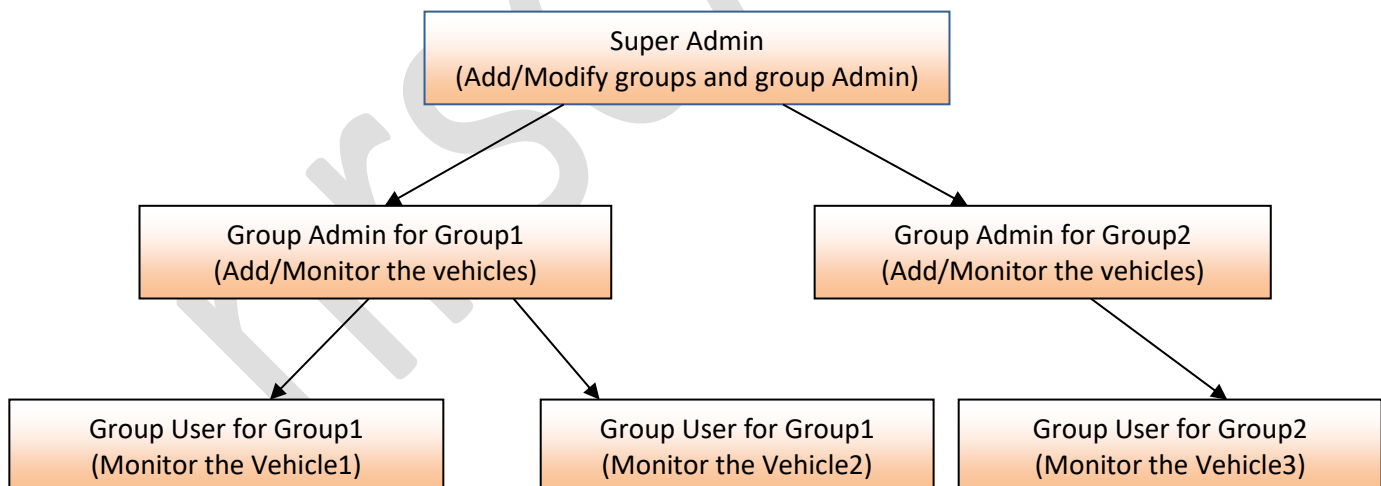# 1. Introduction

The prevalence of economical GPS enabled smart phone devices makes it possible to implement individual/vehicle tracking functionalities, and integrating with near real time data transfer and data management at server side provides maximum benefits in terms of visualization, monitoring and management. This would enable the officials to make right decisions and provide appropriate re-deployment Instructions as and when required in the fleet management.

The different components constituting the Smart Tracking application is as follows:

a) Mobile app: Mobile Android application deployed and run in the background on the mobile device to be carried on the vehicles, which communicates location information to the Bhuvan server.

b) Server application: Server side application on Bhuvan server to acquire data from vehicle-borne/individual devices& geo-processing.

c) Browser app for visualization: Browser based application on Bhuvan portal for visualization and query with authenticated access for monitoring of vehicles location information.

2. User Management

Role based access is imposed in Smart Tracking i.e. Super admin, Group admin, Group user in better control of the application. Super admin will be assigned to each organization. Super admin can create groups and assign the group admin to newly created group. Group admin can add/Monitor the vehicles and assign the group users to monitor the vehicle. The pictorial representation of hierarchy will be

```
                    ┌─────────────────────────────────┐
                    │          Super Admin            │
                    │ (Add/Modify groups and group Admin) │
                    └─────────────────────────────────┘
                      /                             \
   ┌──────────────────────────────┐    ┌──────────────────────────────┐
   │    Group Admin for Group1     │    │    Group Admin for Group2     │
   │    (Add/Monitor the vehicles) │    │    (Add/Monitor the vehicles) │
   └──────────────────────────────┘    └──────────────────────────────┘
        /                    \                              \
┌──────────────────┐ ┌──────────────────┐    ┌──────────────────┐
│ Group User for   │ │ Group User for   │    │ Group User for   │
│ Group1           │ │ Group1           │    │ Group2           │
│ (Monitor the     │ │ (Monitor the     │    │ (Monitor the     │
│ Vehicle1)        │ │ Vehicle2)        │    │ Vehicle3)        │
└──────────────────┘ └──────────────────┘    └──────────────────┘
```

3. Steps to Add/Monitor the Vehicle for a Super Admin

3.1 Click on *Explore* option in Smart Tracking index page.

(https://bhuvan-app1.nrsc.gov.in/vehicletracking/)
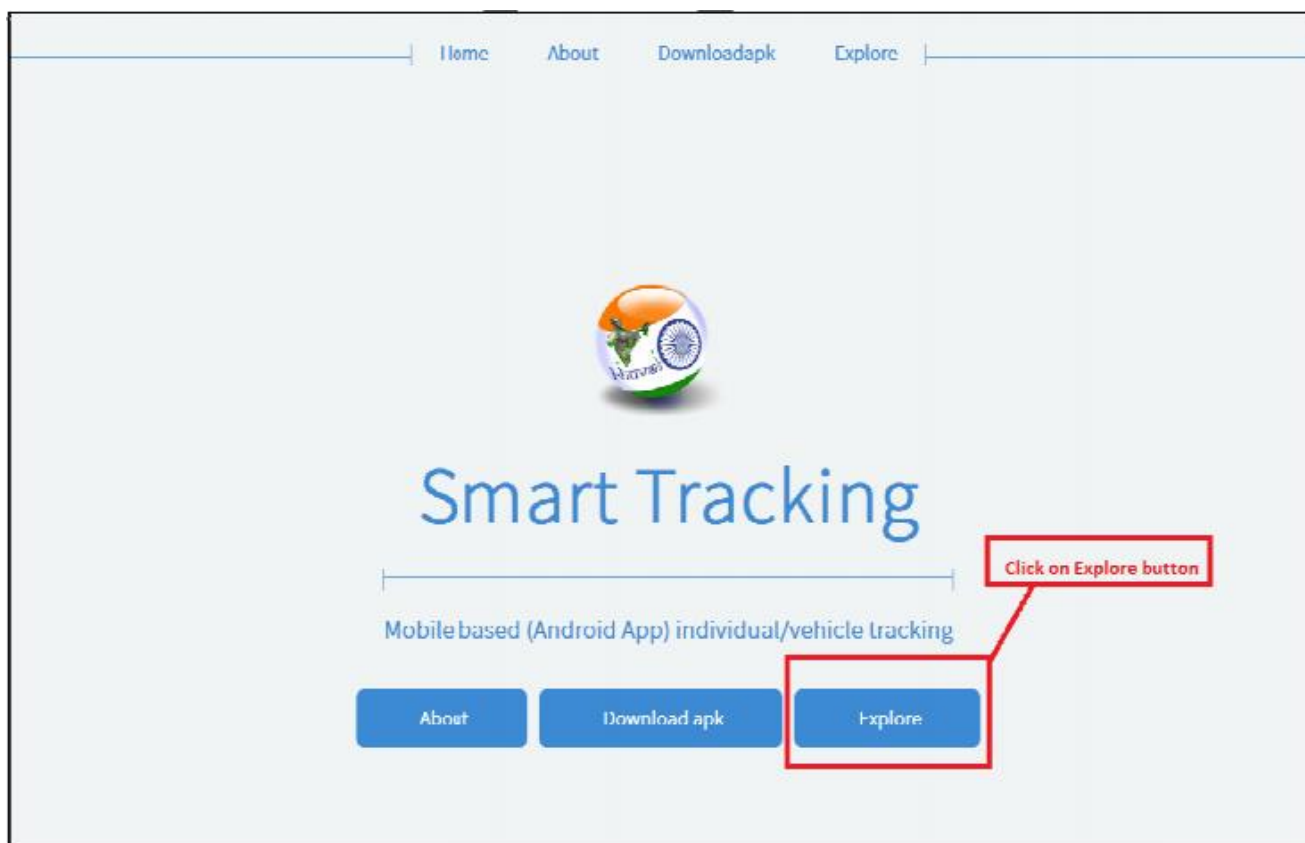
3.2 Once the Super Admin permissions are enabled for your bhuvan credentials, Login to smart tracking application with your bhuvan credentials. If not, register using the URLhttps://bhuvan-cas1.nrsc.gov.in/WebClientProfile.php?r=https://bhuvan-cas1.nrsc.gov.in/cas/login in Bhuvan and share your user name by mailing to bhuvan@nrsc.gov.in with intended use to become super admin.

3.3 Once you successfully login to Smart Tracking, Initial Screen appears for Super Admin as
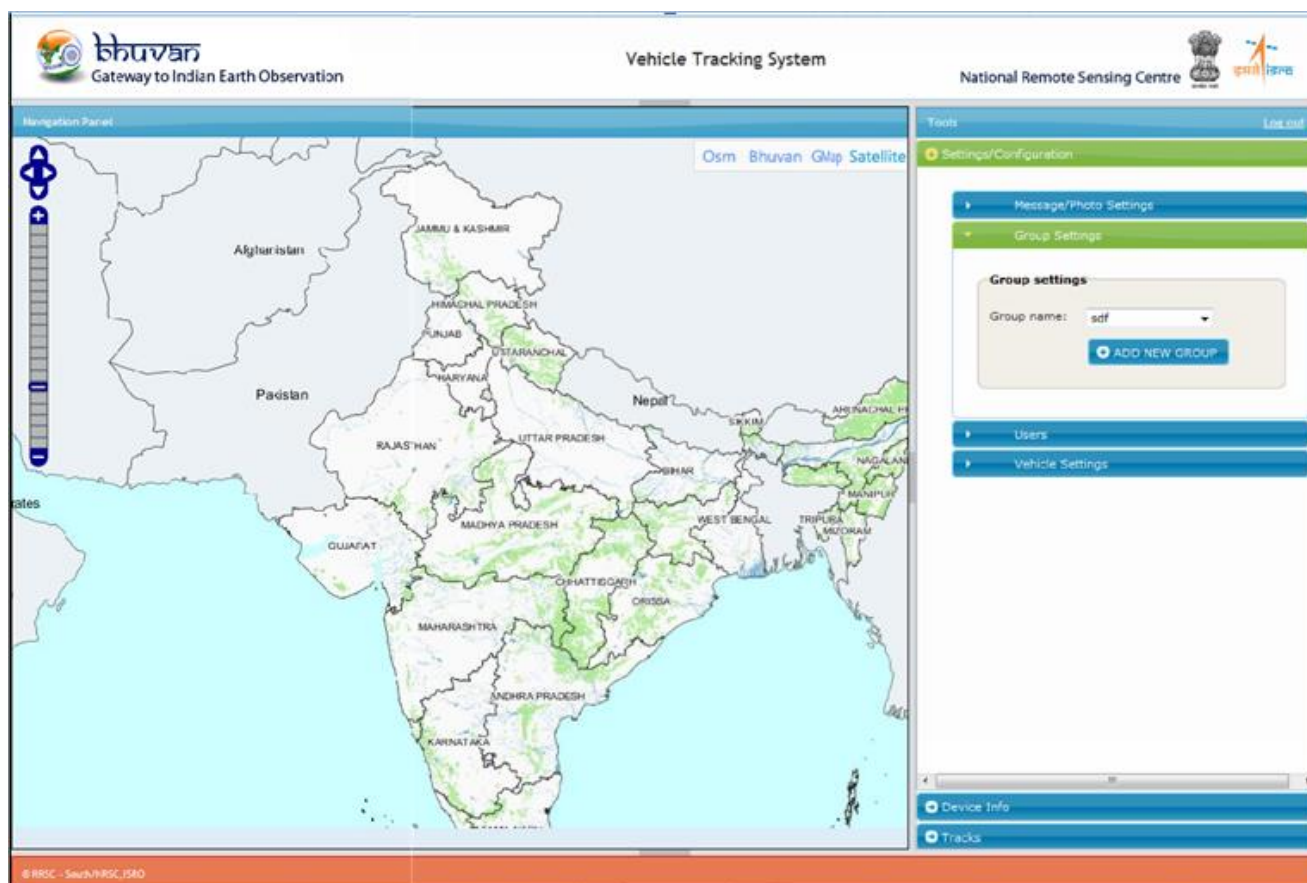
3.4 After You Login, in right panel --> Settings/Configuration--> Group Settings --> Add New Group and fill the group information. Here group name should be unique and then click on save button to add group.

3.5 Each user (Group Admin/Group user) should register with bhuvan and raise a request to access the application. Steps to be followed to enable the request are

- Go to Link:**https://bhuvan-app1.nrsc.gov.in/2dresources/smarttracking/enableRequest.php** and login with bhuvan credentials.
- Select the user type(Group Admin or Group User)
- For Group Admin --> Select the Organization
- For Group User --> Select the Organization Name and then corresponding the group
- Click on Enable to raise the request.

3.6 After raising the request, Super admin can assign the user (Group Admin) for that Group. Right panel --> Settings --> Users --> Pending Users.
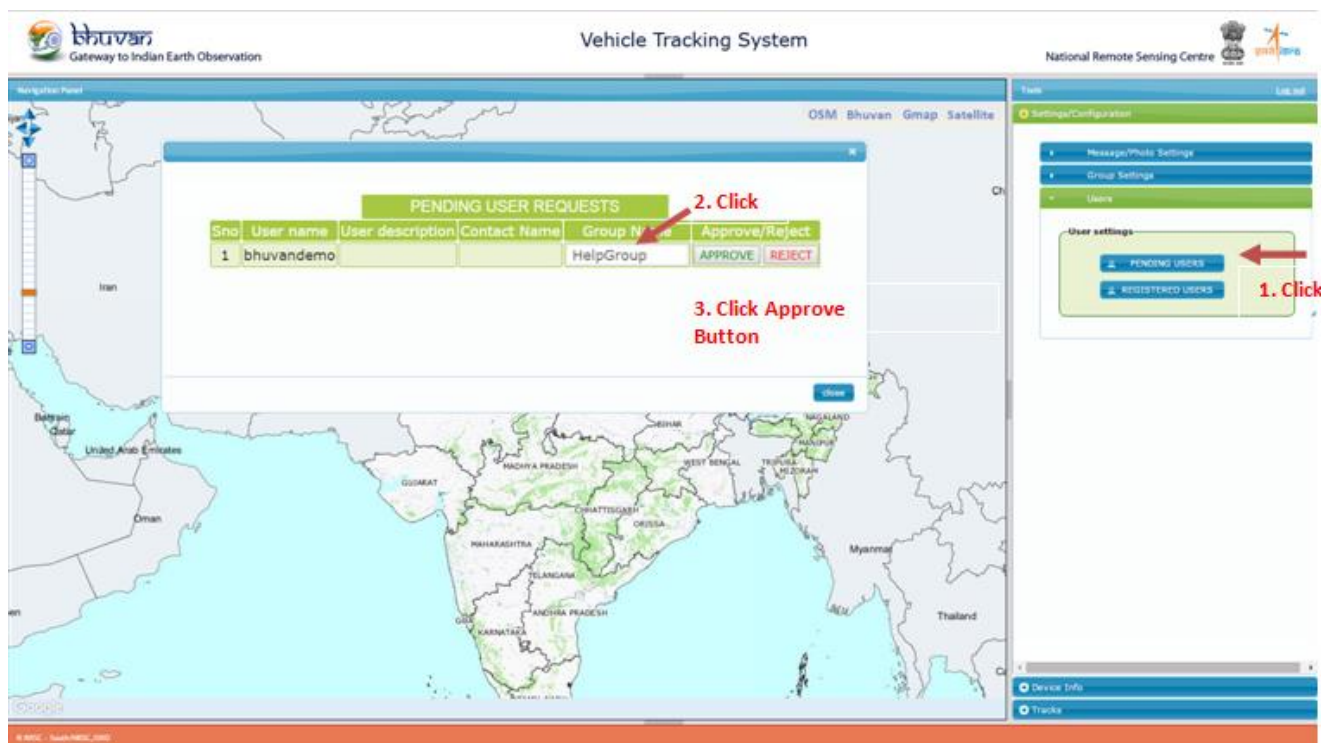
3.7 Download the latest apk and install it into the mobile to track (Please uninstall if already old apk installed). Fill the basic details for the first time (like Group Name, Vehicle Details). Group name should be given correctly and then submit the vehicle details for approval for tracking.

3.8 To approve the vehicle after sending request from mobile, Go to web application (Login with corresponding Group Admin), Right panel --> Settings/Configuration --> Vehicle Settings --> Pending Devices and click on Approve Button to start track the vehicle. User can add any number of vehicles under each group.
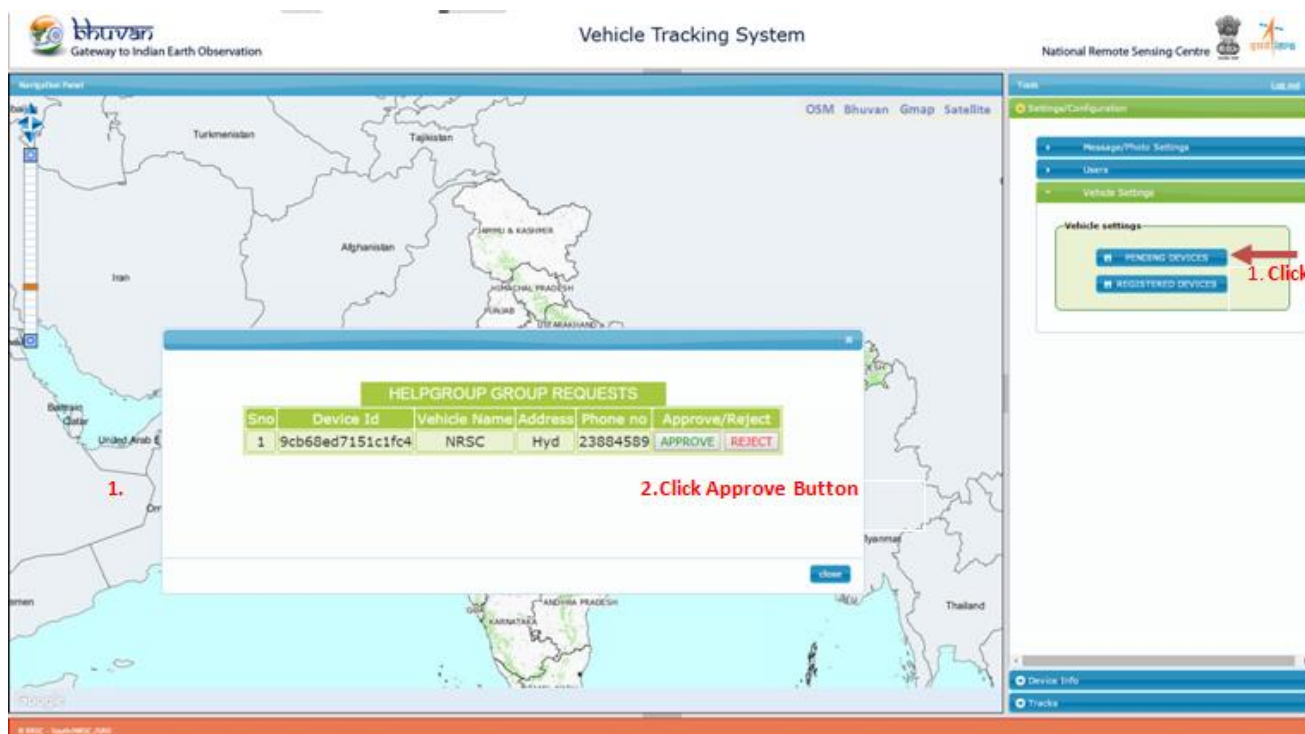
3.9 After approval of the vehicle, Steps to Track the vehicle

- Open the app from mobile, invoke for start Tracking (Click Start Tracking) and prompts for new route or click continue to continue the previous route idf the user tracked already
- For messaging (optional) - click on message tab and enter the message to send
- For picture (optional) - click on picture tab, select camera for capturing photo or select photo send the existing photos.

3.10   After sending the Job from Mobile, to view the track online Right panel-->Device info --> Select the vehicle to track.
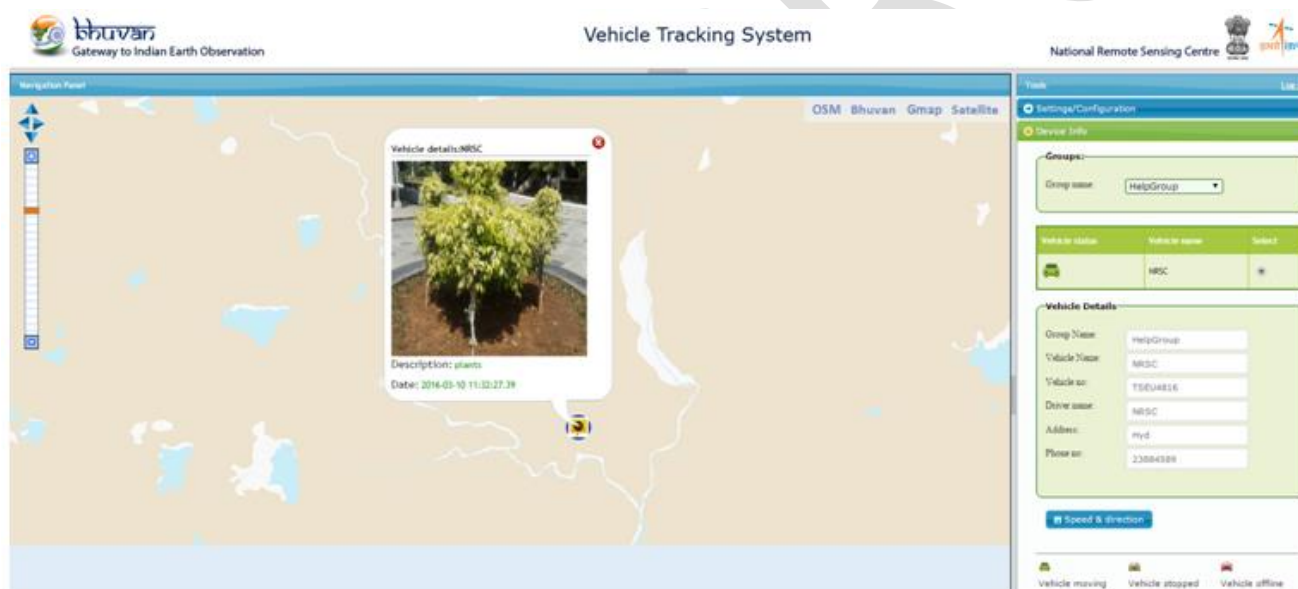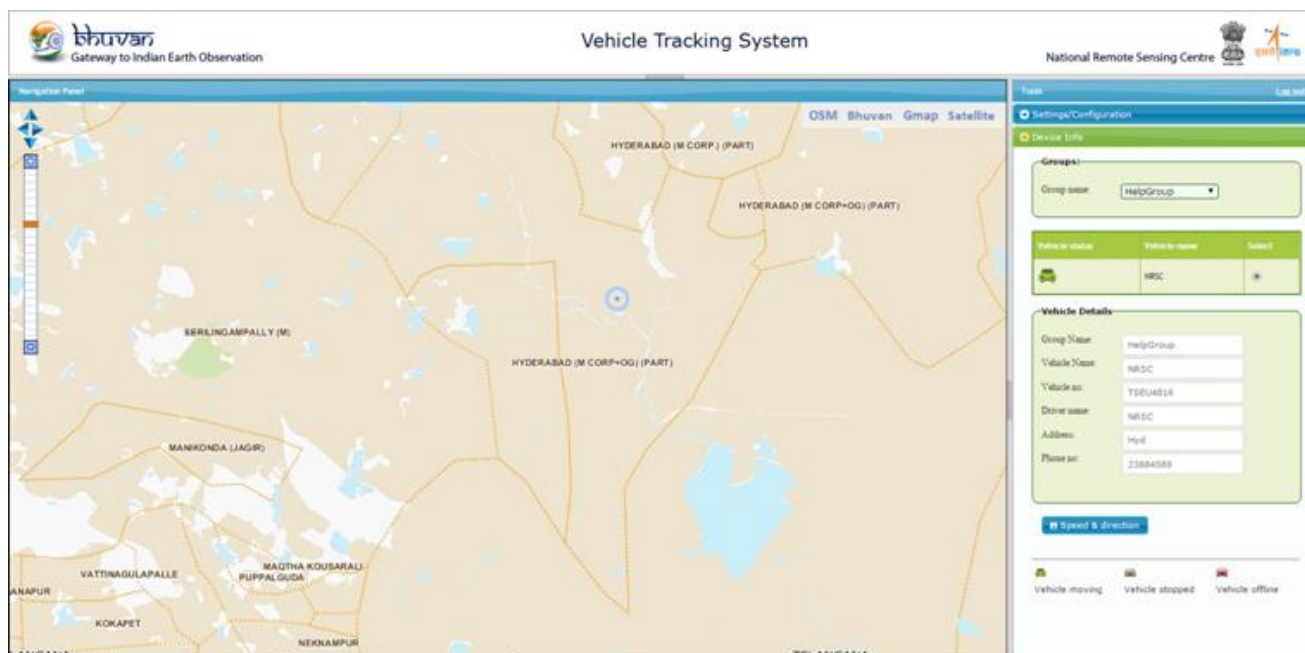
Visualizing the Online sent Photographs

3.11   To view the history of tracks using Right Panel-> Track --> Select the period to track after finishing the track.