SpatialGuide Backend User Manual

System Specifications

In order to get Backend's server running in a machine some requirements must be matched as:

- Linux OS
- MySQL DataBase
- Python 3 the Packages:
    - django==2.0.3
    - djangorestframework
    - google-api-python-client
    - pyyaml
    - ua-parser
    - user-agents
    - django-user-agents
    - pusher_push_notifications

Installation

Start by opening a Linux terminal and follow the sections bellow which will tell which commands its need to execute.

MySQL installation:

It's required administrator privileges in order to install MySQL on the machine. Depending on the Linux distribution the install command may be different, in this example it was Debian.

sudo apt-get install mysql-client mysql-server
sudo service mysql start
sudo mysql -u root
(Here we on mysql database, so we are gonna create our database with the server expected name)
create database spatialguide_db;
exit (to return to the bash terminal)

Python and Libraries installation

Once again it's required administrator privileges but just to install the Python 3 interpreter and pip3 (python 3 package manager):

sudo apt-get install python3 python3-pip
pip3 install django==2.0.3 djangorestframework google-api-python-client
pip3 install pyyaml ua-parser user-agents django-user-agents
pip3 install pusher_push_notifications

Getting the Server Running

In first place it's required to synchronize the server database structure with the MySQL database.
First we navigate to the server folder with the name "SpatialGuide" then we run the following commands.

sudo python3 manage.py makemigrations
sudo python3 manage.py migrate

After the database have made all the synchronization required we need to create a super user to our server, this user is gonna be the one used to get access to the server and be able to create the first real user profile. In order to create a super user we run the following command and insert the desired credentials that are gonna be asked for.

sudo python3 manage.py createsuperuser

Finally to get the server running and for the next times it's only needed the following commands.

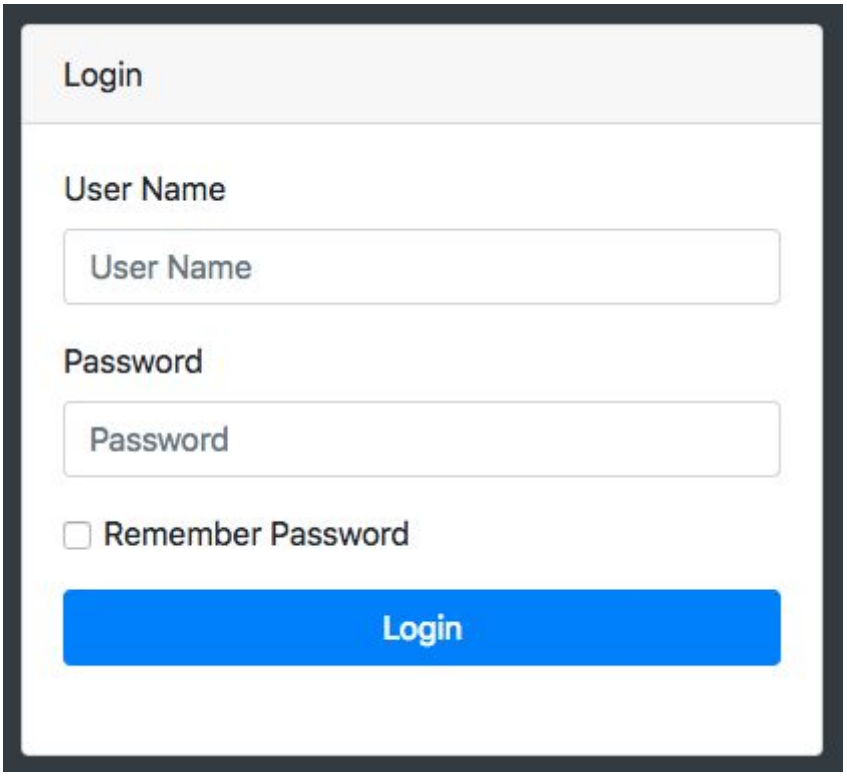
sudo service mysql start (to make sure the database server is running)

sudo python3 manage.py runserver 127.0.0.1:80

Finally just go to your browser and right on the url "127.0.0.1" and you should be prompt to the server page.

First Run

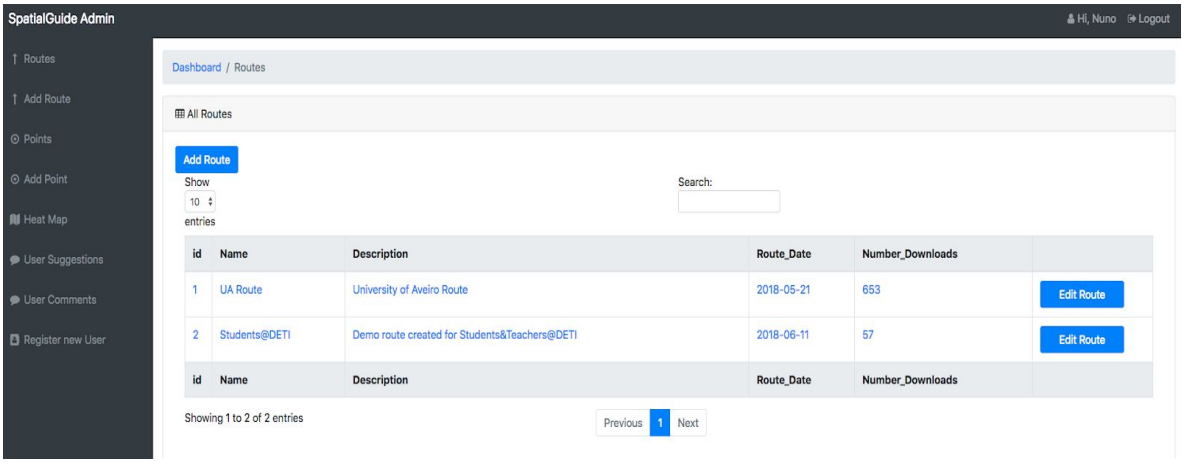
As it's told during the installation section of this manual, we have created a super user, when initiating the server for the first time it's required to login into through the login page. On this first stage we use the credentials used during the super user creating process mentioned on the previous section. After login for the first time go to the navbar on the left and choose "Register new User", here create your final user and relogin with the new account, using the logout button on the top right corner. Remember that the account create during the creation of a super user should be only used to create new accounts.



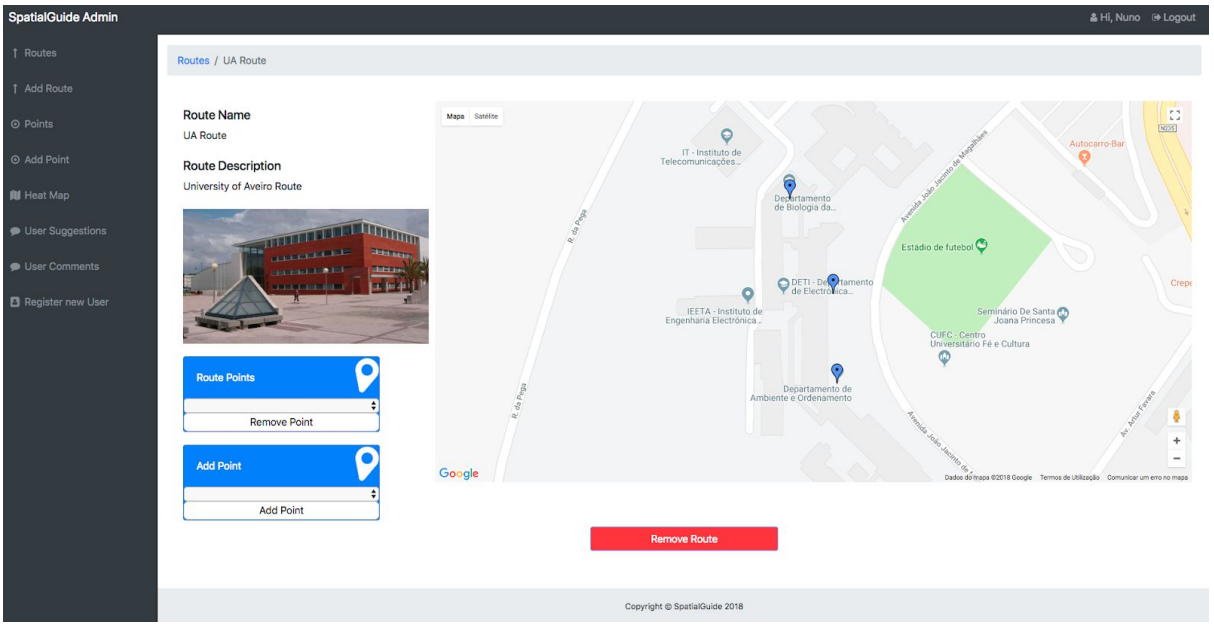
Web Interface

As for the Administrators web interface, we used the html templates based on Bootstrap to create our html views. After the Administrator login, he can find a navbar that provides several options:

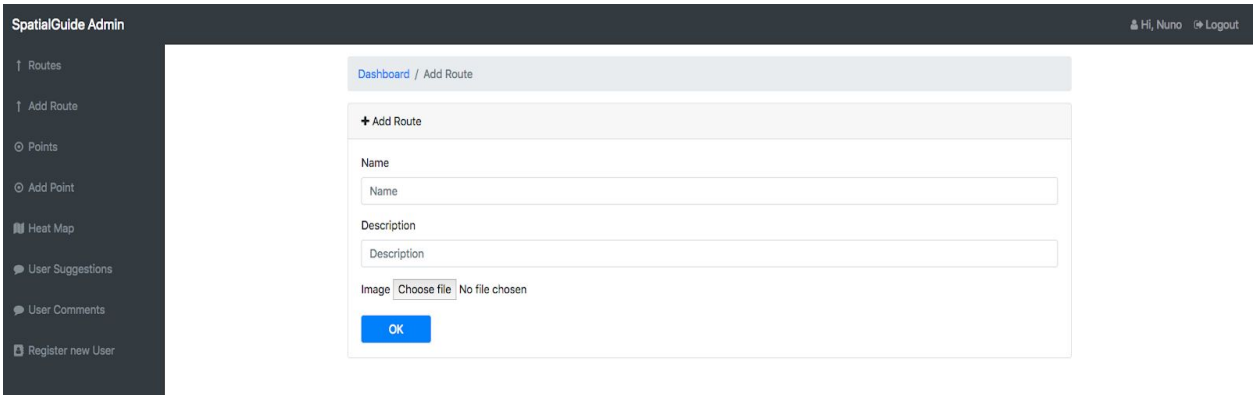
- Routes: on this option, the Administrator is presented with a list of all the Routes available in the Database with some basic information. It's also available the option of edit each Route attributes or navigate to the Route page with all the it's information. There is also a button that redirects the Administrator to the add Route page.



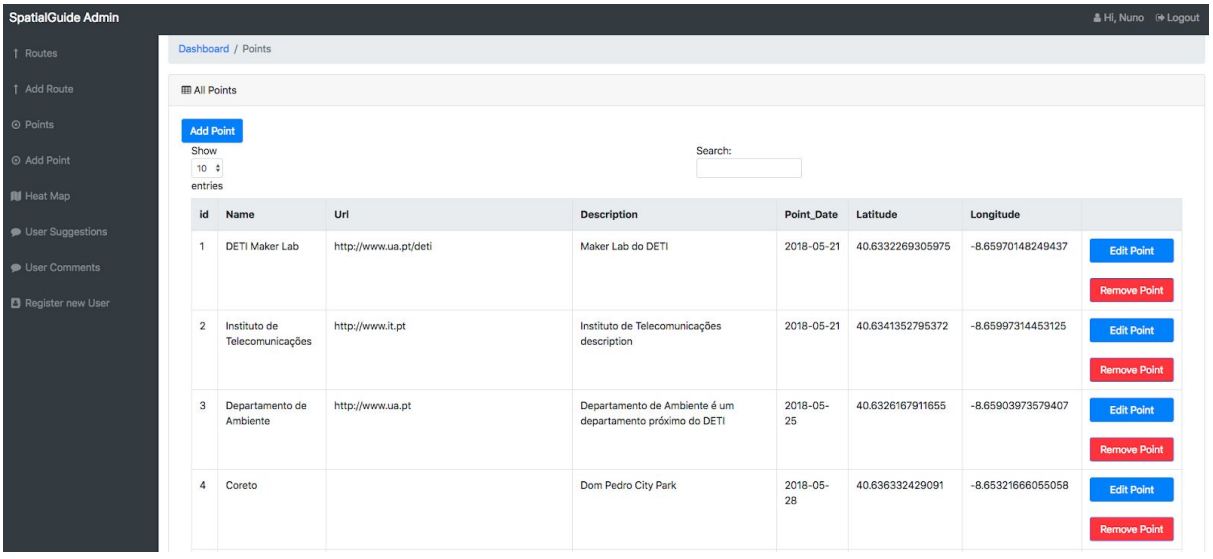
- Route page: In this page the Administrator have access to the Route information, as the points it contains and a map preview on the right. There is also the option of add or remove points from the Route.



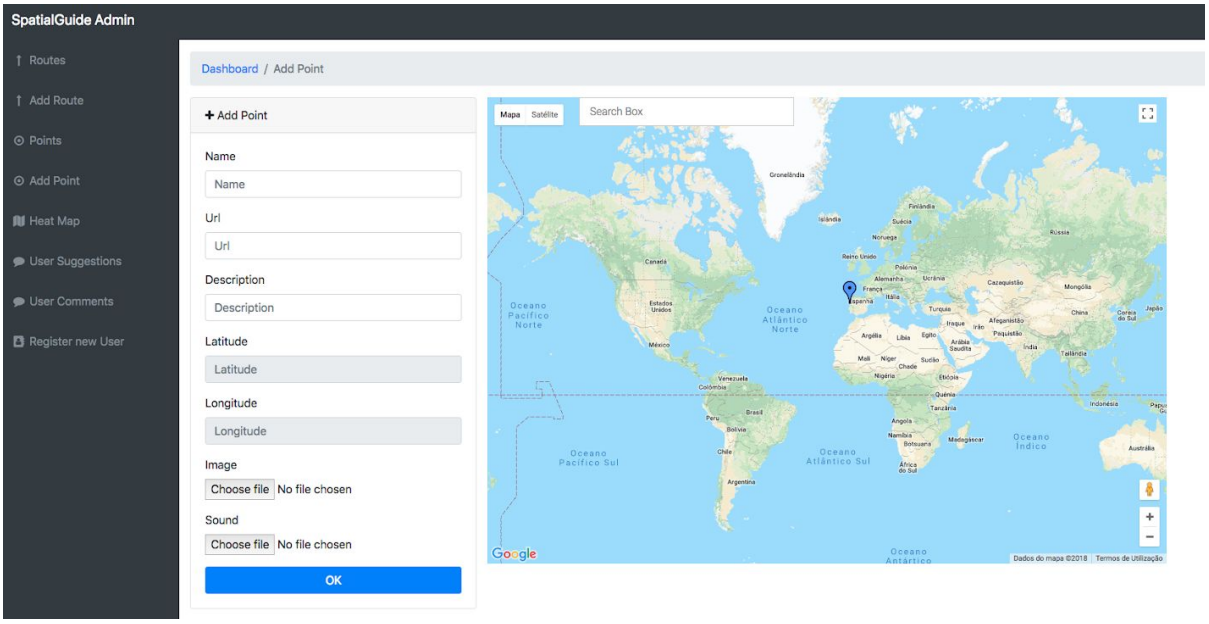
- Add Routes: here it's presented to the Administrator a page with a form where he can insert the information about the new Route he is about to create.



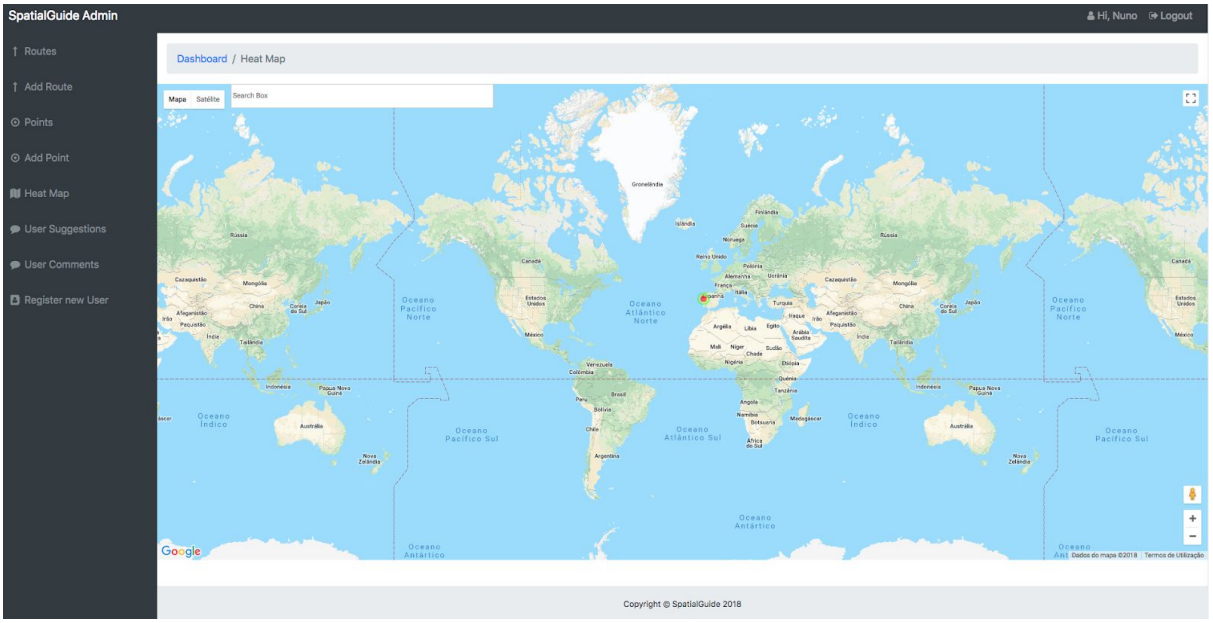
- Points: displays a list of all the Points in the Database and some basic information about them. On this page there are three buttons that allow the user to create, edit or remove Points.



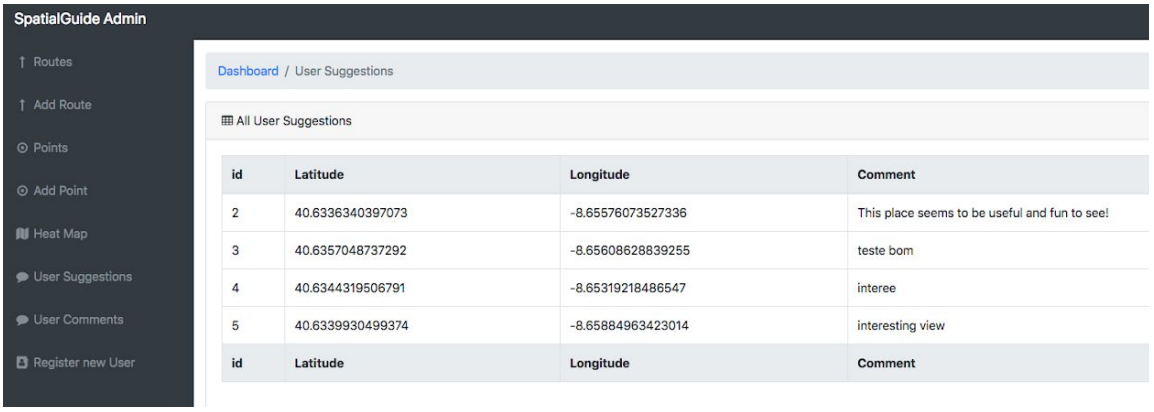
- Add Point: shows a form and a world map. Here it's possible to create a new Point typing all its attributes and also choosing the Point's coordinates by clicking on the desired location



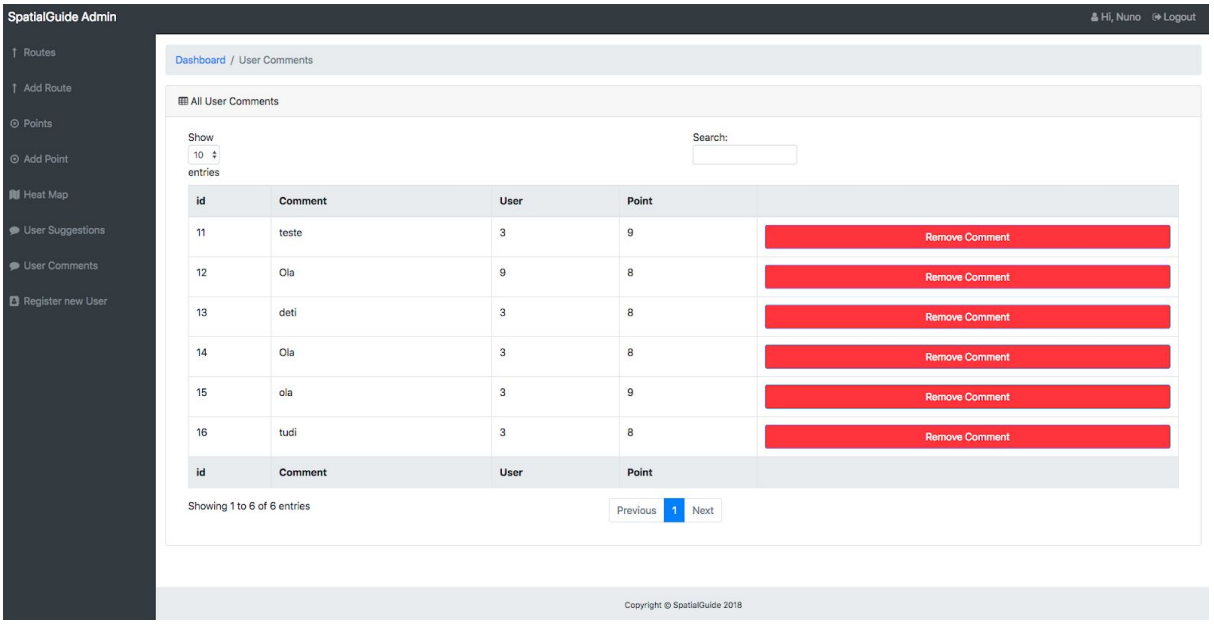
- Heat Map: displays a map where its possible to observe through heat points the most frequented zones by the users while using the Android app.



- User Suggestions: here is shown to the Administrator the locations and comments left by the users who would like to add a Point to the app.



- User Comments: exhibits a list of comments left by the users at a specific Point.



- Register new User: Allows for the register of a new Administrator account.

Finally, on the top right corner, the Administrator can observe the username of its current session and a logout button.