Crowd price

APPLICAZIONI DISTRIBUITE E MOBILI

Matteo Corradini, Matricola nr. 138530
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Crowd price

Anonymous

- Make searches

Consumer

- Make and save searches
- Upload and search report of a product from the Mobile App

Analyst

- Make, save and download searches in different formats
- Study the trend with graphs

Platform Admin

- Manager critical parts of the website (store, organization and the creation of analysts)

Deploy

Virtual Machine for backend (backend.crowdprice.local)

- Django with Apache WSGI
- Postgres in a docker container

Virtual Machine for frontend (crowdprice.local)

- React on nodejs (serve)

Backend – Django and Postgres

Most interesting features and libraries

REST Framework (DRF)

- Auth Token
- Support to GIS database

GeoDjango

Trigram Similarity

More restrictive password validator

Exports data in CSV, JSON and Excel format

Postgres running locally in a docker with aside an Adminer instance for low level management

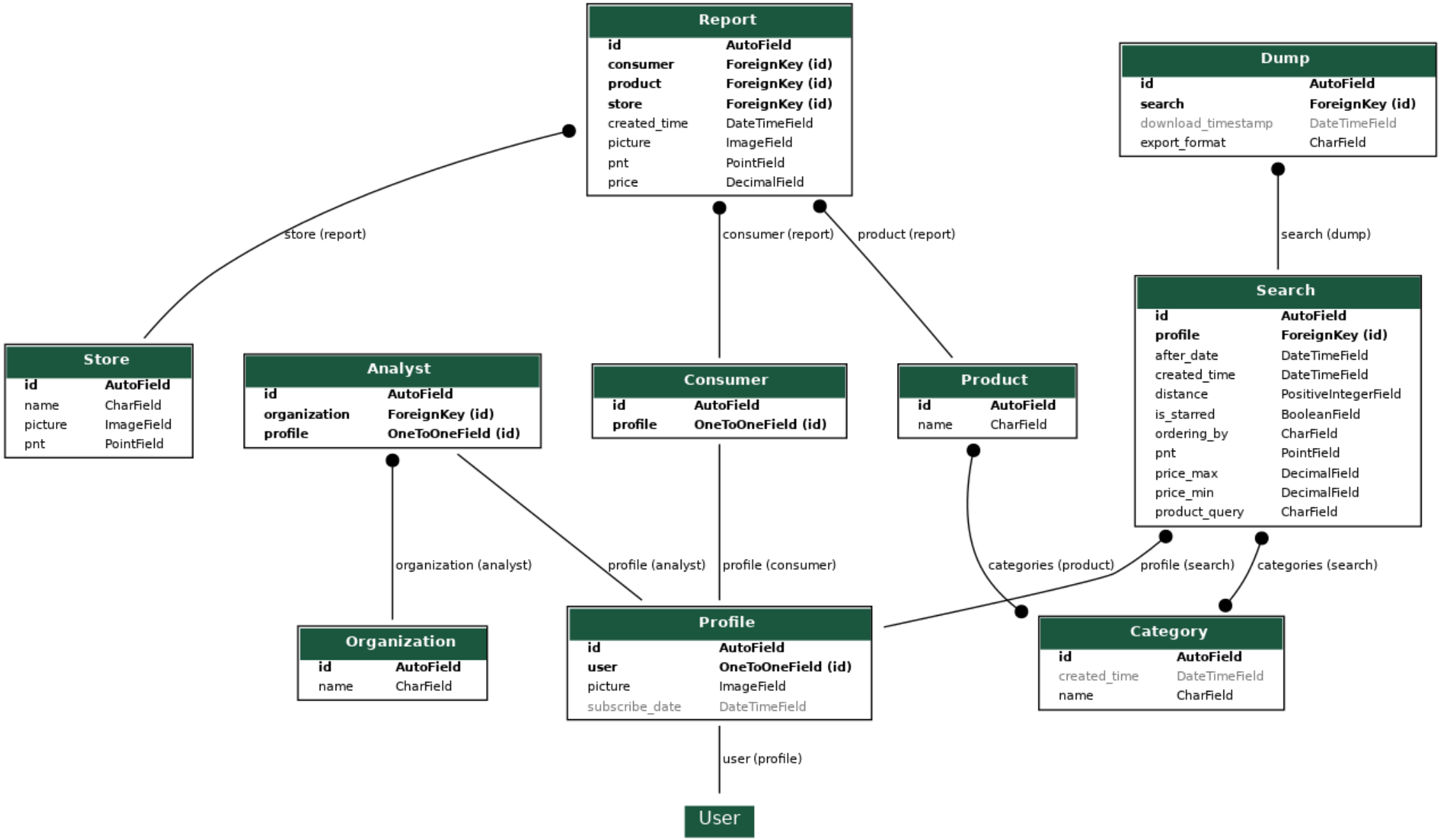
- Supports Trigram Similarity and spacing queries

Customize Admin Interface

Redefining all the application Admin Interface

- More practical user experience
- Custom filter and display fields

http://backend.crowdprice.local/admin


Report
id AutoField
consumer ForeignKey (id)
product ForeignKey (id)
store ForeignKey (id)
created_time DateTimeField
picture ImageField
pnt PointField
price DecimalField
Dump
id AutoField
search ForeignKey (id)
download_timestamp DateTimeField
export_format CharField
store (report)
consumer (report)
product (report)
search (dump)
Store
id AutoField
name CharField
picture ImageField
pnt PointField
Analyst
id AutoField
organization ForeignKey (id)
profile OneToOneField (id)
Consumer
id AutoField
profile OneToOneField (id)
Product
id AutoField
name CharField
Search
id AutoField
profile ForeignKey (id)
after_date DateTimeField
created_time DateTimeField
distance PositiveIntegerField
is_starred BooleanField
ordering_by CharField
pnt PointField
price_max DecimalField
price_min DecimalField
product_query CharField
organization (analyst)
profile (analyst)
profile (consumer)
categories (product)
profile (search)
categories (search)
Organization
id AutoField
name CharField
Profile
id AutoField
user OneToOneField (id)
picture ImageField
subscribe_date DateTimeField
Category
id AutoField
created_time DateTimeField
name CharField
user (profile)
User

Frontend - React

Most used libraries

- Axios
- React Bootstrap
- Mapbox GL
- Recharts
- Router DOM

The app attempts to use the localization from the browser.

If it fails, it derives the location from the IP.

Login and signup

Password constraints

- At least 16 characters
- At least 1 number
- At least 1 special character (**~!@#$%^&*()_+{}\":;'[]**)
- At least 1 upper case letter
- At least 1 lower case letter
- Password too similar to the email
- Password too common

http://crowdprice.local/signup/

http://crowdprice.local/login/

Home

Predefined quick results

All users

- Latest reports
- Most popular products

Logged users

- Reports in the latest search
- Reports in the 3 latest saved searches
- Latest published reports nearest to the user location

http://crowdprice.local/

Stores

List of all the stores in the platform

For each store, it shows

- Pagination list of the reports
- Location of the store inside the map

http://crowdprice.local/stores/

http://crowdprice.local/store/6

Search – pt. 1

Search by different parameters

- Product name (extended with Trigram Similarity)
  - For most precise results the analysts have a product combobox
- Price min/max
- Categories
- Distance
  - The user can change the reference position from his current location
- Published date
- Sort by price or published date

Search – pt. 2

The results are paginated

All users

- Map with the results

Logged users

- Button for save the current search

Analyst

- Temporal graph with all the results
- Download the results in CSV, JSON or EXCEL

http://crowprice.local/search/

http://crowdprice.local/search/273

Profile

All logged users

- Change password
- Change profile picture
- Saved search management
- Map with current location

Consumer users

- Paginated report results

Analyst

- Latest search download

http://crowdprice.local/profile/

Category

List of the products in the category

For each product a list of the most recent reports

http://crowdprice.local/category/9

Product

Show reports with pagination

- Display reports on the map with the current location
- Group reports from the same location
- Show a bar chart with the reports

Show a temporal line chart with all the reports of the product

http://crowdprice.local/product/62

Graphs

Only for analyst users

Show some predefined graphs

- Users with most reports
- Product with most reports
- Category with most reports
- Store with most reports
- Category most searched by the user
- Product most searched by the user
- Average price of most reported products

http://crowdprice.local/graphs/

Mobile – React Native with Expo

The logged consumer can:

- Upload new reports
  - Pictures are taken from camera or from the gallery
  - The app attempts to use the localization from the GPS. If it fails, it derives the location from the IP.
- Search for products near to his location

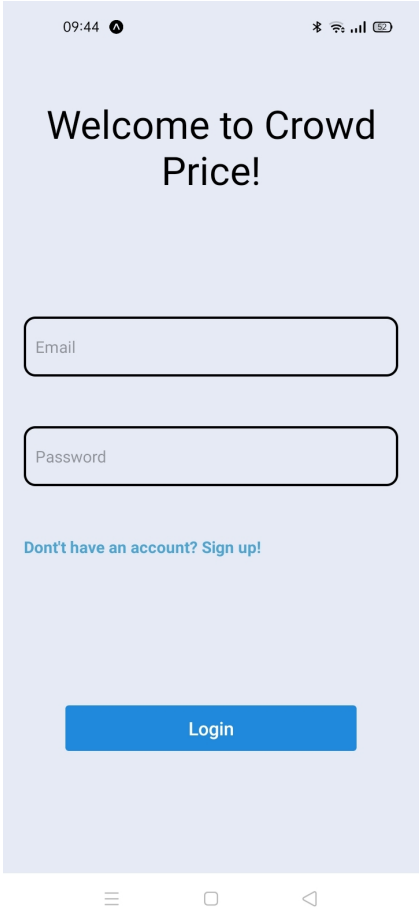
It uses axios for the endpoint queries

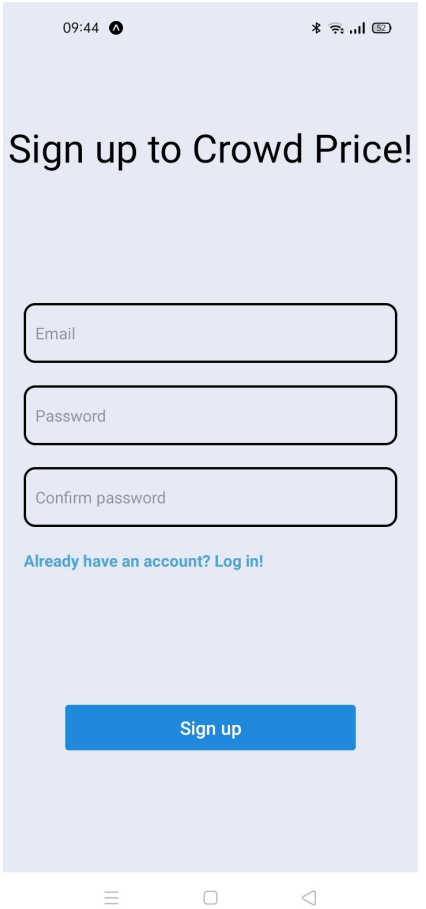
Login, signup and menu

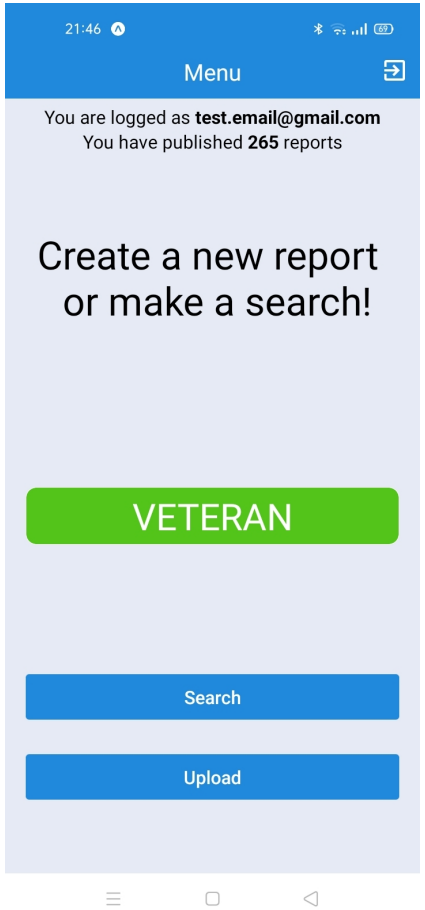
The password has the same constraints of the web app

In the menu it shows the badge and some information of the user

In the right corner there is a button to logout





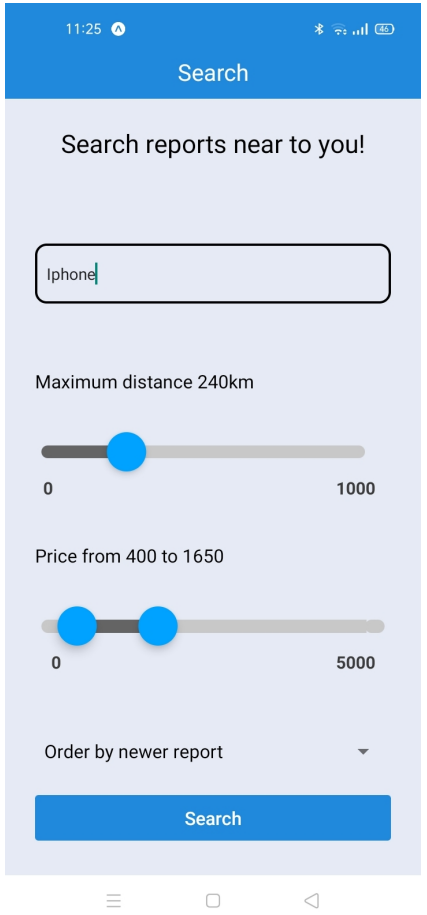


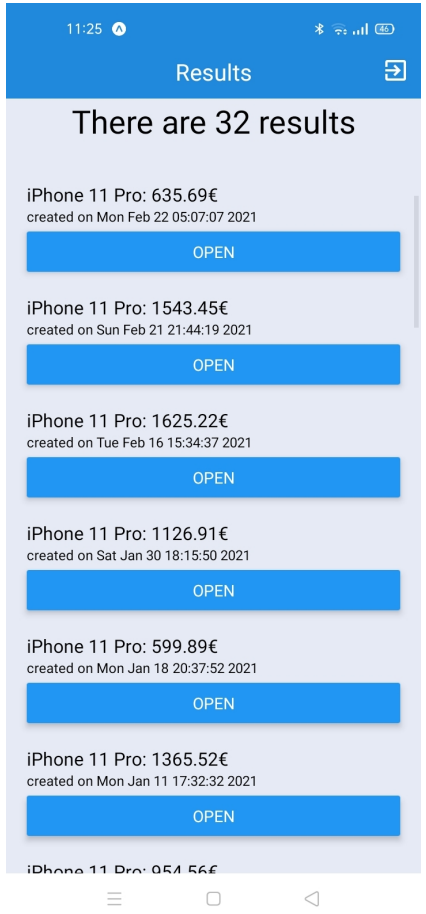
Search

Search with filters for:

- Product name (with trigram similarity)
- Distance from the current location
- Price range
- Order by creation time or price

The results are implemented with a FlatList component



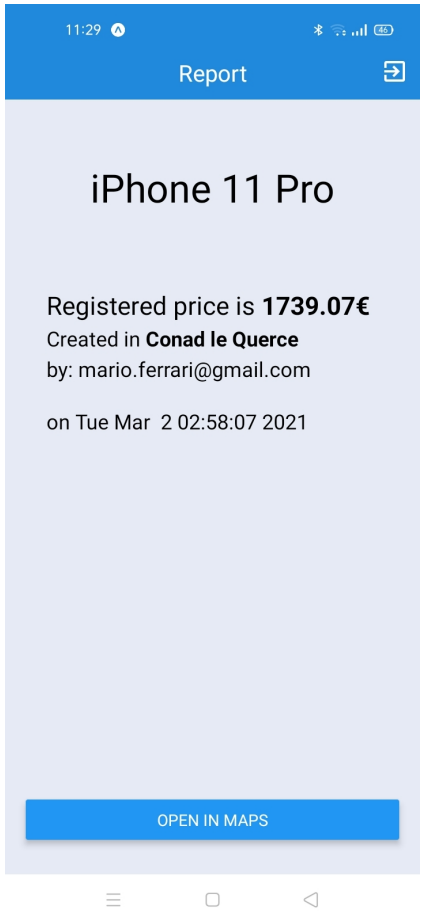


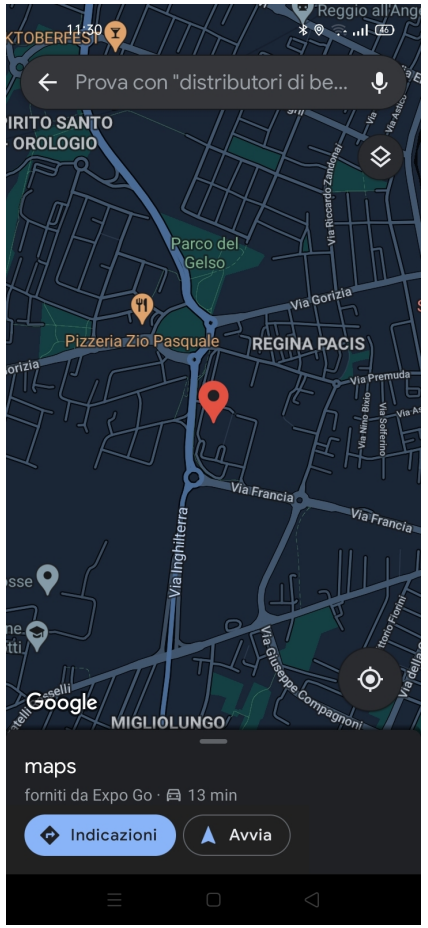
Search Results

It shows the detail of the report

It has a link to open the location of the report inside:

- Google Maps
- IOS Maps

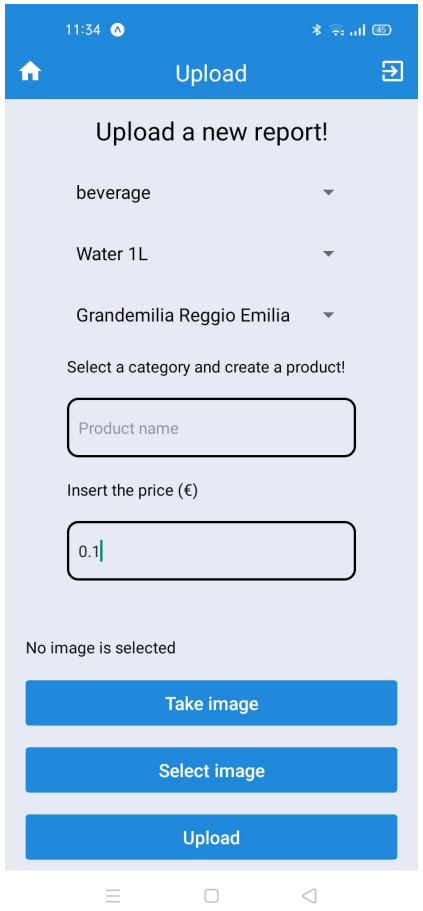




Upload

The user can select:

- A product from the correct category, or the general list. He can also create a new product
- The price of the product
- (optional) A store where the product is located
- (optional) A picture from the camera or from the gallery



Possible improvements

Integration with social network

Interaction between users (comments, chat, etc..)

Apply more secure configuration (JWT, HTTPS, etc..)

Enrichment mobile features

B2B portal for the analyst's organizations for data analytics