User Manual
demo iPetrol web

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User Manual

Introduction

Ipetrol is a web system that allows monitoring, control, monitoring and data collection of petrol stations.

Requirements

The application requirements are:
- Web browser installed.
- Must be registered in the system.

Main funcionalities

The system allows following features to one or more petrol stations:
- Receiving alarms about events of the petrol stations. There are three types of alarms:
  - *Error* (red).
  - *Info* (blue).
  - *Warn* (yellow).
- Allows different types of behavior for alarm receiving. According to the alarm shall act in one way or another::
  - Nothing is done.
  - Sent via email.
  - Its sent by email if not resolved within a specified time.
  - Users higher level are informed of lower-level users have not received the alarm.
- The alarm will affect one or more objects of the Petrol Station. The objects are as follows:
  - Pumps.
  - Tanks.
  - POS.
  - Price sign.
  - Domotic
  - Hardware.
  - iPetrol.
- Monitoring of the tanks. The information available is the total capacity, volume, level, the water volume and temperature..
- Monitoring pumps. The available information is each fuels and their remaining liters. Furthermore, pumps status, liters sold today and the turnover.
- Monitoring various domotic element such as lights, doors, temperature, electrical switches …
- Control over domotic elements such as lights, doors, electrical switches …
- Monitoring of network elements such as cameras, alarms, NAS, POS and switch among others.
- Fuel prices inquiry.
- Real-time display from cameras.
- Access to the recordings of the cameras and creating videos.
- Inquiry of liters sold in predefined time ranges or custom.
- Comparison of liters sold from several petrol stations.

- Getting rankings with respect to nearby petrol stations, as well as the price difference with respect to our petrol stations.

System Access

IPetrol is accessible via an URL such "*http://IP*". The IP is the machine where the application is installed. After entering the URL in the browser will display a login panel where you enter your "*login*" and "*password*". You can also select the language you want to work. Below is the home screen::
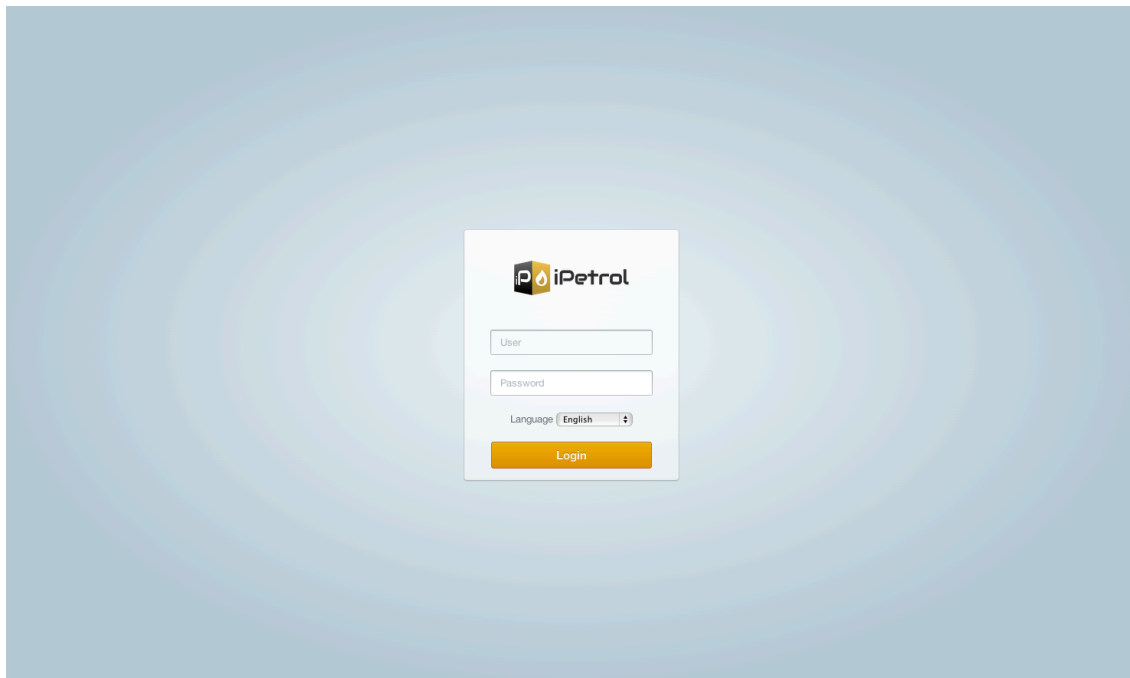
Picture 1. System acces.

System monitoring

The monitoring system is shown on the first screen once authenticated to the system. The main screen consists of 3 parts:
- Gas stations list: where the user can select the station you want to see.
- Objects of the petrol station: where the user can see the items having selected the petrol station.
- Notifications: where the user can see the notifications of the petrol stations.

Gas stations list

At the top of the screen you have the general options bar available. User gas stations list available are displayed when you "*click*" on the "*Gas stations list*" on the left in the menu bar. Below them, you have the list of deployed petrol stations..
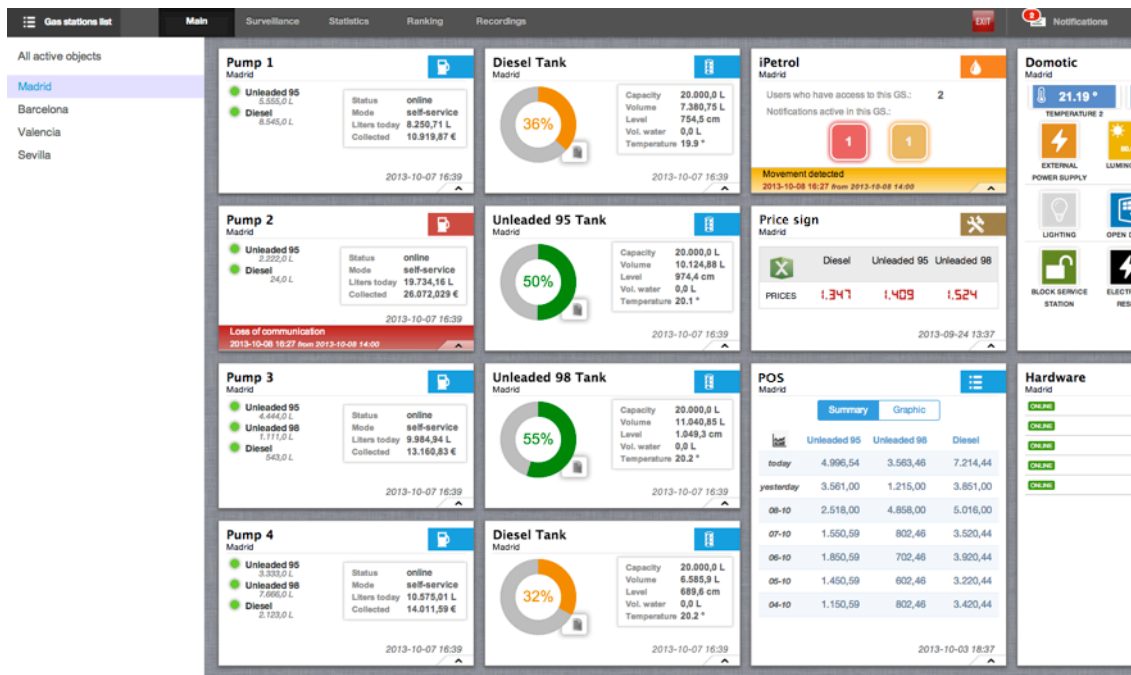
Picture 2. User gas stations list available.

The petrol stations demo are Madrid, Barcelona, Valencia and Seville. When you "*click*" on any of them, the system will display the objects associated with the Petrol Station.
In the list you can see the option "*All active objects*". In this case the "*click*" will display all objects of all petrol stations that have some notification type Error or Warn.

Picture 3. All active objects.

Notifications

At the top of the screen you can see the general options bar available. Notifications list available are displayed when you "click" on the buttom "Notifications" on the right in the menu bar. Below it is the list of notifications.
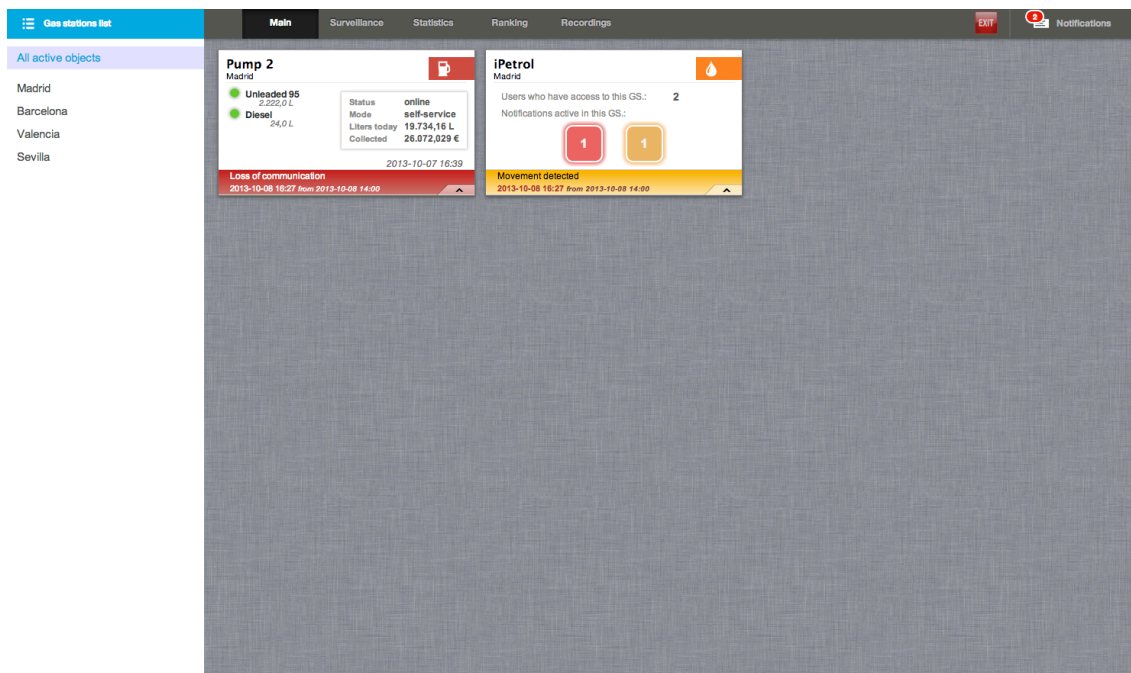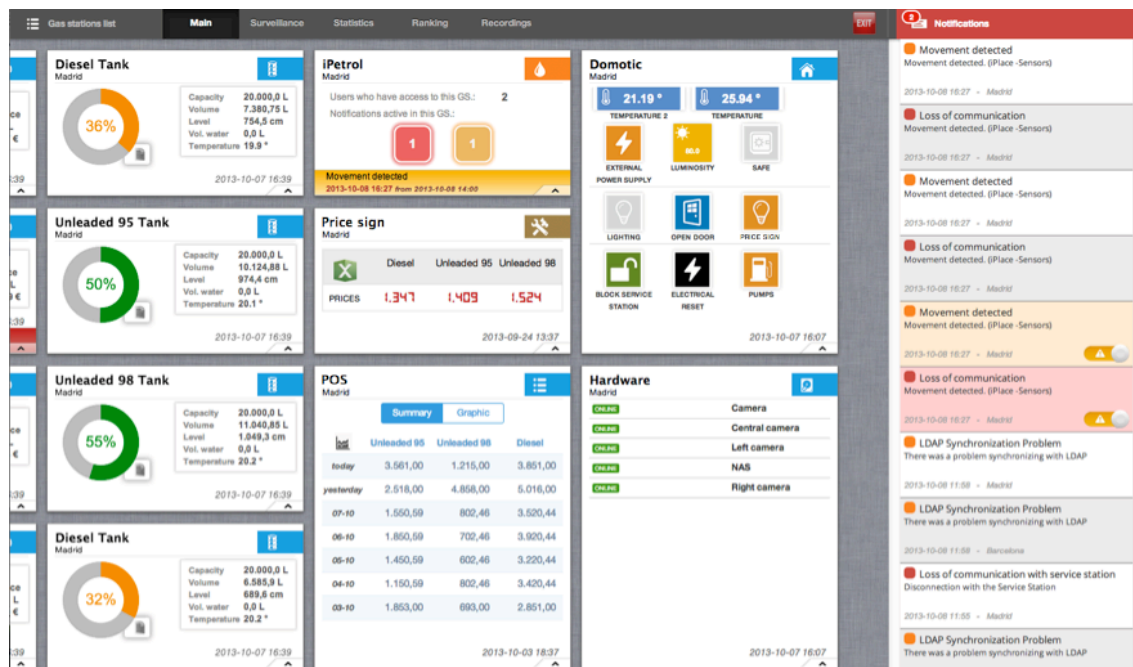

Picture 4. User notifications list.

To the left of the button "*Notifications*", there is a red balloon with the number of notifications active at all times.

Picture 5. Active notifications counter.

In the list you can see which active notifications are red or yellow depending on the type of notification.
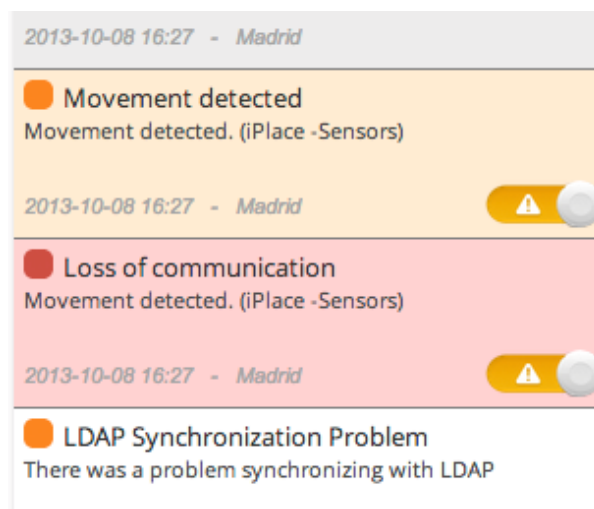
Picture 6. Active notifications.

The buttons along the warning triangles are used to clean the notification. When cleaning the notice ceases to be active.
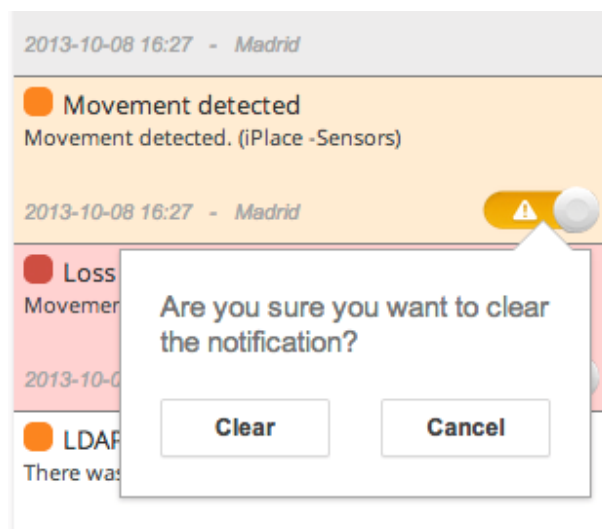
Picture 7. Clear the notification.

That notification is clean does not mean that the problem is solved, only that the user has set as solved.
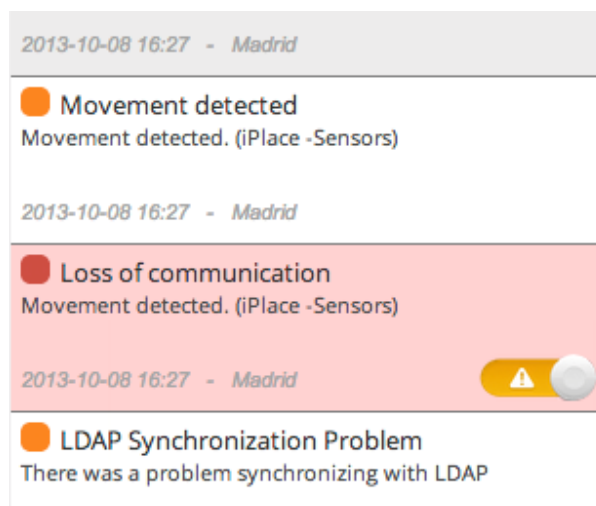
Picture 8. Notification cleaned.

Petrol Station Objects

In the central part of the screen you can see from the selected petrol station, all the objects available.
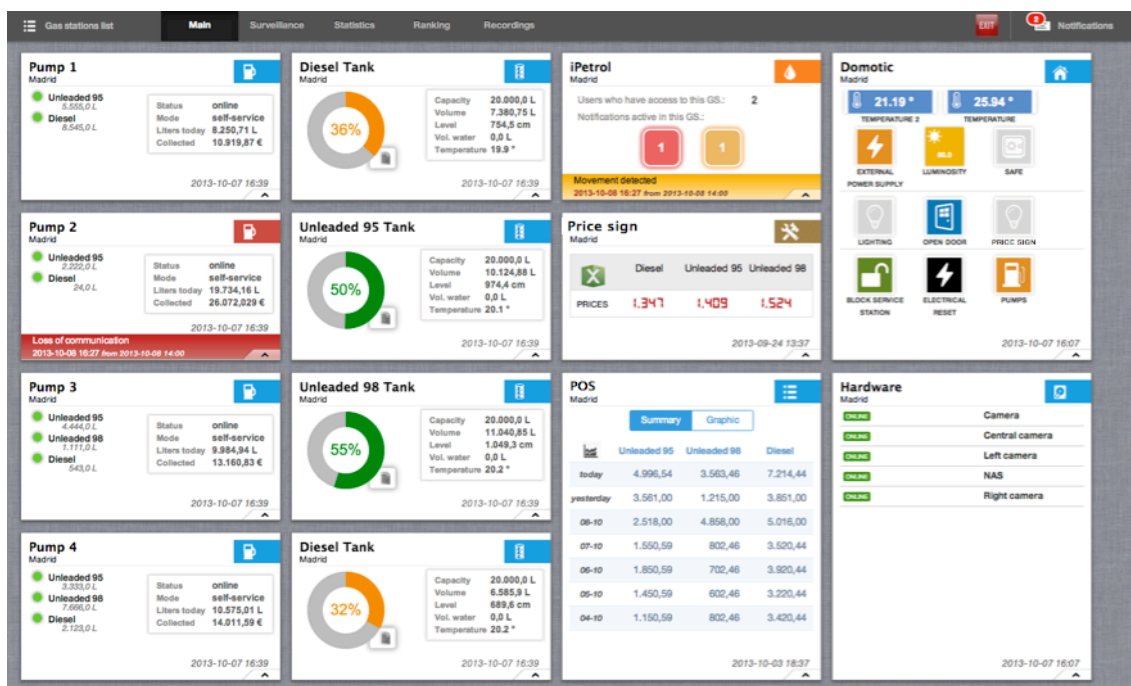
Picture 9. Objects of the Petrol Station.

Pumps
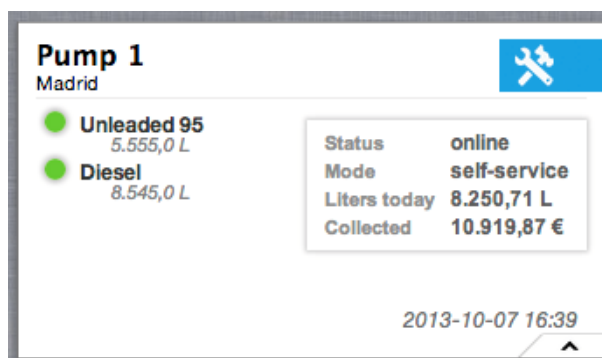
Picture 10. Object pump.

As you can see in the picture above the object "*Pump*" you have the following information:
- Fuels list available. Besides using green or red indicator indicates whether operating or not.
- The pump status if it is operational or not (online / offline), the mode of operation (self-service ...), liters sold today and the billing.

Also, at the bottom right you can see the update date of the information listed above.

Tanks
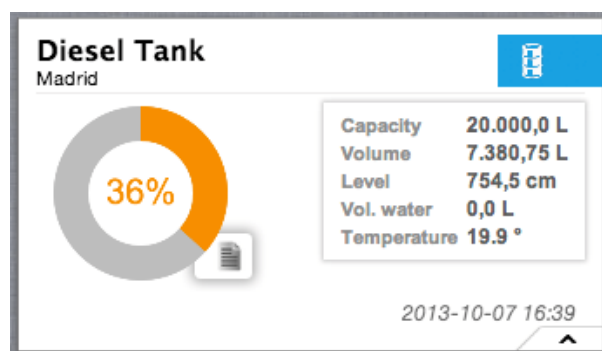
Picture 11. Tank object.

As you can see in the picture above the object "Tank" has the following information:
- Percentage remaining in the tank.
- The capacity, volume, scope, the amount of water and the temperature of the tank.

Also, at the bottom right you can see the update date of the information listed above.

When you "click" on the icon of the "file", beside the percentage, we can see the tank loads such you can see below:
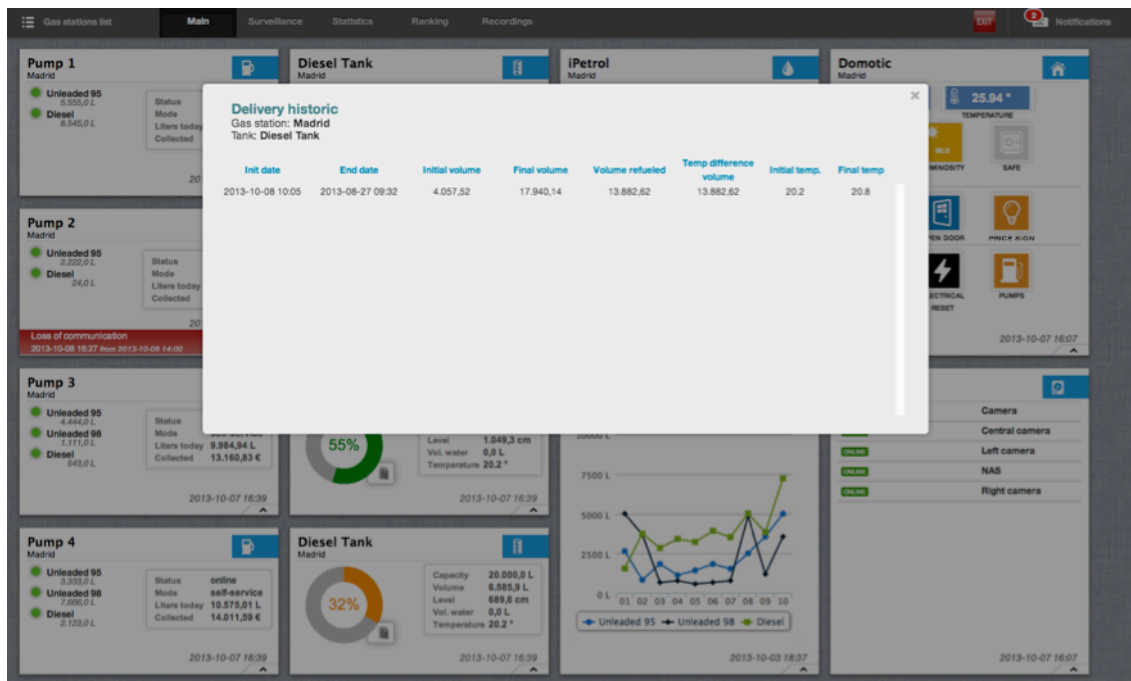
Picture 12. Historical load.

iPetrol
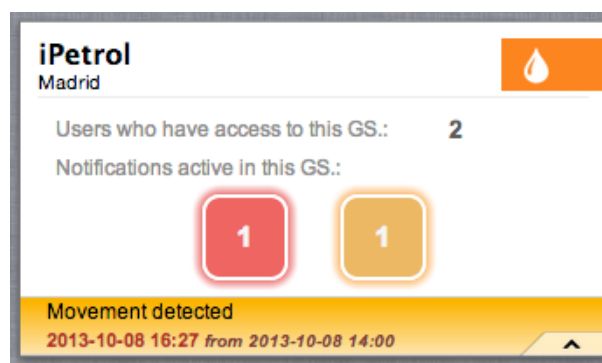
Picture 13. iPetrol object.

As you can see in the picture above the object "*iPetrol*" includes users general information who have access to this PS and it is count active notifications in the system classified by the type of notification. The red counter indicates the number of alerts of type Error. The yellow counter indicates the number of alerts *warn* type.

Price sign
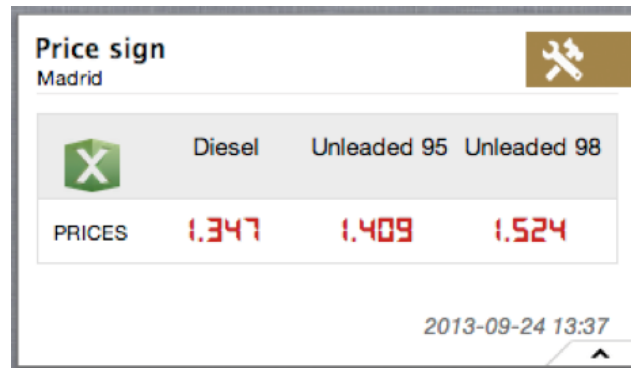
Picture 14. Price sign object.

As you can see in the picture above the object "Price sign" includes information on fuel prices in the petrols stations. Also, at the bottom right you can see the update date of the information listed above.
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POS
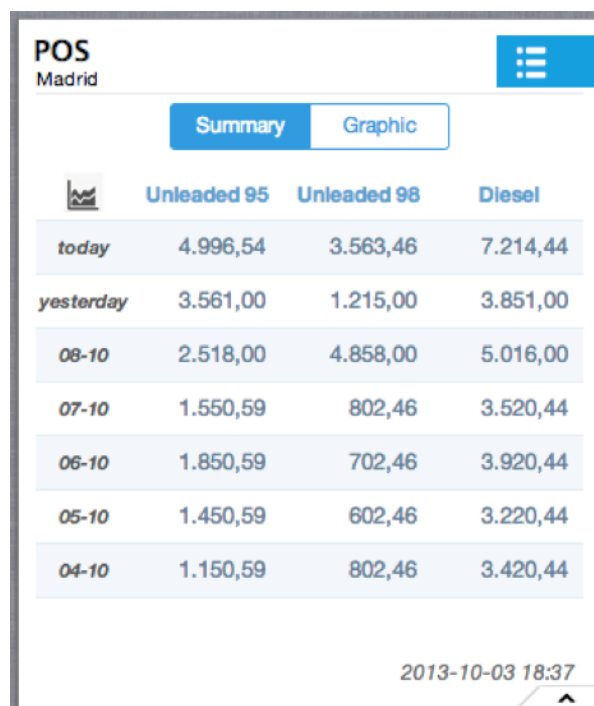
Picture 15. POS object.

As you can see in the picture above the object "*Pos*" includes information on fuel liters sold in the gas station in summary form. This information is available when you "*click*"

on the button "*Summary*". Also, at the bottom right you can see the update date of the information listed above.
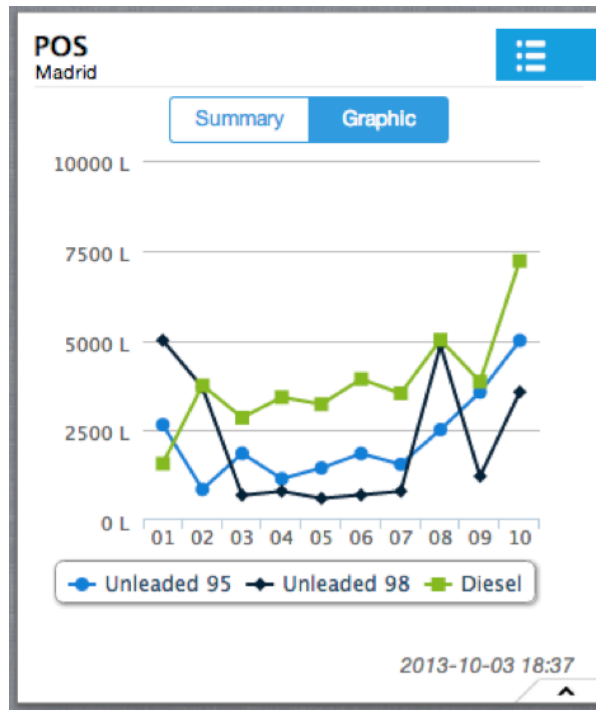
Picture 16. POS object.

As you can see in the picture above the object "*Pos*" includes information on fuel liters sold in the petrol station as a graph. This information is available when you "*click*" on the buttom "*Graphic*". Also, at the bottom right you can see the update date of the information listed above.

Domótica
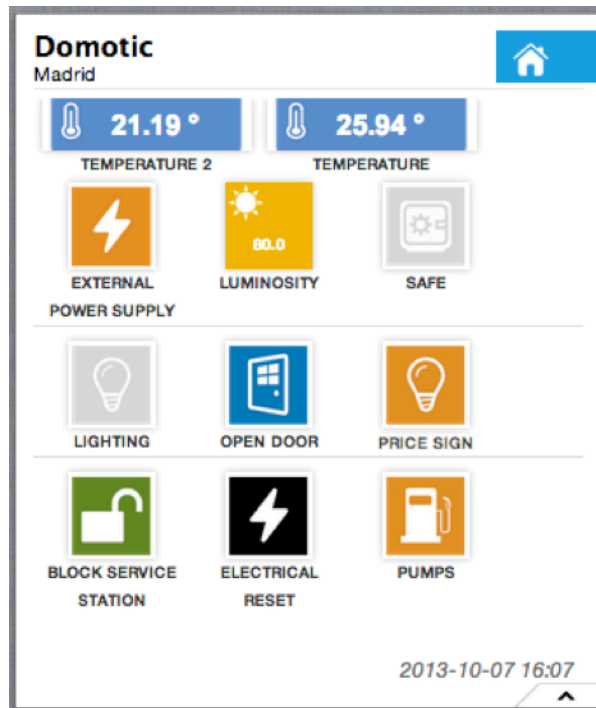
Picture 17. Domotic object.

The domotic object allows us to monitor and control domotic automation (domotic) elements of the petrol station selected. Allows you to monitor, among others, the following:

- Temperature. It displays the current temperature:
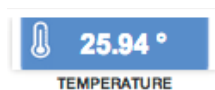
Picture 18.Gadget temperatura.

- External power supply. Indicated is turned on or not as shown below:

Picture 19. External electric supply on.
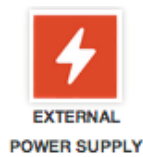
Picture 20. External electric supply off.

- Luminosity. It shows the current brightness numerically as shown below:
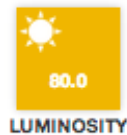
Picture 21. Luminosity.

- Safe. It displays the current status of the safe if open or closed as shown below:

Picture 22. Locked safe.

Picture 23. Open safe.

- Lighing. It displays the current status of the lights if they are on or off as shown below:
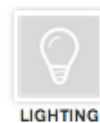
Picture 24. Lights off.

Picture 25. Lights on.

- Price sign. It displays the current status of the price sign is on or off as shown below:

Picture 26. Price sign off.

Picture 27. Price sign on.

- Lock / Unlock the petrol station. The system can lock or unlock a Petrol station as shown below. Block a Petrol station means down the general switch of the petrol station so you can not interact on any domotic element.
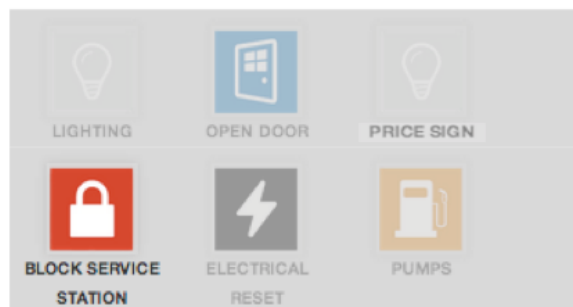
Picture 28. Station blocked.
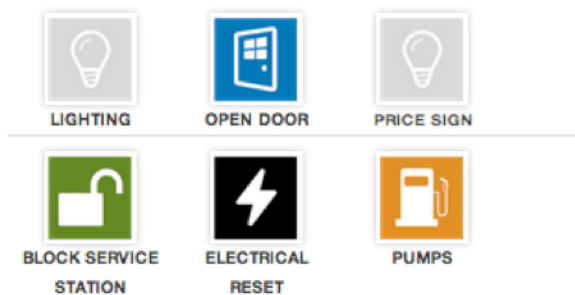
Picture 29. Station unlocked.

- Pumps. It displays the current status of the suppliers if they are on or off as shown below:

Picture 30. Pumps off.

Picture 31. Pumps on.

To control any domotic element you must click on an item as shown in the following figure:
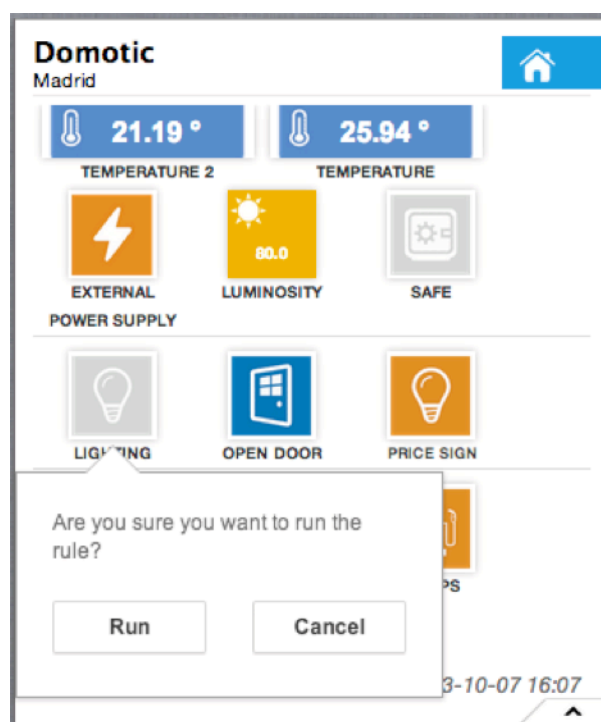
Picture 32. Interact with domotic elements.

Can be controlled among others, the following elements:
- Lights.
- Doors.
- Price sign.
- Lock / unlock a station.
- Pumps.
- …

Also, at the bottom right you can see the update date of the information listed above.
.

Hardware
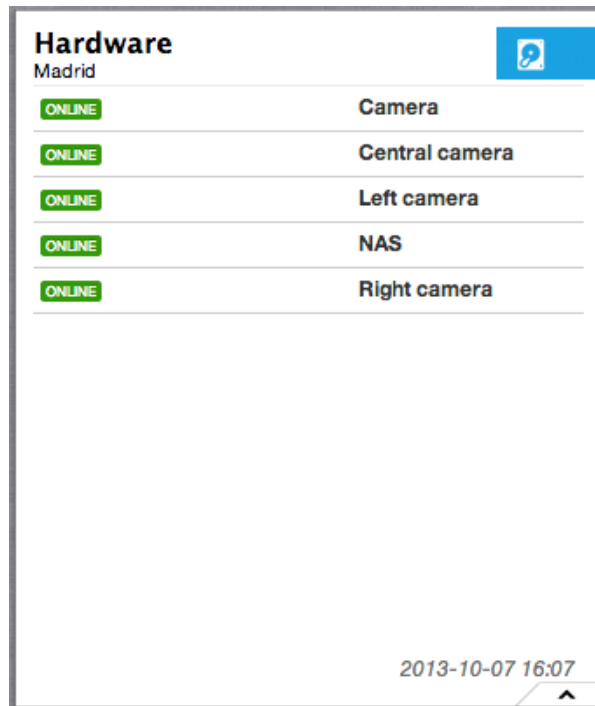
Picture 33. Hardware object.

As you can see in the picture above the "*Hardware*" object contains information about network elements. We know if there ping or not the items using the green and red *online* or *offline*, respectively. Also, at the bottom right you can see the update date of the information listed above.

Objects notifications

Each object has a section on the bottom of the panel, that shows the historic of notifications of objects and active notifications. To see them, you need to "*click*" on the date located at the bottom right of each object.
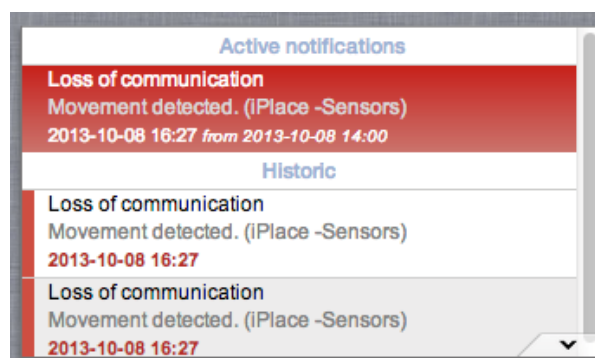
Picture 34. Notifications of objects.

By clicking on an active notification can be cleaned as was the case in the notification list. When cleaning the notice ceases to be active.
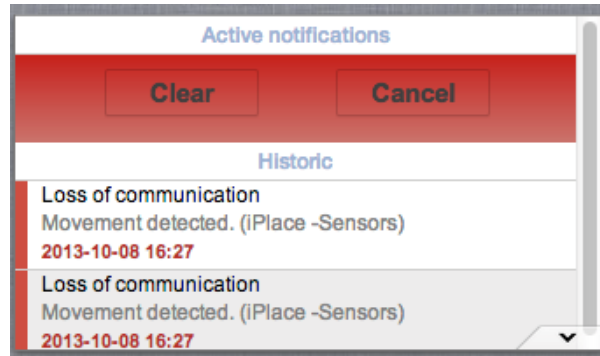
Picture 35.Clear notification.

That notification is clean does not mean that the problem is resolved, only means that the user has set as resolved
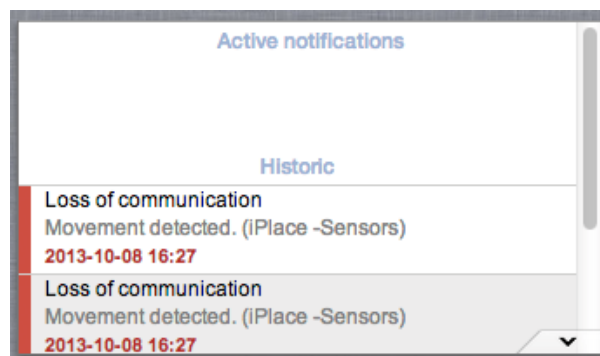
Picture 36. Notification cleaned.

Object Status

There are 4 types of states for objects
- Status *Ok*.

Picture 37. State ok.

- An object is in *Error* state when you have an active notification type *Error*. It is known that an object is on "type *Error*," when the icon of the object is in red color.

Picture 38. State error.

- An object is in "warm state" when you have an active notification *Warn* type. It is known that an object is on *"Warn" mode* when the icon of the object is in yellow color.

Picture 39. State warn.

- An object is in "*Maintenance* state" when the user have "*click*" on the icon and activate *Maintenance* mode.
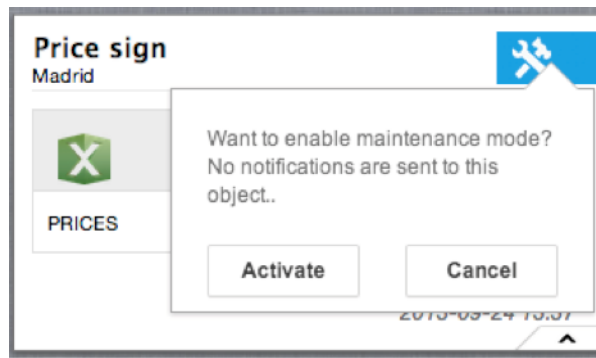
Picture 40. Enable maintenance mode.

It is known that an object is on *"Maintenance" mode when* the icon of the object is in Brown color.

Picture 41. State maintenance.

Surveillance

The surveillance section allows you to view the cameras of petrol stations in real time.
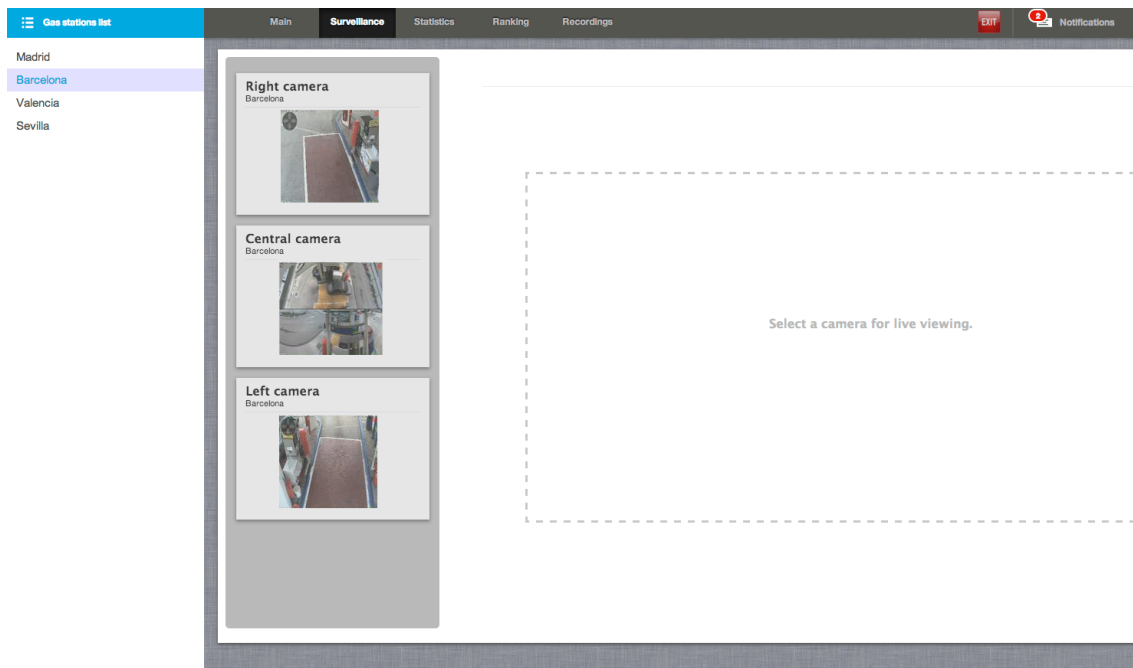
Picture 42. Monitoring screen

- **Petrol stations list:** When you "click" on an ES will be selected for the query.
- **Camera selector:** Allows you to choose the camera you want to view in real time.
- **Result panel:** Camera is displayed in real-time.

Main operation

1. User must select petrol station in the list of available petrol stations.
2. User must select one camera..
3. Camera will be displayed in real time on the result panel:
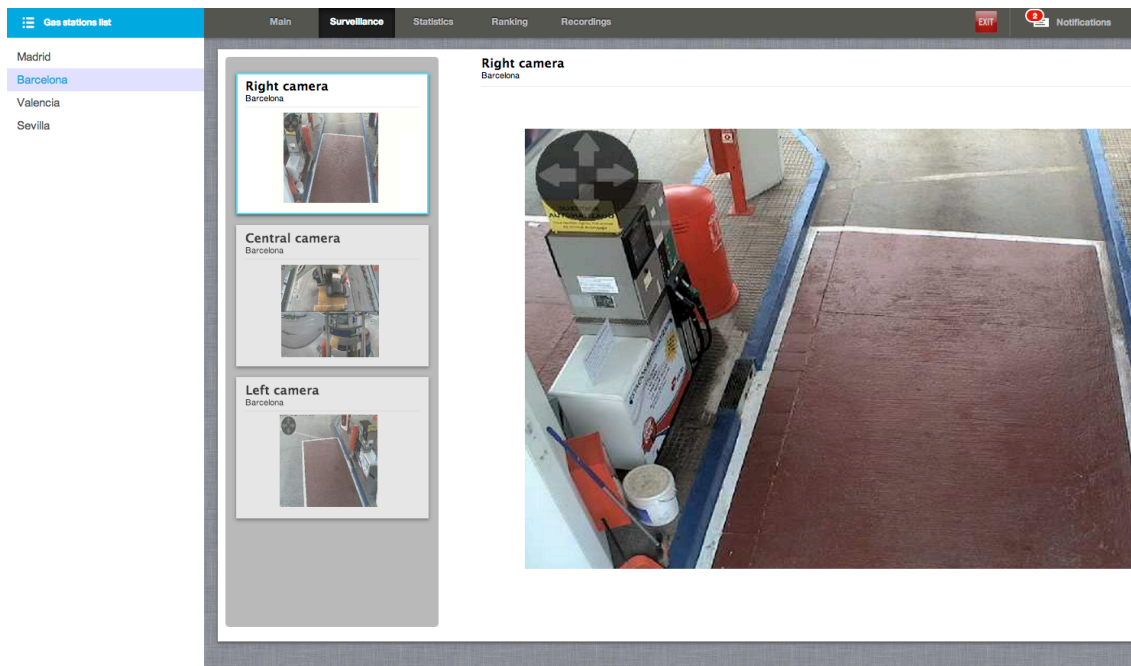
Picture 43. Real-time Camera.

Statistics

The statistics section allows querying of liters sold in petrol stations and make comparisons between them in ranges of time predefined and customized.
Below you can see the screen to make queries concerned about the liters sold:

Ilustración 44. Panel liters sold.

In text below, we describe the different parts of the section:

- **Petrol stations list:** When you "click" on an petrol station will be selected for the query. You can select one or more petrol stations**.**
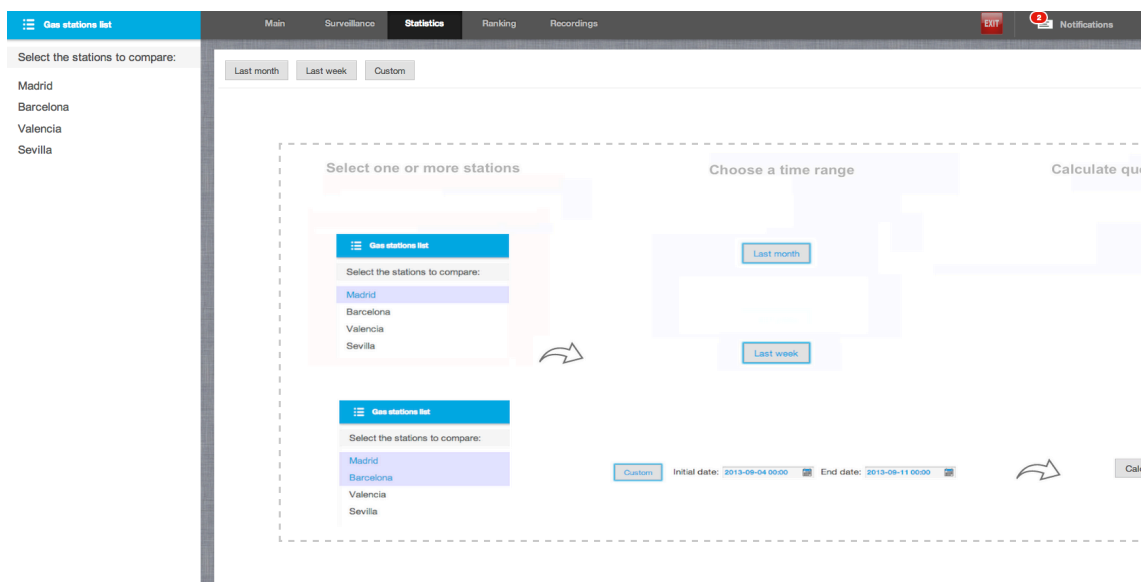- **Time range** : There are 3 types of time ranges: last month, last week and custom range which you can specify a start date and end date with.
- **Result panel:** the graphs are displayed related to selected petrol stations in the specified range classified by product.
-
  General operation

1. The user must select one or several petrol stations. To do this select the petrol station in the petrol stations list:
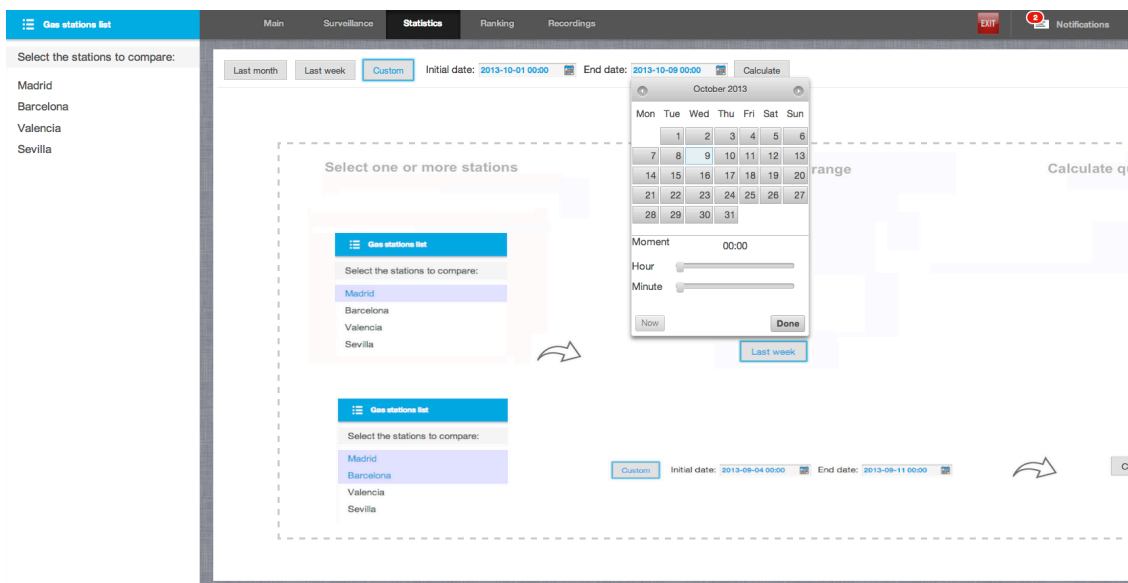
Picture 45. Selecting one or more petrol stations.

2. Once there is at least one petrol station in the PS to analyze list, will be enabled the temporal range selector. There are 3 ranges:
    a. **Last month**: subtract 30 days to the current date. To perform the query "*click*" on the buttom "*Last month*"
    b. **Last week**: subtract 7 days to the current date. To make the query "*click*" on the button "*Last week*".
    c. **Customizable**: you can specify a start and end date. These dates should meet:
        i. The start date must be less than the final..
        ii. The dates should not be equal.
        iii. The two dates must be specified.
      To perform the query "*click*" on the button, select the start and end dates using the calendars provided and press "*Calculate*".
3. Results are displayed in the results panel:
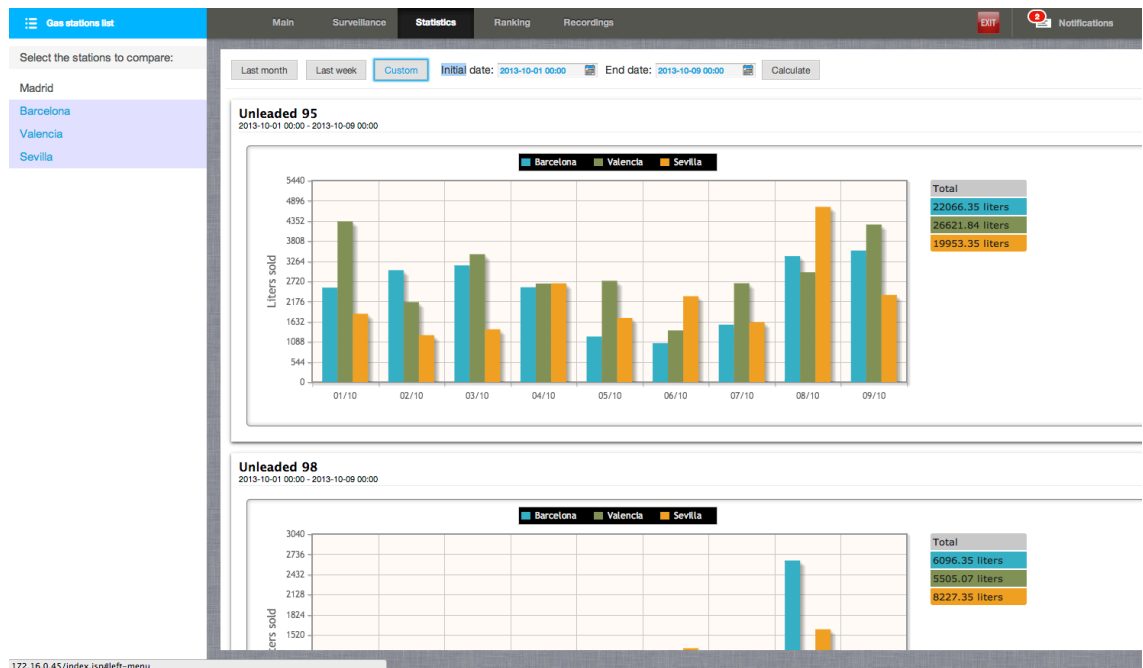
Picture 46. Query results.

Example

Liters sold in a gas station in the last month
1. Select a petrol station on the stations list.
2. Select the time range "*Last month*".
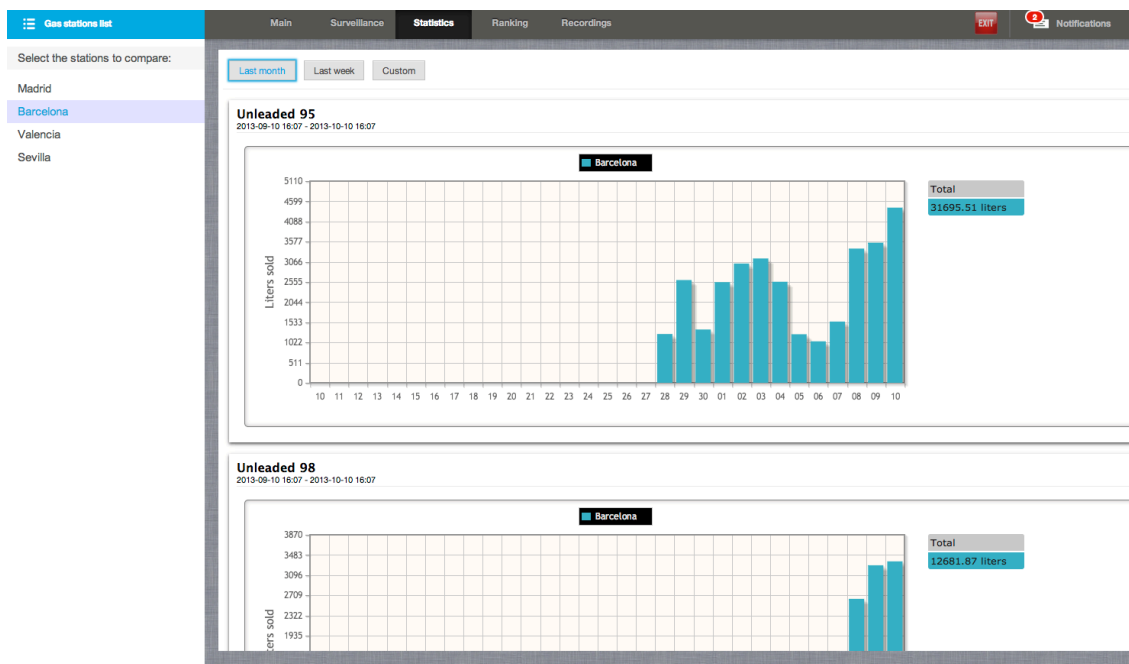
Picture 47. Liters sold last month..

Liters of fuel sold in several stations during last week
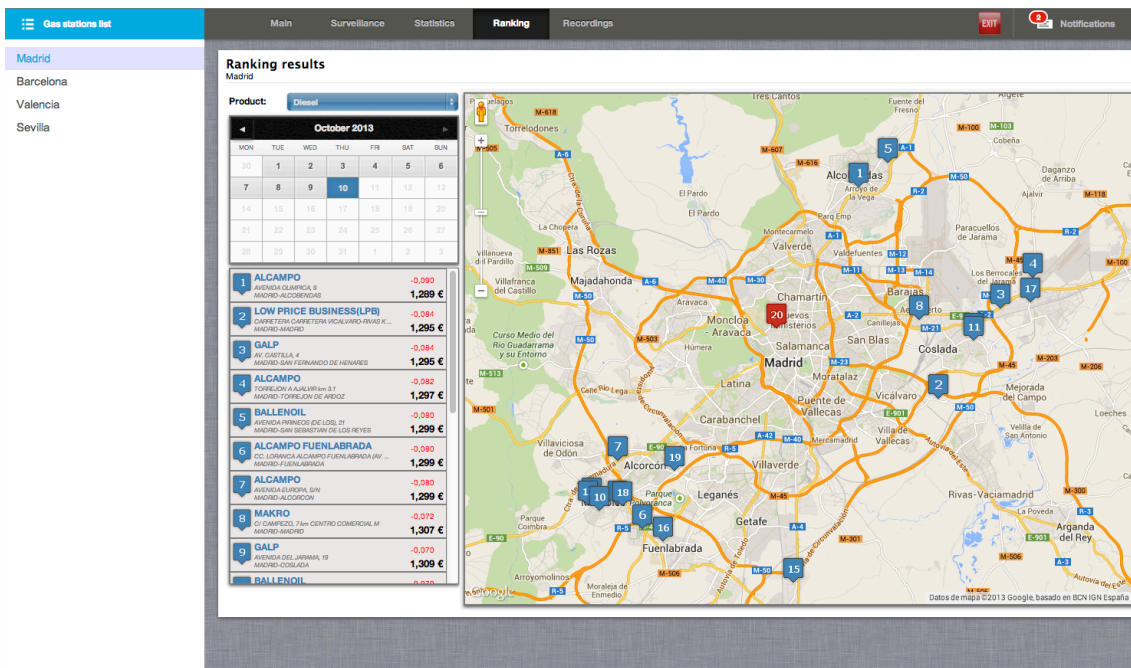1. Select a petrol station on the stations list.
2. Select the time range "*Last week*".
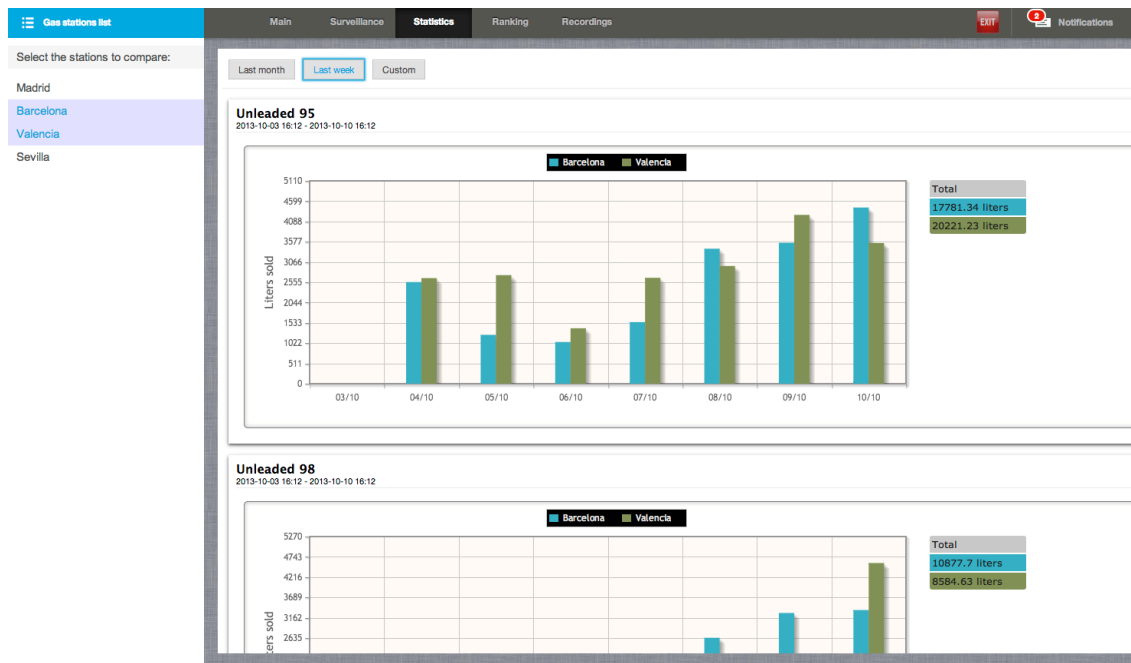
Picture 48.. Liters sold last week.

Ranking

Ranking section allows to get a ranking of Petrol Stations fuel prices, ranking of the difference of the prices and distance from nearby petrol stations to a given PS.
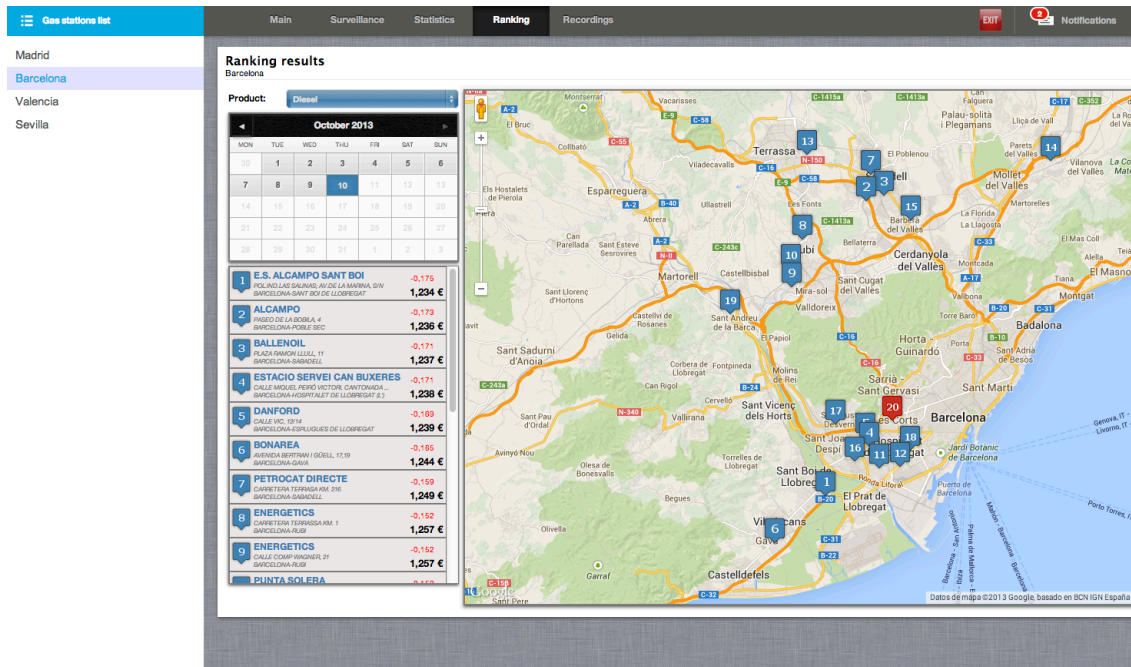
Picture 49. Ranking.

Below we have the different parts of the screen:

- **Petrol stations list:** You can choose the petrol station you want to make the ranking. When you "click" on the PS, the ranking will made related to the selected station.
- **Product:** You can choose the fuel type which you want to make the ranking. In the selector will appear the different fuels that has the Petrol station. When selecting a fuel type, you shall have the ranking associated with the station.
- **Date :** Select the day of interest to the ranking. When you "click" on a day you will have the ranking related to the service station. Note that there cannot be selected days of the future.
- **Ranking list:** Ranking is displayed. Is observed for each station the following information:
  - o The position in the ranking.
  - o The name with your address.
  - o The selected fuel price.
  - o The difference in price with the selected station.
- **Map:** This option is going to give you the real position of the Petrol stations placed on a map identified by the position in the ranking. When you "*click*" on a petro estation following information is displayed:
  - o The name or address.
  - o The price of fuel with the date of updated information.
  - o The shortest distance regarding our petrol station or, if it´s the selected station displayed, its name.

General operation

1. The user must do one of the following:
   a. Select a petrol station on the stations list.
   b. Select product.

c. Select day.

2. It will shown the ranking and the map:

Picture 50. Ranking results.

Ranking navigation

If we navigate with the cursor over the list of stations resulted of the calculation, and pass over one of them, this one will be highlighted on the beside map. The same happens if we navigate with the cursor over the stations positioned on the map.

Picture 51. Navigating the ranking.

Selecting a petrol station on the map

If we "click" on a petrol station positioned on the map, some information related to this petrol station, is displayed.

Picture 52. Petrol station information.

Note that the item's icon "car" shows the distance to the selected station..

Recording services

The purpose of this feature is to obtain fast and intuitive picture of the surveillance cameras. You can choose the desired stretch and get the corresponding video.
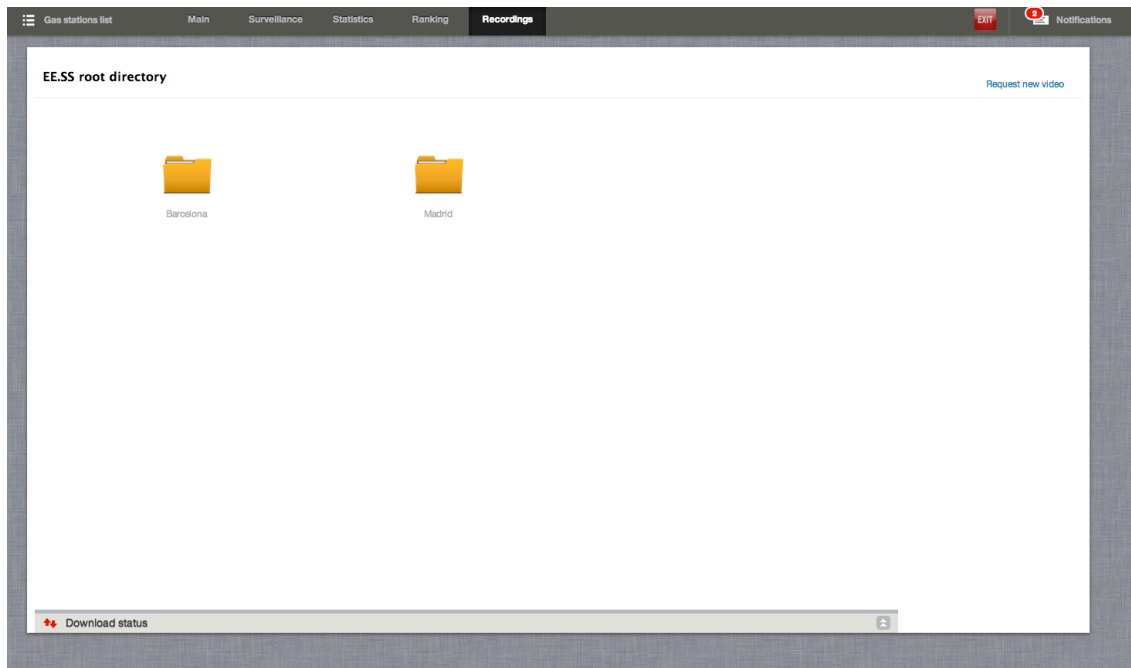
Picture 53. Pantalla de grabaciones.

General operation for consulting recordings

1. Select the desired station folder.
2. Select the camera in which you are interested.
3. recordings stored are displayed..
4. Select one of the recordings to play, download or delete.
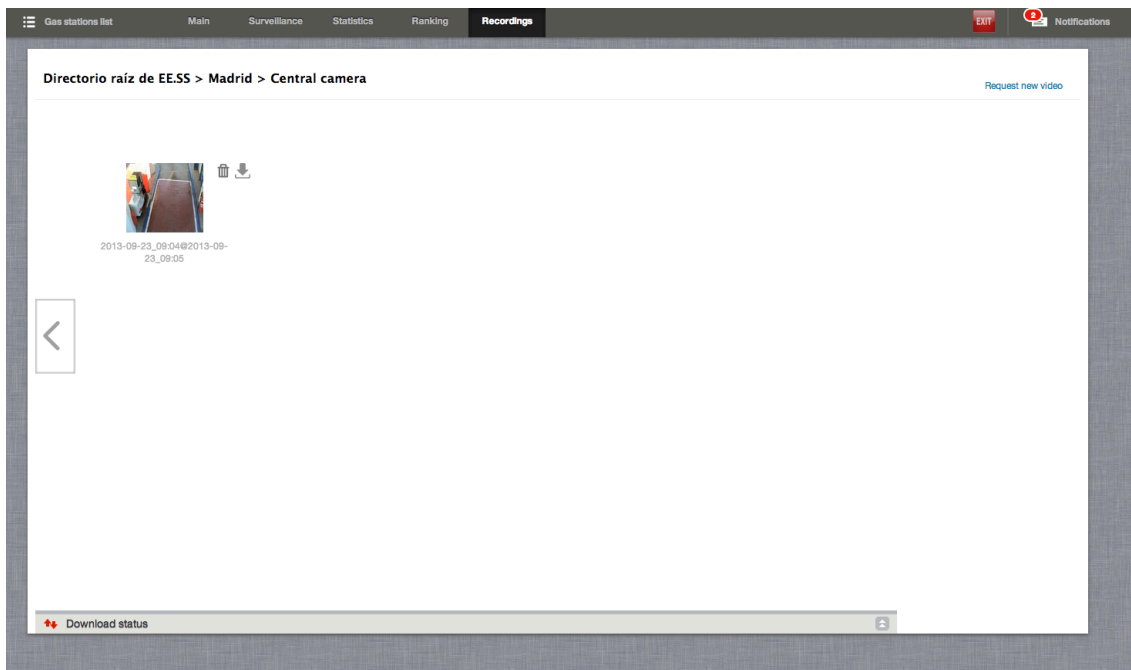
Picture 54. Recordings Directory.

General operation to obtain video

1. Select "Request new video".
2. Select a petrol station.
3. Select a camera.
4. Select a time range.
5. Select an event by clicking the "Search Events" and will bring the events obtained in the time period specified for the selected camera.
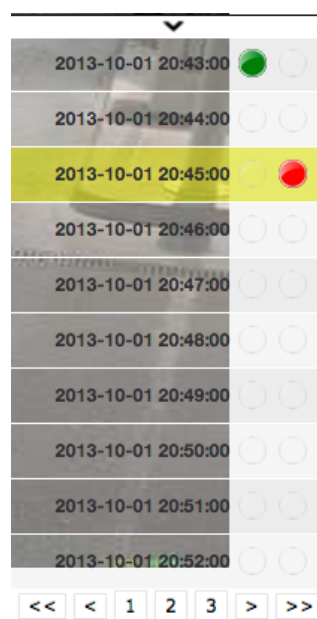
Picture 55. Events.

Once obtained the events, we can navigate them and we can play from a selected event onwards by "*click*" on the button "*play*". We mark the beginning and the end of the search by checking the icons located next to the event date (green for the start and red for the weekend).
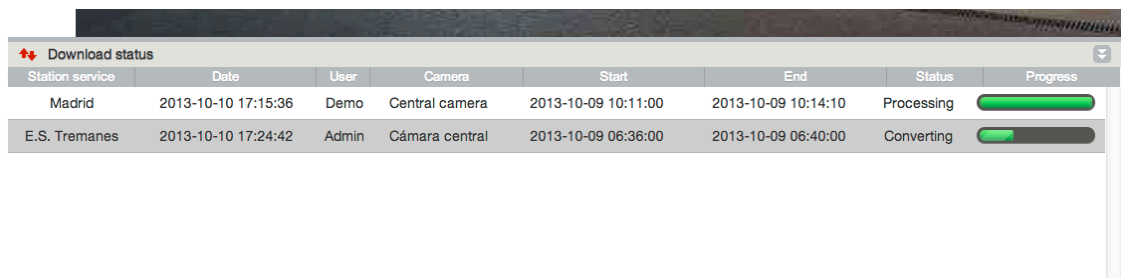
6. Once you have set the desired time period you may request a new video for the selected camera by pressing the *"Video Request"*.

Vídeo management requests

The purpose of this feature is to provide information on the current state of our requests, Knowing if they are or if there has been an error. A video request to a surveillance camera goes through the following states.

- Sending: at this time the request has been queued for sending..
- Waiting to be processed: the request is in the station waiting for the end of the previous one.
- Structuring: Creating the directory structure.
- Compressing: Compressing images.
- Upload: Shipping by ftp to the server..
- Waiting for conversion: Once the server expects to have the resources to create the video.
- Converting: The video is being created from the image.
- Terminated: The video request is completed successfully and is ready for viewing.
- Completed: The video request completed successfully and is ready for viewing.
- Error: Indicates that an error occurred and when it occurred

Station service	Date	User	Camera	Start	End	Status	Progress
Madrid	2013-10-10 17:15:36	Demo	Central camera	2013-10-09 10:11:00	2013-10-09 10:14:10	Processing	
E.S. Tremanes	2013-10-10 17:24:42	Admin	Cámara central	2013-10-09 06:36:00	2013-10-09 06:40:00	Converting	

Picture 56. List status.

Close system

To exit the system properly you must press the red button "Exit" at the top right of the screen. Below is the button:

Picture 57. Close system.