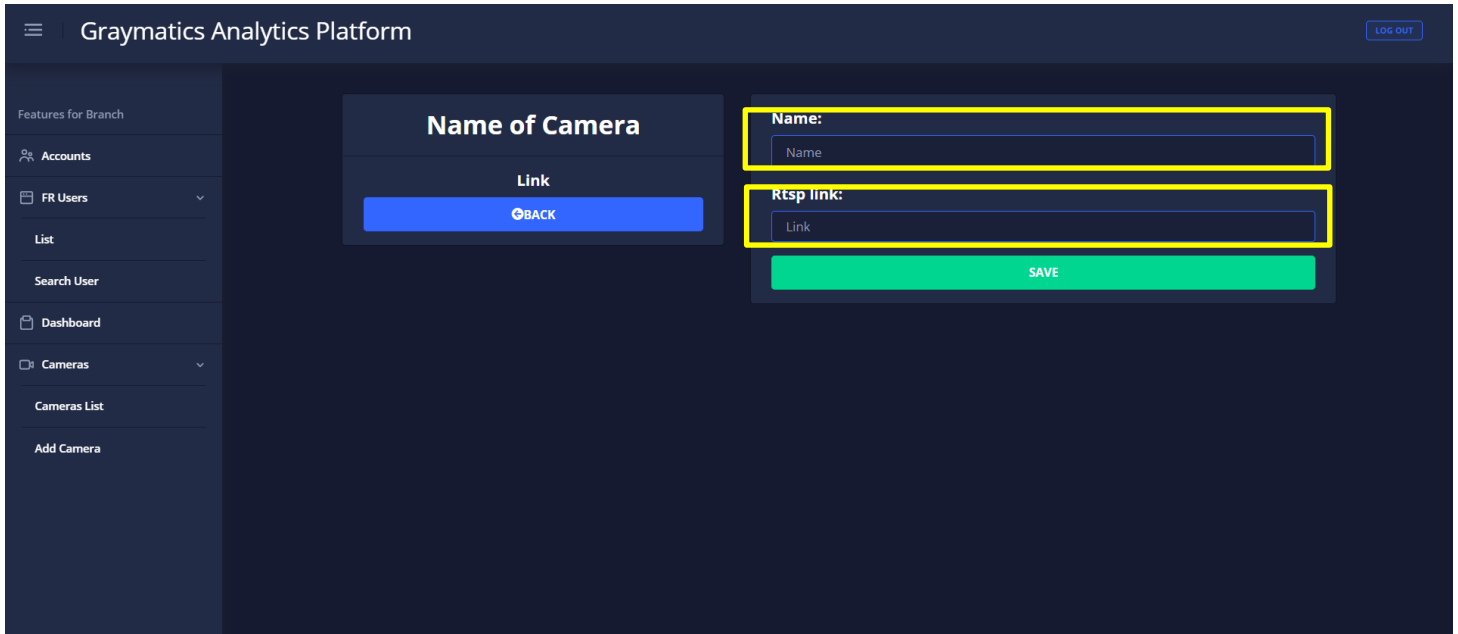


Click "Add Schedule" to save the changes. "Delete" to delete the schedule for the selected user



2.3.5 Add Cameras in the Branch:

To add camera to the Branch, drop-down the Cameras list in the menu and choose “Add Camera”. Enter Camera name (example: Doorway 1) and the RTSP Link for the camera



2.3.6 Add Analytics to the Cameras:

In the next screen, choose the Analytics to be enabled in the chosen camera.

Drop down the categories of Analytics. In terms of UrbanVision, an example – People related, Traffic

Management related etc.)

The screenshot shows the Graymatics Analytics Platform interface. On the left is a sidebar with navigation options: Accounts, FR Users, List, Search User, Dashboard, Cameras, Cameras List, and Add Camera. The main content area is divided into two sections: 'A) People related. 1 0' and 'B) Traffic Management related. 2 0'. Each section contains a table with columns for Status, Name, Rol, Confidence, and Save crops. In section A, 'Facial Recognition' is toggled off. In section B, 'Speeding Vehicle' and 'Banned vehicle detection' are both toggled off. A yellow box highlights the 'Add an specific area' button in the Rol column of the 'Facial Recognition' row. At the top right, there are buttons for 'SAVE AND BACK', 'SAVE', and 'BACK'. A 'LOG OUT' button is in the top right corner.

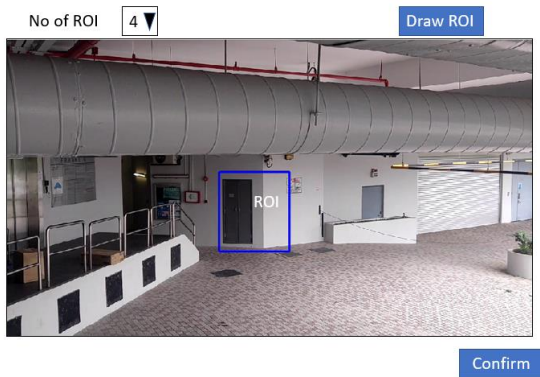
1) Toggle the required analytics

This screenshot shows the same interface as above, but with the 'Status' column highlighted in yellow for the 'Facial Recognition' row. The 'People related' count is now '1 1'. To the right, two configuration panels are visible: 'Speeding settings' with fields for 'Max. Velocity', 'From', and 'to', and 'Unwanted vehicle setting' with radio buttons for 'Car', 'Truck', 'Two wheeler', and 'Licence plate detector'. A 'Reset' button is also present.

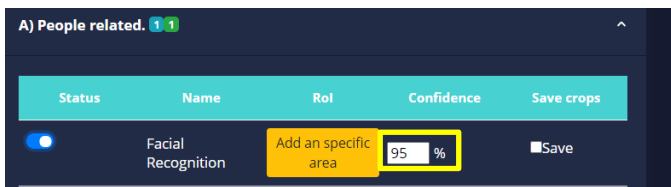
2) After toggling the Analytic, to add a specific Region of interest, choose “Add a specific area”

A close-up screenshot of the 'Facial Recognition' row in the 'A) People related' section. The 'Add an specific area' button in the Rol column is highlighted with a yellow box.

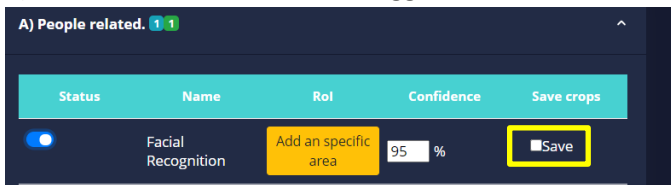
In the next screen, mark the area of interest from the feed. For instance, in this case, you could toggle the facial recognition analytic for access control within the UrbanVision solution.



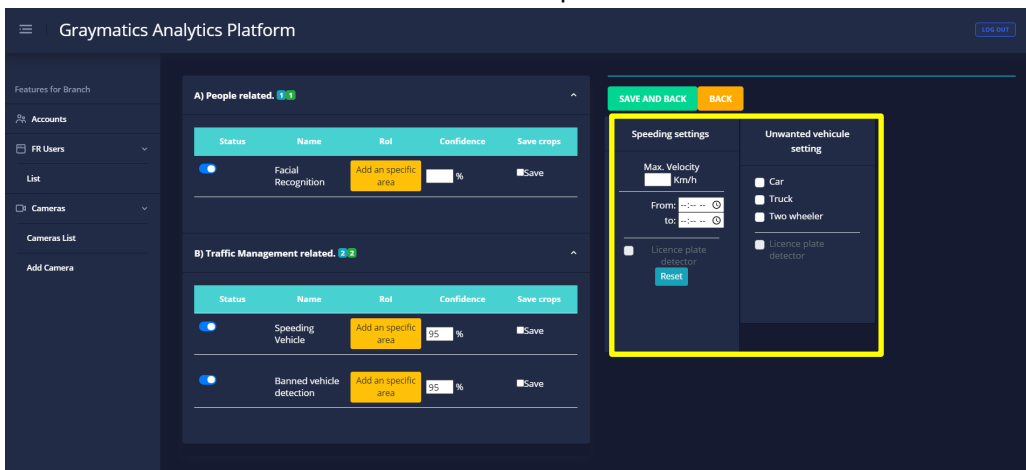
3) Choose Confidence level to set how accurate the readings are to be. The default level is 95%



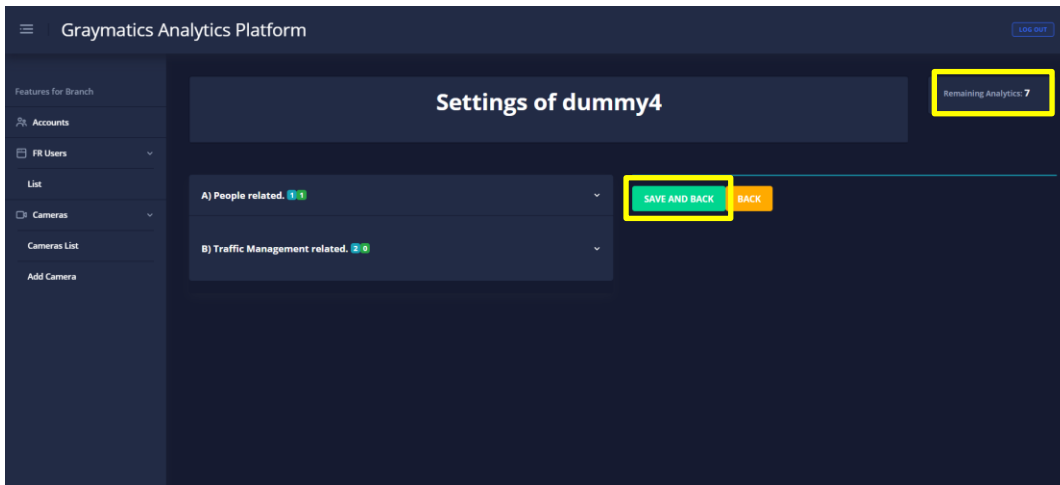
4) Select whether to save the flagged feeds.



5) Maintain additional parameters like Speed limit for Speed detection required vehicle categories etc. which is a feature included in the UrbanVision product line.

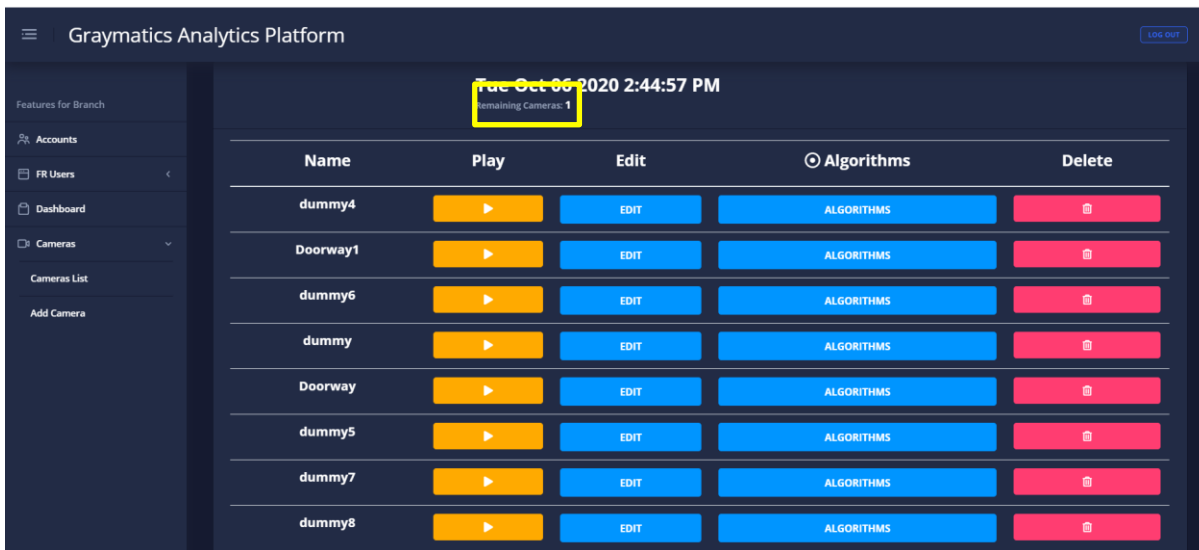


The “Remaining Analytics” section in the top-right, gives the number of remaining Analytics. Click “Save and Back” to see the list



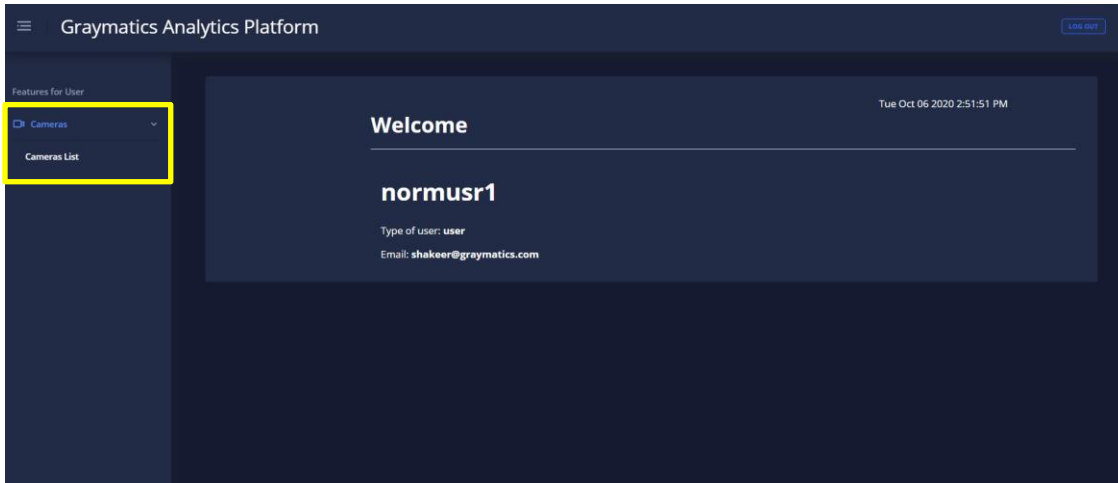
2.3.7 Edit Camera or Analytics details

The Cameras List has all the cameras. The “Remaining Cameras” section in the top gives the number of remaining cameras available for the Branch. Any changes required with cameras or corresponding Analytics can be made in this screen.

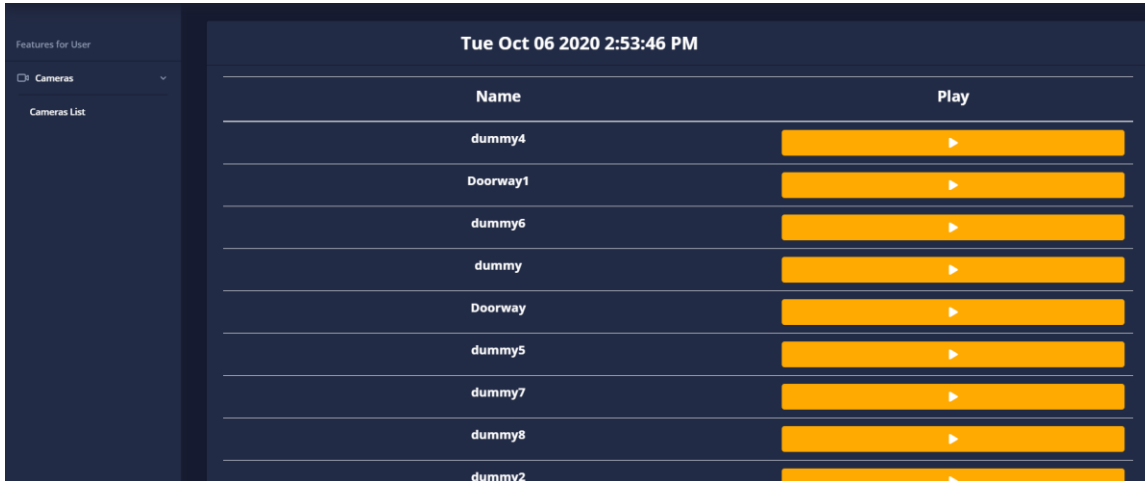


2.4 Regular User

Regular users can only audit the video feed of cameras. Choose Cameras List in the menu



Choose the feed to Play in the next page




2.5 Other common activities

2.5.1 View Camera Feed for UrbanVision

GRAYMATICS					Forensic Search	Reports	<Name>	
Search						10(8)	8(5)	15(10)
[Camera Feed Placeholder]					<Camera Name> <dd:mm:yy> <hh:mm:ss> Intrusion detected. Two unauthorised persons			
Camera Name					<Camera Name> <dd:mm:yy> <hh:mm:ss> 100 people has walked into the store today			
Camera Name					<Camera Name> <dd:mm:yy> <hh:mm:ss> Low lighting			
Camera Name								

2.5.2 Notifications panel for UrbanVision

GRAYMATICS					Forensic Search	Reports	<Name>
Camera: Location: Assign					10(8)	8(5)	15(10)
Notification text to be provided here					<Camera Name> <dd:mm:yy> <hh:mm:ss> Intrusion detected. Two unauthorised persons		
Event Video clip					<Camera Name> <dd:mm:yy> <hh:mm:ss> 100 people has walked into the store today		
					Intrusion detected. Female; Likely Age – 24-30; Caucasian		
00:05/10:00 Live Feed					<Camera Name> <dd:mm:yy> <hh:mm:ss> Low lighting		


2.5.3 Dashboard View

GRAYMATICS Configuration Forensic Search Reports Admin <Name>

Video ▾

Time ▾

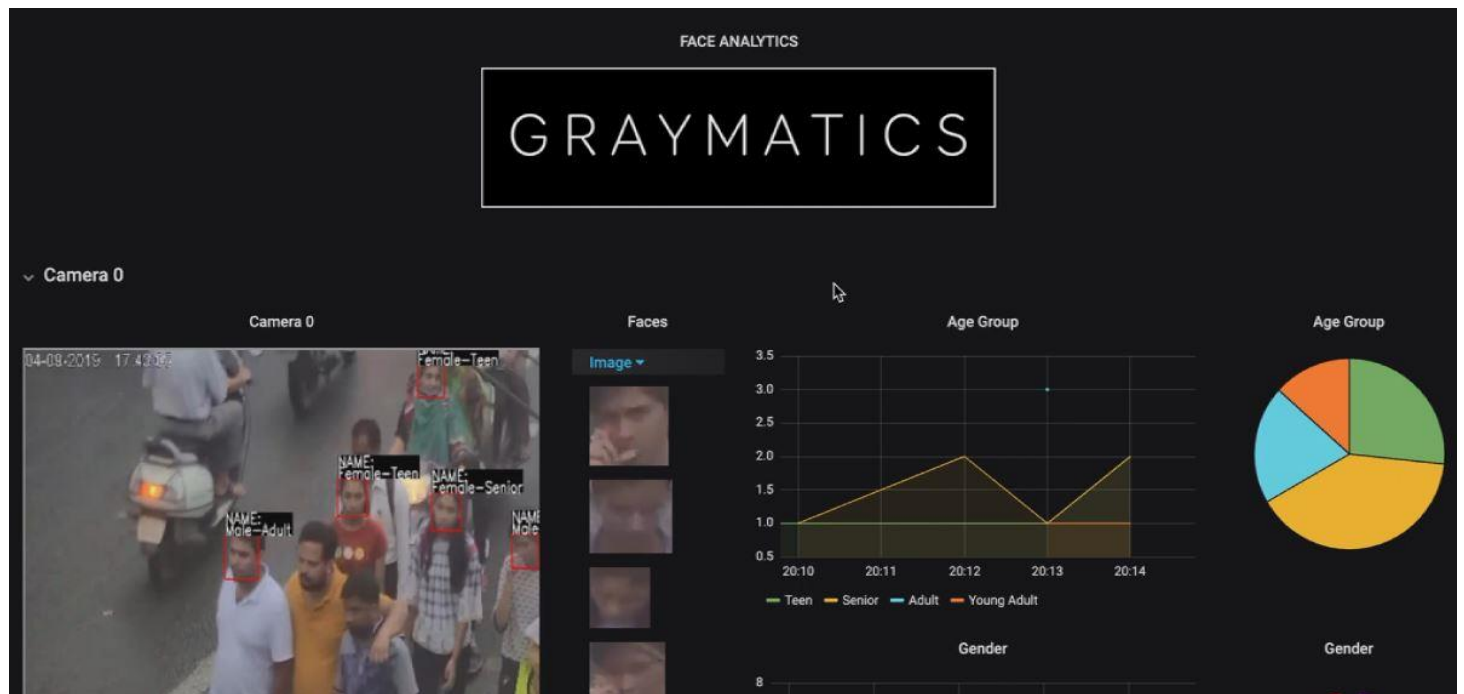
en

Search 

Search

2.5.4 Example of UrbanVision Analytics

Once the processes above have been completed, the client or admin user would be able to access the video feeds, notification panels, dashboard view similar to what is being demonstrated below.



Attached below are some of the most common analytics used for UrbanVision. Although we are open to customized solutions as well depending on the client's needs.

1. Facial recognition
2. Count on the number of vehicles
3. Identifying the type of vehicles (eg. Bicycle, cars, trucks)
4. Illegal parking and time spent
5. Wrong turn
6. Illegally driving in the bus lane
7. Detecting traffic infractions such as no helmet on a motorbike or bicycle
8. Detecting mask compliance
9. Detecting social distancing measures
10. Counting the number of people in an area
11. Vandalism detection
12. Violence detection
13. Abandoned objects detection
14. Notifications for rubbish or garbage on the streets
15. Intrusion alert for specific areas
16. Accident detection