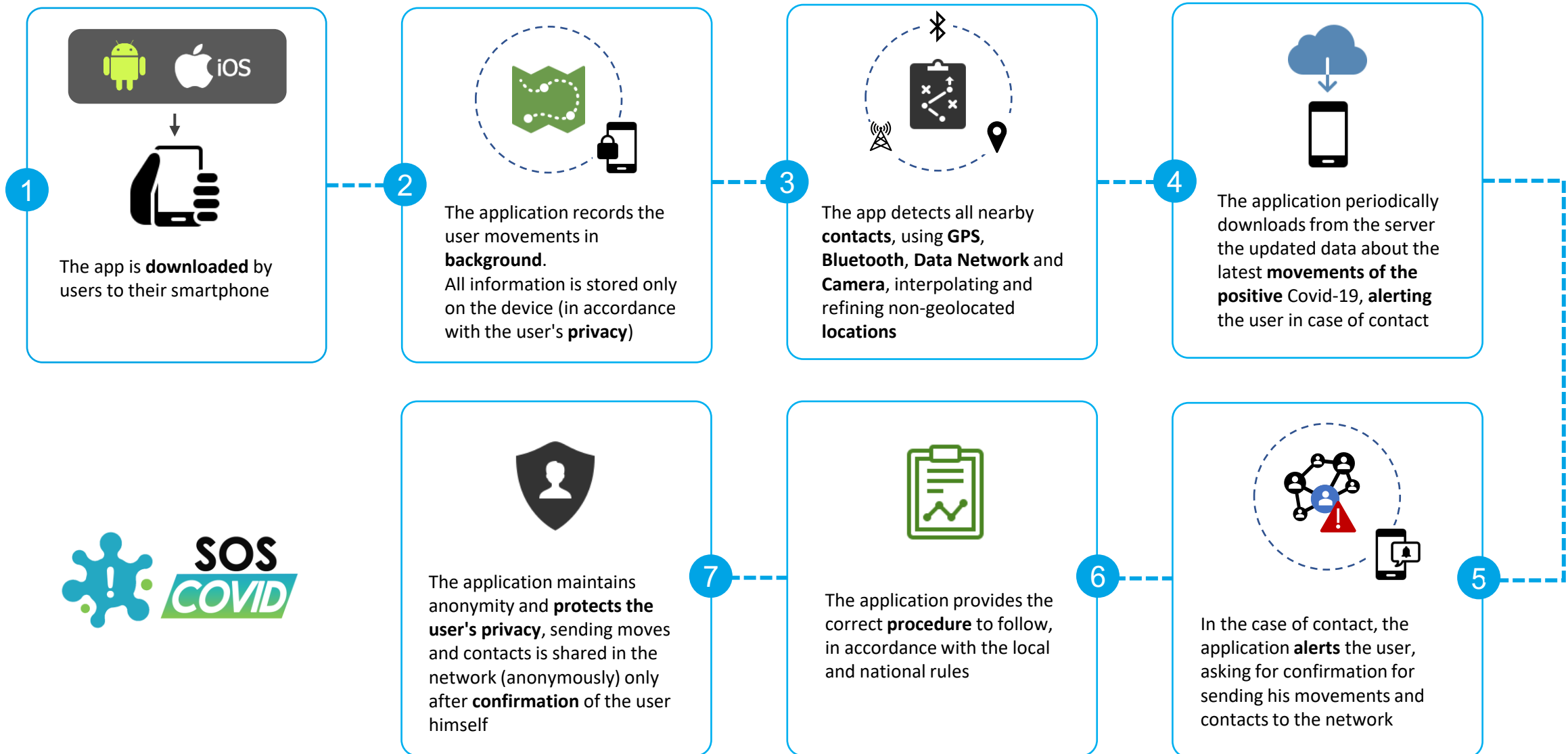


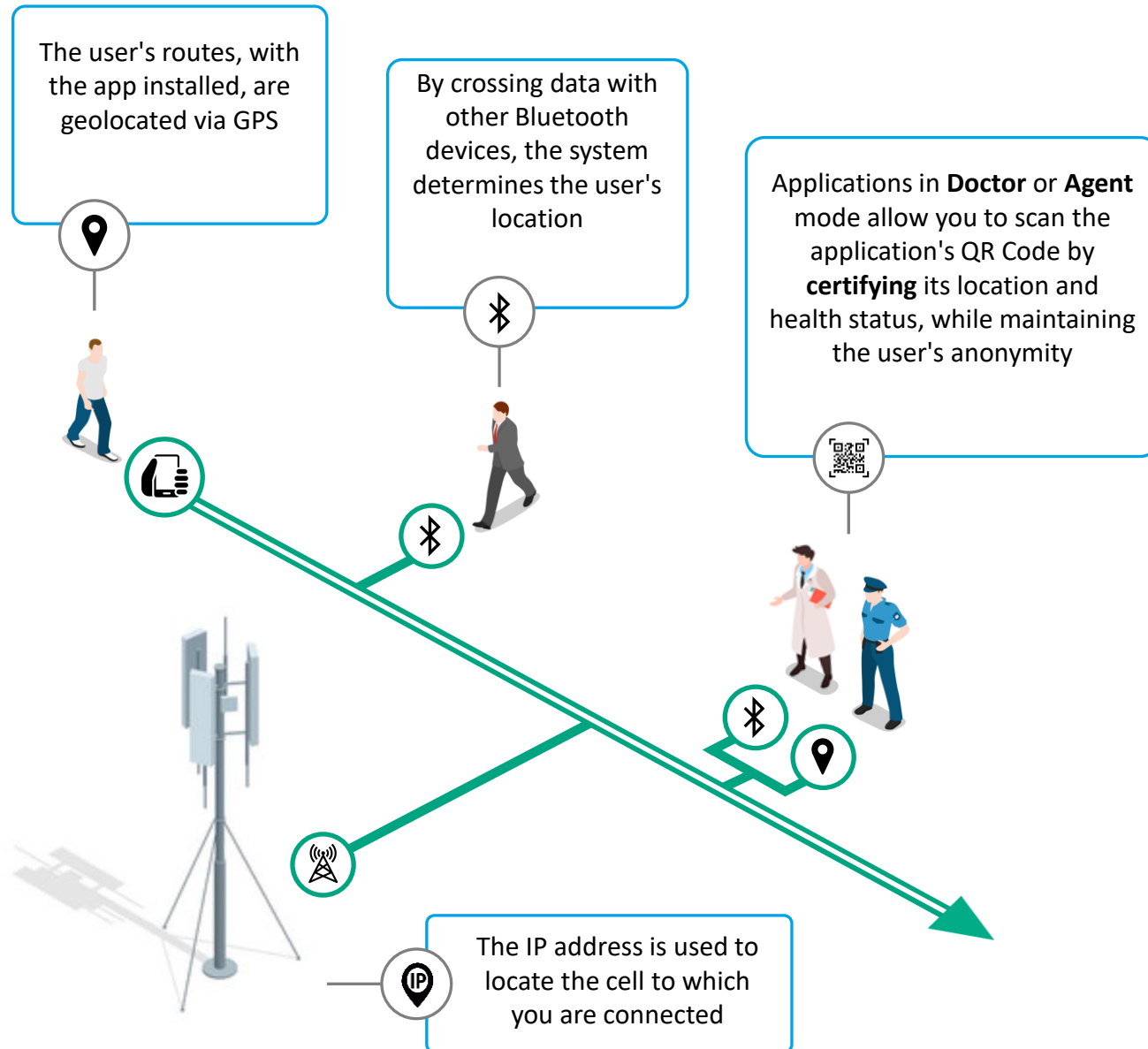


Monitoring, Alerting and Tracking platform for Covid-19 post-lockdown management

Platform main scenario



Technology and traceability



The app uses all the hardware available in the smartphone to determine the "contacts" with other apps nearby:

- **Bluetooth LE** (maximum distance 10-30m)
- **GPS** (10m accuracy, up to 1m with RTK)
- **WiFi/Mobile** (IP address)
- **Camera** (reading QR Code)

A complex cloud **tracking algorithm**, starting with known locations (GPS), calculates the locations of geolocation-free contacts (Bluetooth LE), using the distances between nodes.

The algorithm uses all available information to calculate the location accurately, even in complex network topologies.



Mobile application for the Citizen

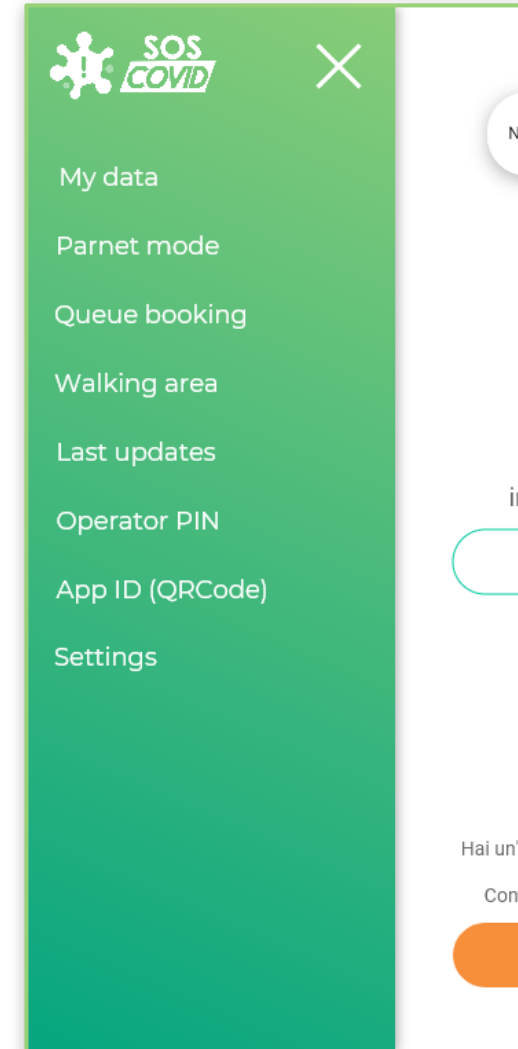
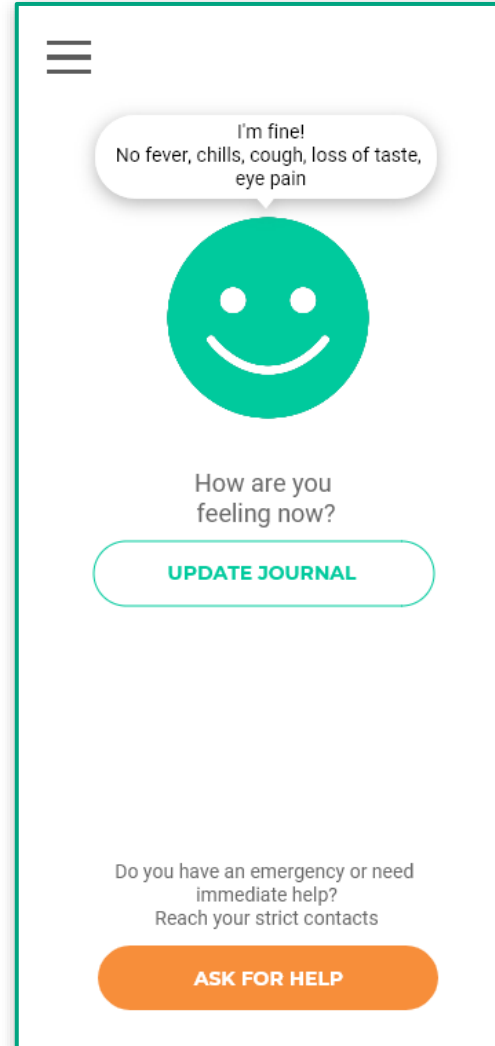
Health status, personal journal, and utilities

Citizen – Home Page

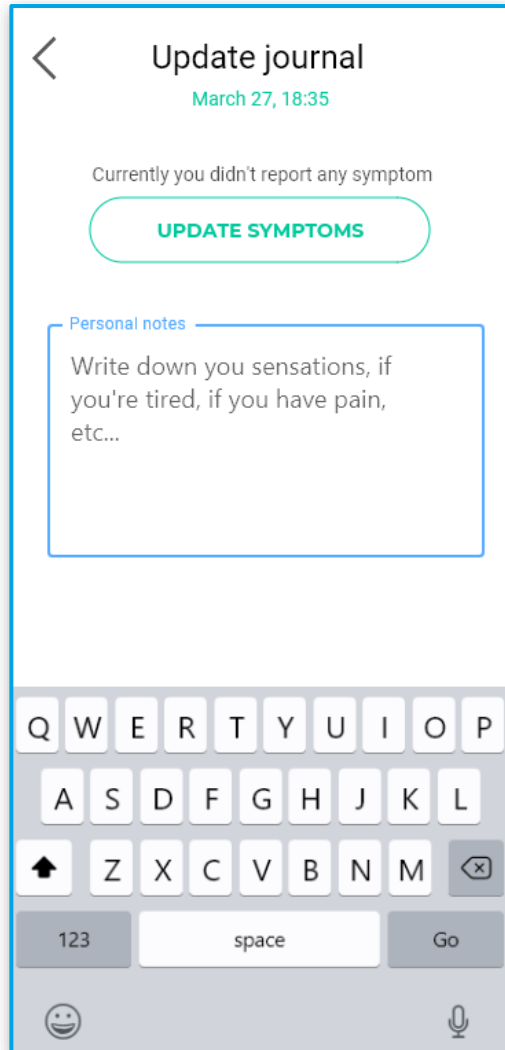
The home page of the application is presented with a simple interface, consisting of an **avatar** that summarizes the current state of the user and a **single button** to change or add information to the personal and symptomatologic journal.

The "**request help**" button, which can optionally be enabled, is designed for **older** users, and allows you to immediately send a **text message** to close relatives, and a notification to the authorities or **doctor** closest to you.

Additional features are accessible from the side menu.



Citizen – Personal Diary



< Update journal
March 27, 18:35

Currently you didn't report any symptom

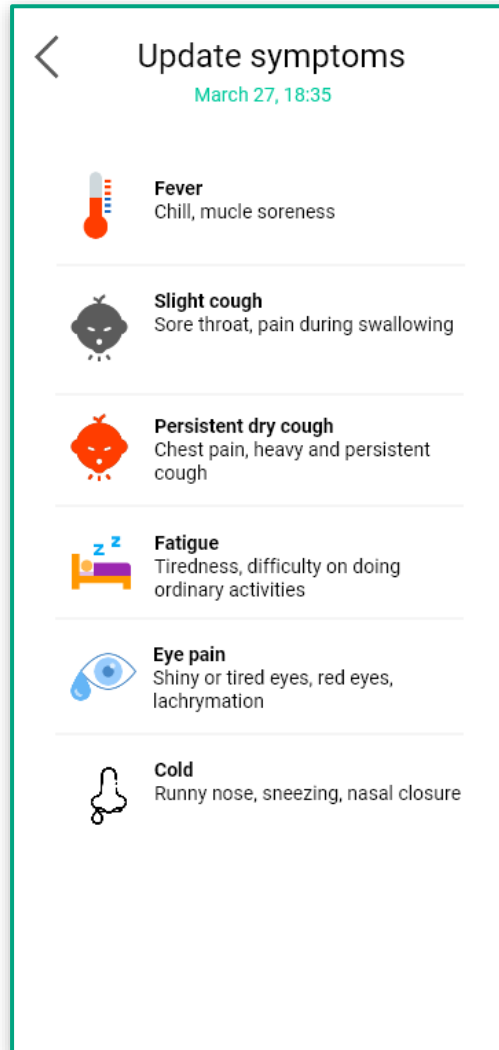
UPDATE SYMPTOMS

Personal notes







Write down you sensations, if you're tired, if you have pain, etc...

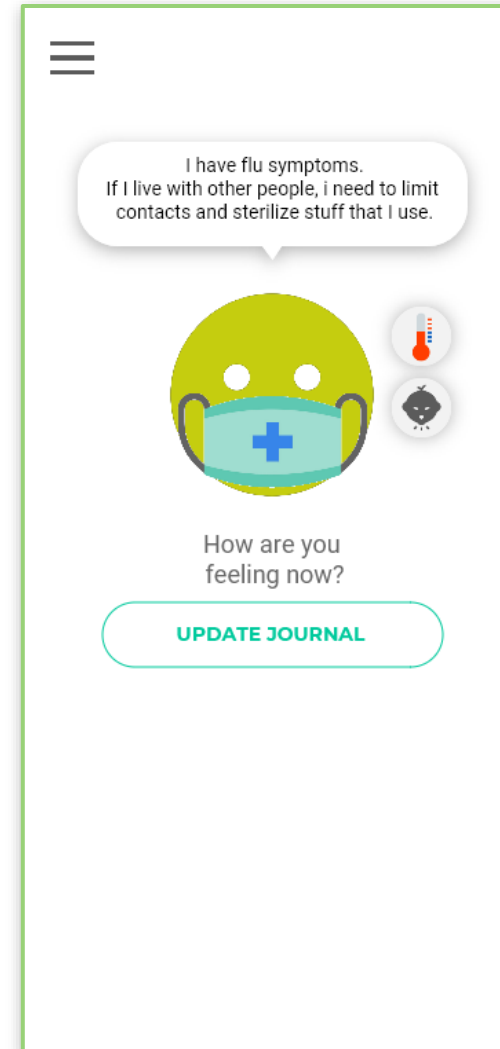
Q W E R T Y U I O P
A S D F G H J K L
↑ Z X C V B N M
123 space Go

☺ 🎤




< Update symptoms
March 27, 18:35

-  **Fever**
Chill, muscle soreness
-  **Slight cough**
Sore throat, pain during swallowing
-  **Persistent dry cough**
Chest pain, heavy and persistent cough
-  **Fatigue**
Tiredness, difficulty on doing ordinary activities
-  **Eye pain**
Shiny or tired eyes, red eyes, lachrymation
-  **Cold**
Runny nose, sneezing, nasal closure



☰

I have flu symptoms.
If I live with other people, I need to limit contacts and sterilize stuff that I use.



How are you feeling now?

UPDATE JOURNAL

The user can keep track of his health status by adding symptoms and personal notes. The avatar will therefore propose the behavior to be held, based on the reported symptoms.

Only a **Doctor** or **Agent** can change a user's health status to a **positive** state.

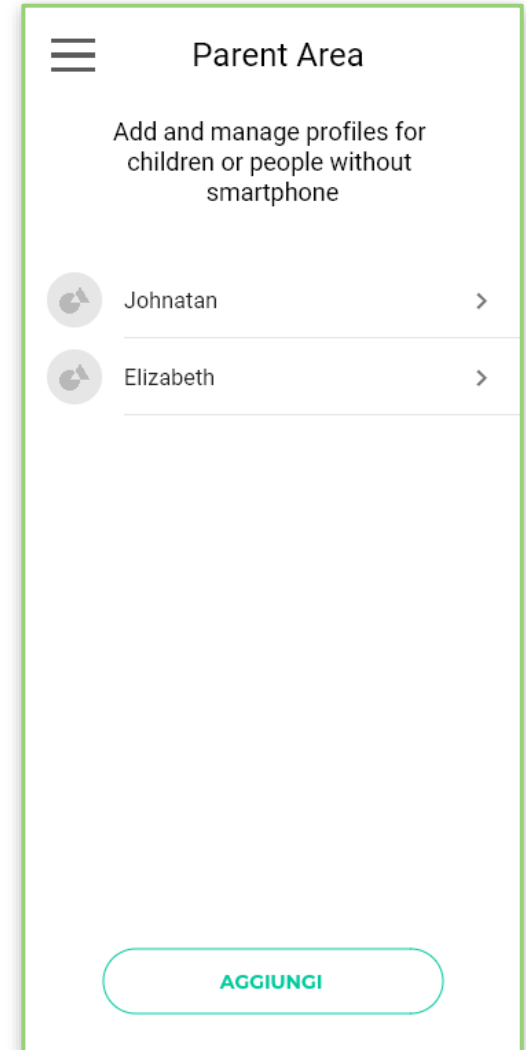
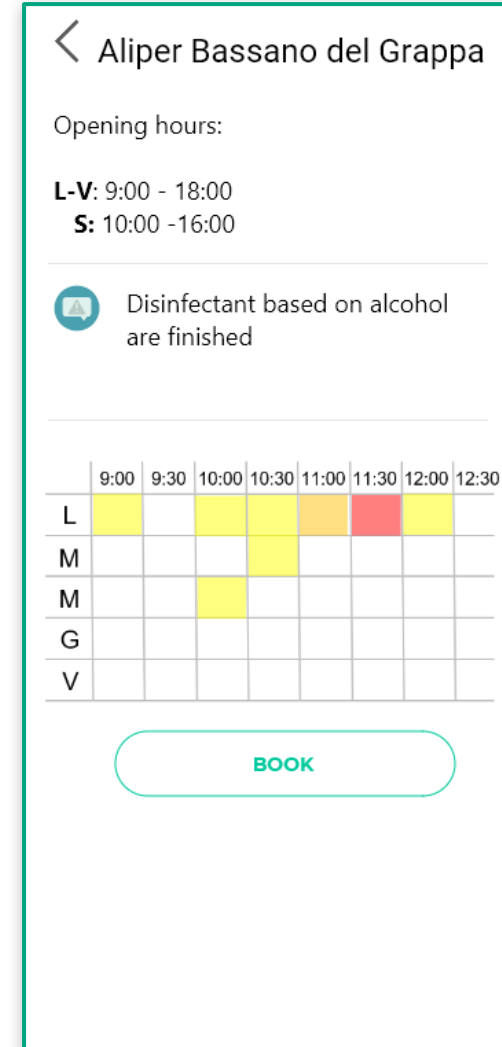
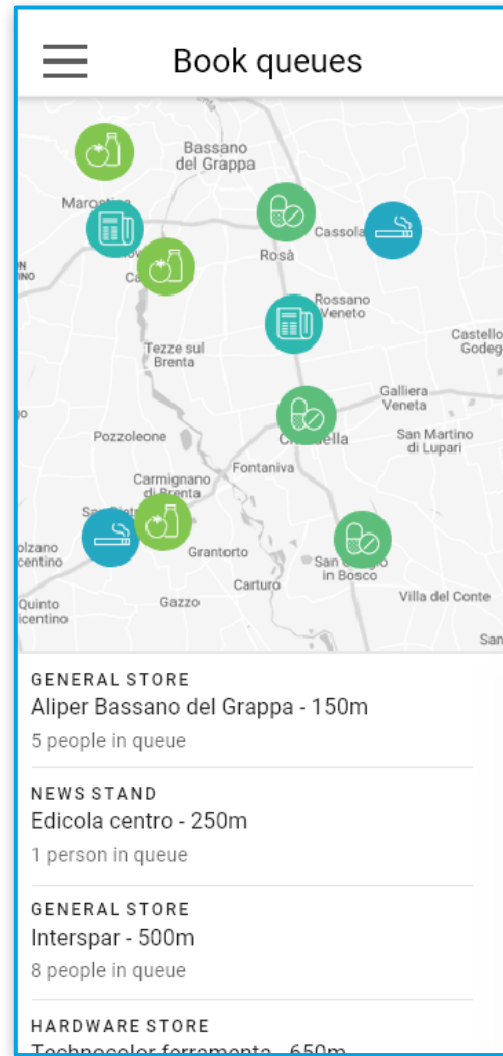
This ensures that the network of contacts receives notifications with **certainty of authenticity**.

The resulting **publication** in the network of the positions and contacts of the user (with his consent), allows you to **notify** the network about the change of status.

Citizen – Queue Booking and Parent Mode

With the queue booking feature, you can **reserve a seat** in the open shops.

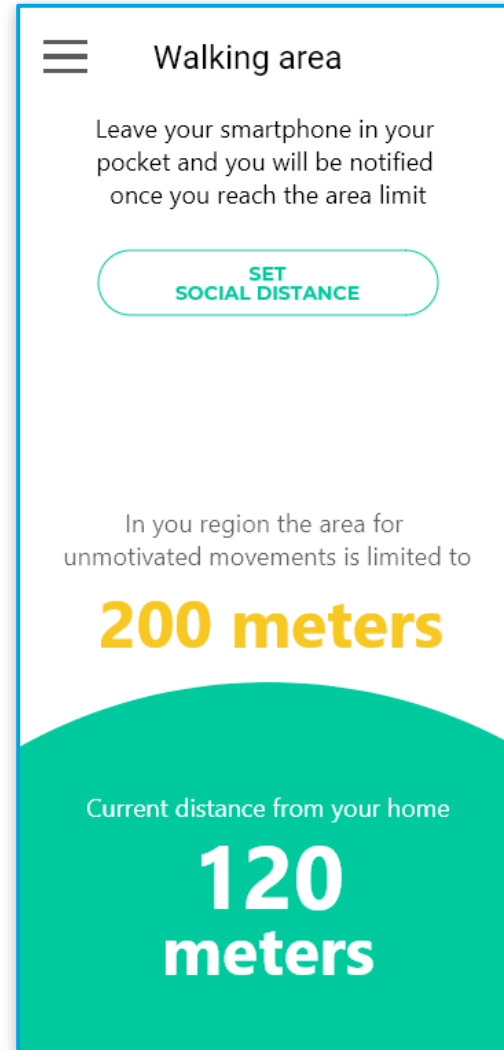
The **parenting area** allows you to add and manage additional profiles to monitor the progress of **children** or **seniors** who do not have a mobile device.



Citizen – Walk zone and Identification App

With the **walk zone feature** you are notified if you exceed the **maximum distance** from your home, as allowed by local or national rules.

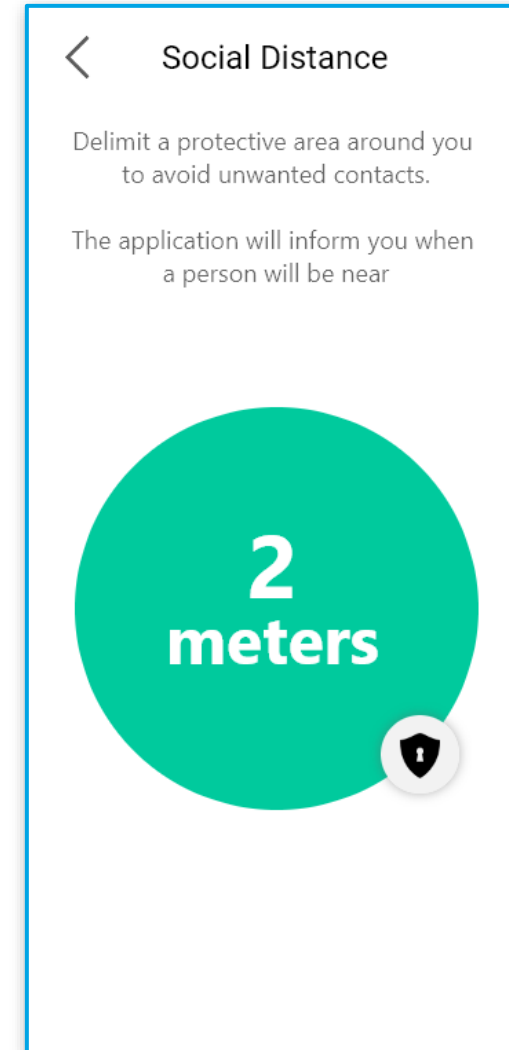
Where BLE is not available, a QRCode identifier allows a **Doctor** or **Agent** to verify the user's **movements, contacts** and the history of the user's symptoms.



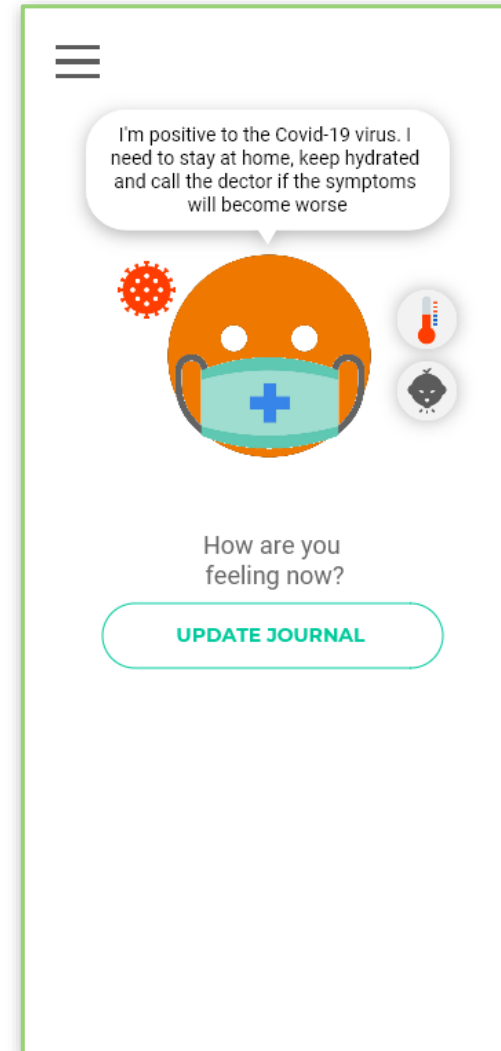
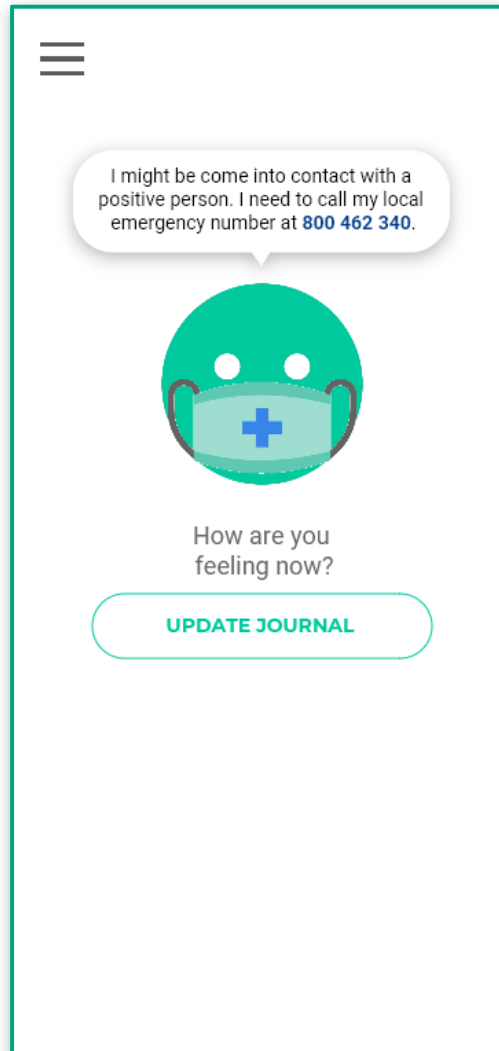
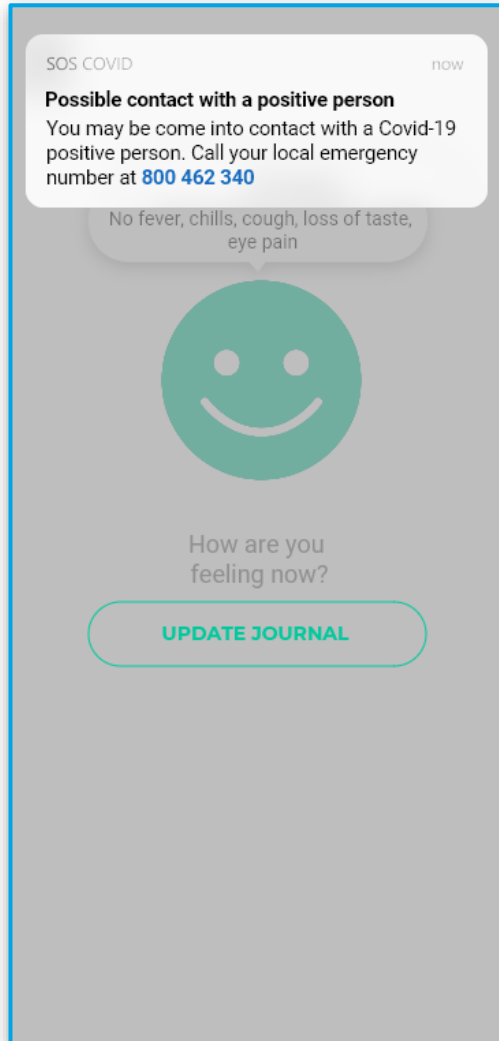
Citizen – Social Distance Management

The **social distance** feature allows you to monitor the area around the user in order to **avoid close contact** with other people.

The app **alerts** you with a vibration and/or a sound when another user approaches less **than 1 meter** (configurable distance).



Citizen – Notification of positivity among contacts



When the server records a positive case in the user's network of contacts, the user is immediately **notified**, and a message suggests about the behaviors/actions to take.

The user is prompted to **upload his movements and contacts**, so that the system can send second-level notifications, eventually.

The **contagion evaluation algorithm** is configurable with distance between subjects, duration of interaction, and with 'concentric centers' logic.

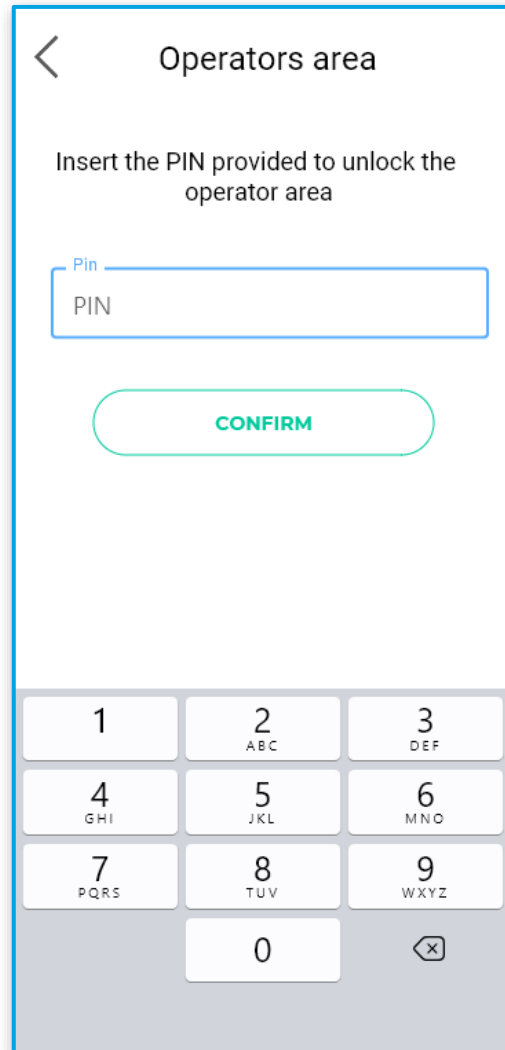


Mobile application for operators

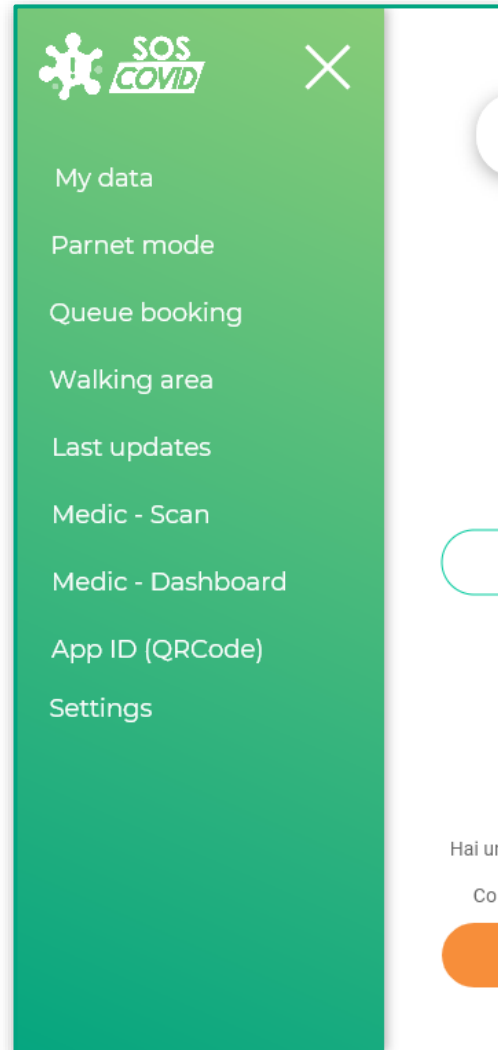
Features specific to Shops, Medics and Authorities

un progetto di

Doctor or Agent – Access



The screenshot shows a mobile app interface titled "Operators area". At the top left is a back arrow. Below the title, it says "Insert the PIN provided to unlock the operator area". There is a text input field labeled "Pin" with "PIN" entered. Below the field is a green "CONFIRM" button. At the bottom is a numeric keypad with digits 1-9, 0, and a backspace icon.



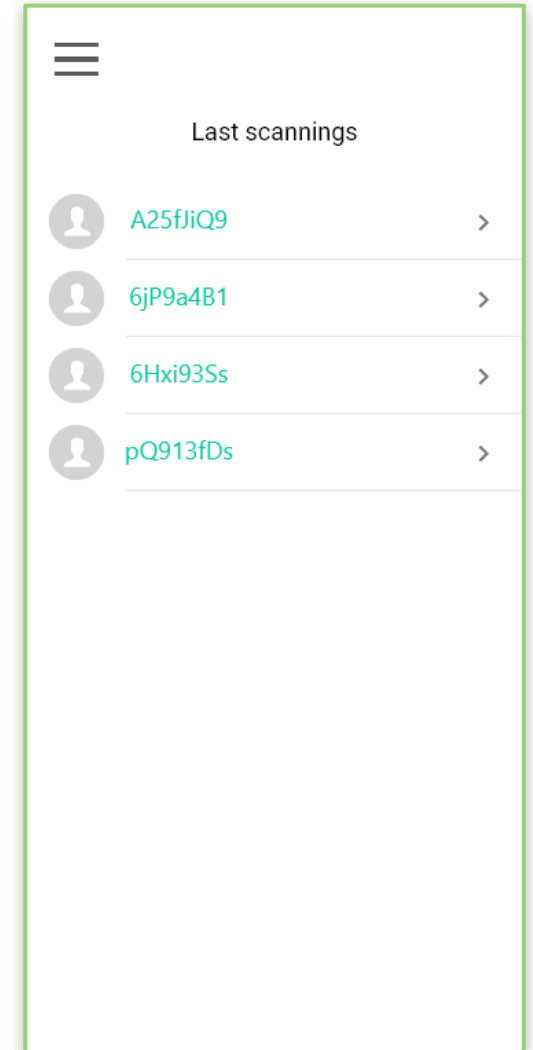
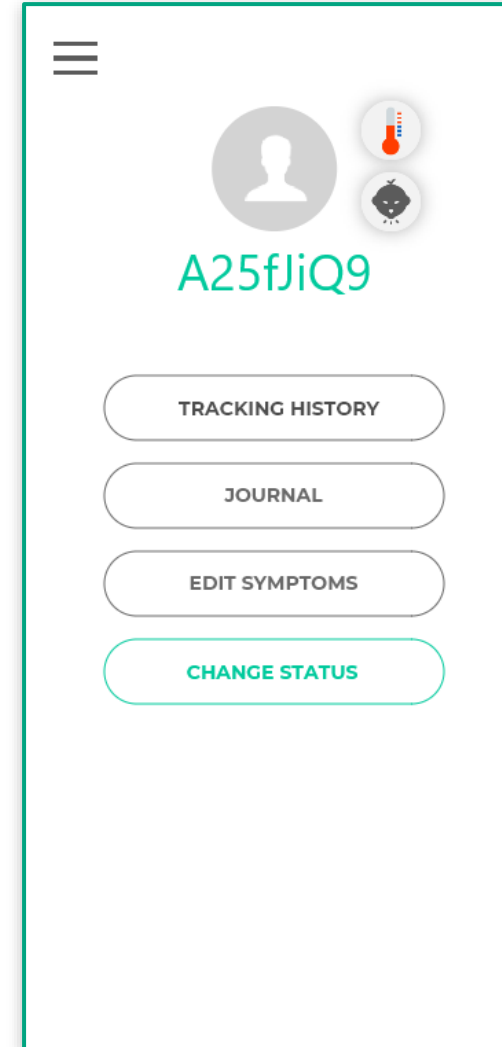
From the settings page, the app allows you to authenticate as a **Doctor** or an **Agent**. In this case, you are prompted for a **PIN**, generated and managed by the administration back office.

New features are then made available, such as **scanning a user's identification code** and verify **movements and contacts**.

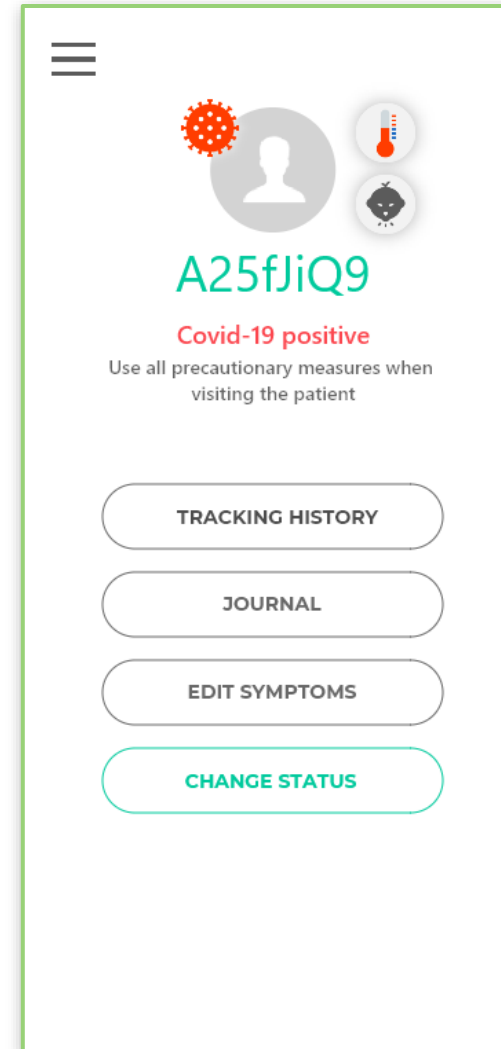
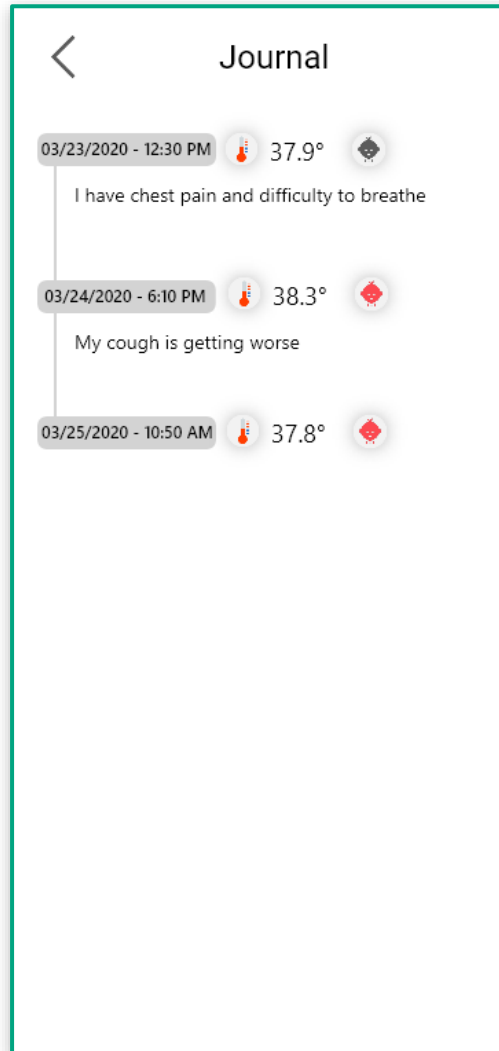
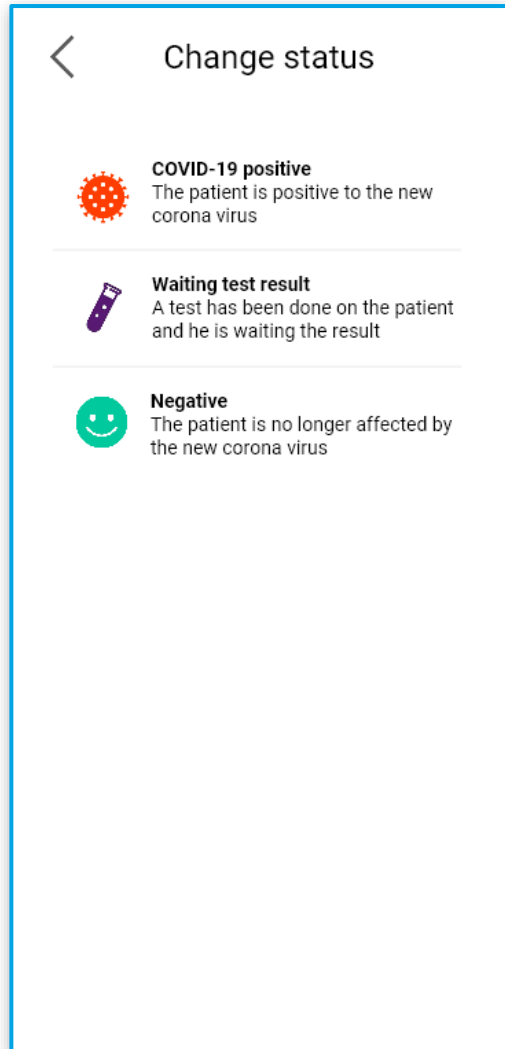
Doctor Mode – Check a Citizen

In **Doctor** mode, the scanning feature allows you to check a user's **movements**, **contacts**, and symptoms history.

The identification of the user (however **anonymous**) is done **automatically** via Bluetooth, or reading the QRCode generated by the user app.



Doctor Mode – Historical and Patient Health status Change



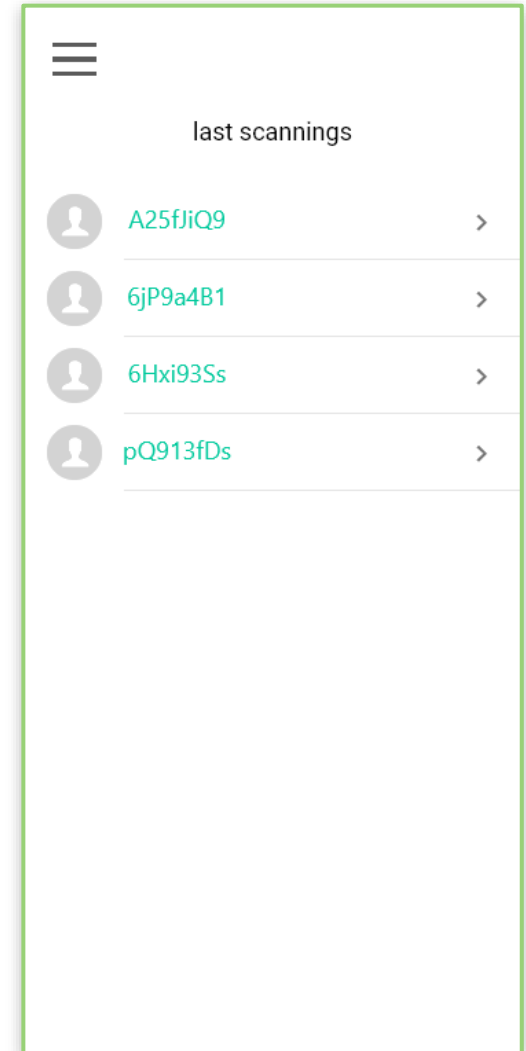
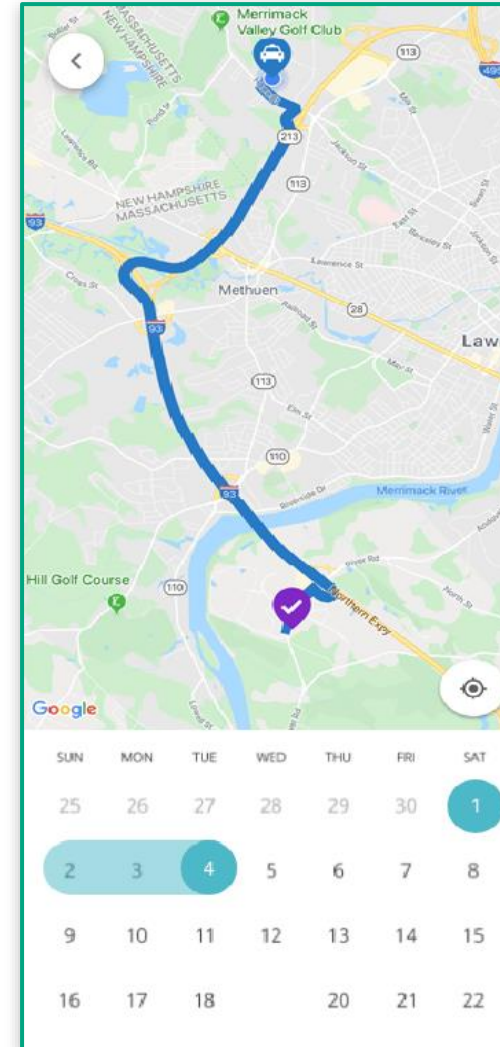
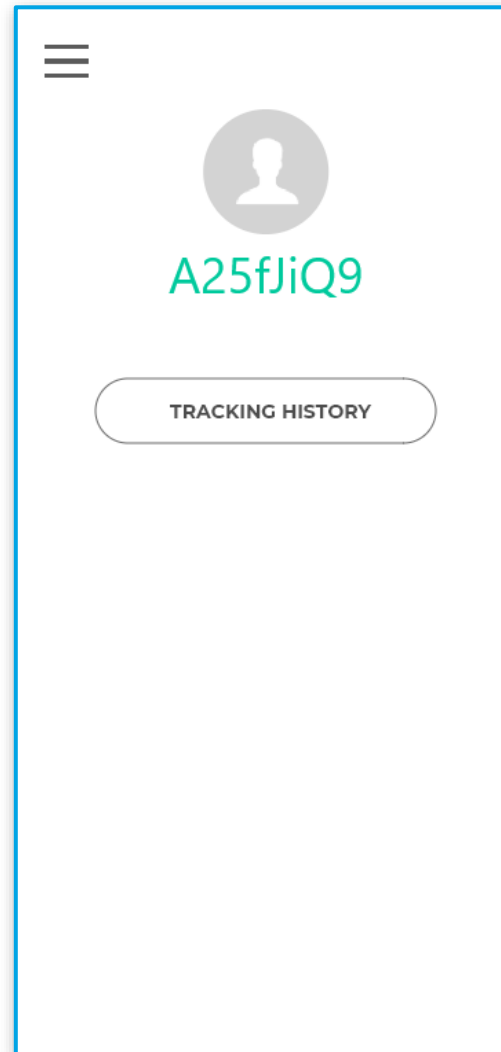
Only in **Doctor** mode is it **allowed** to change a user's health status to a **positive** state, in order to ensure that the contact network will receive an **authentic** alert.

The **Doctor** can also check the patient's symptomacy diary and keep it monitored later.

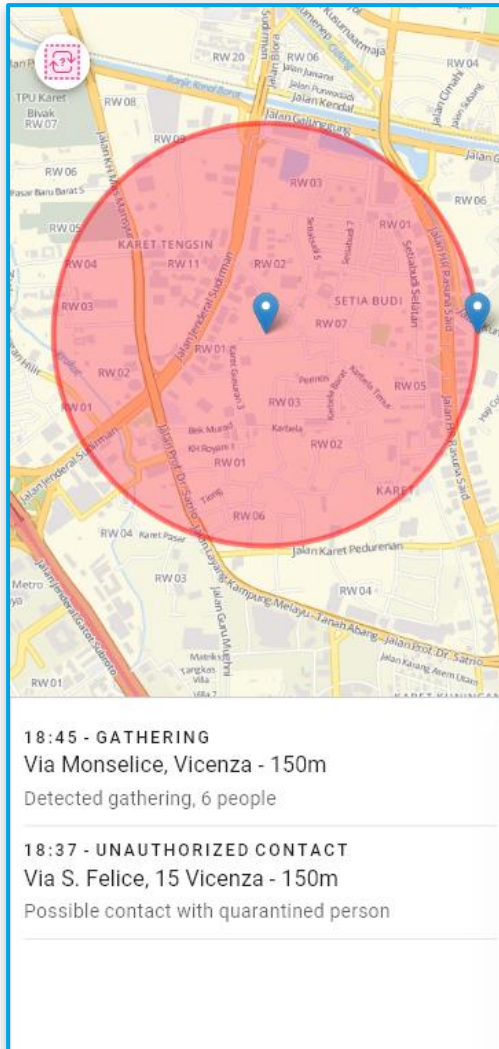
Agent Mode – Citizen tracking

In **Agent** mode, you can check the user's movements.

The identification of the user (however **anonymous**) is done **automatically** via Bluetooth, or reading the QRCode generated by the user app.



Agent Mode – Gatherings and user's contacts check



Agent mode is designed for law enforcement.

In this mode, the application offers the same functionality as the Doctor mode, but also **receives public order notifications** generated by the cloud monitoring algorithm, such as:

- **Gatherings**
- Contacts with a **quarantined** user
- User **lockdown violation**

All notifications are sent to the **nearest** Agents with the **location** of the user(s).

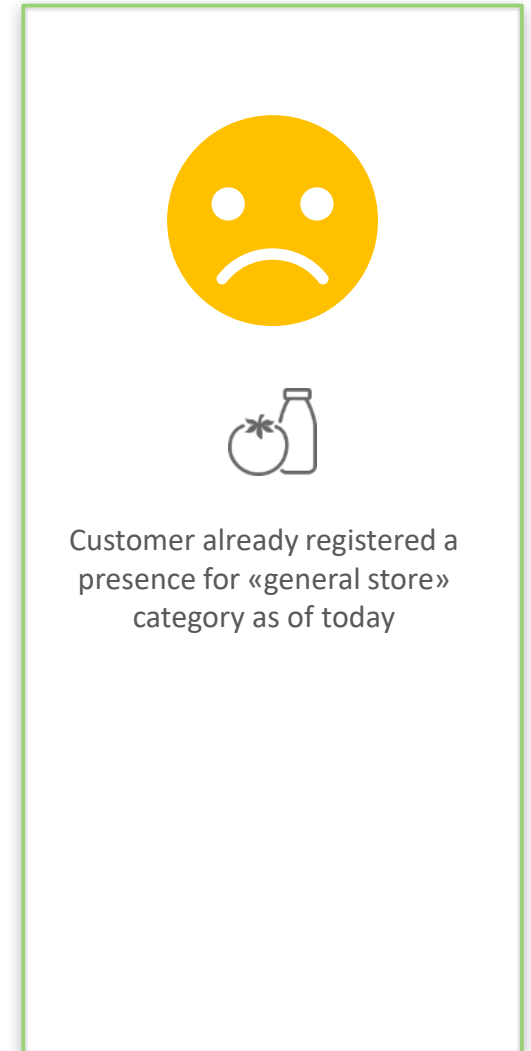
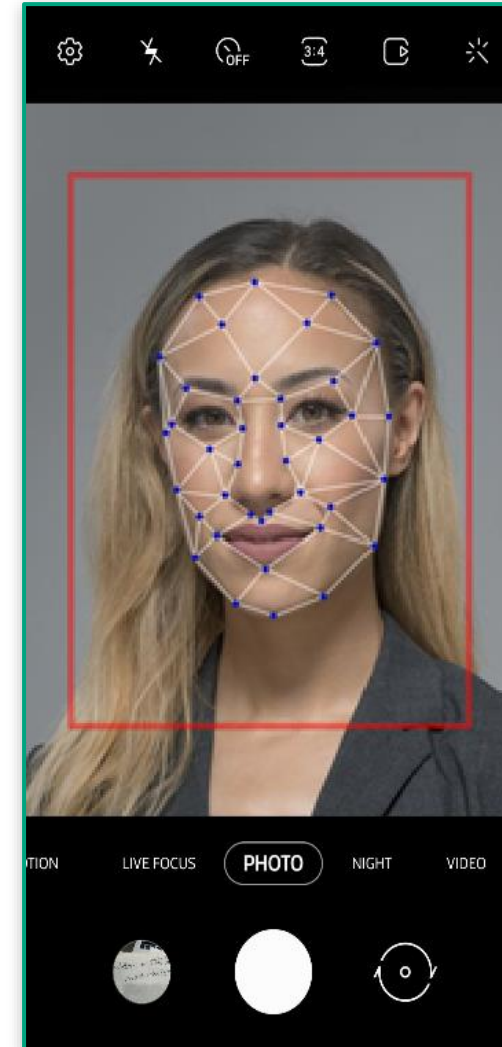
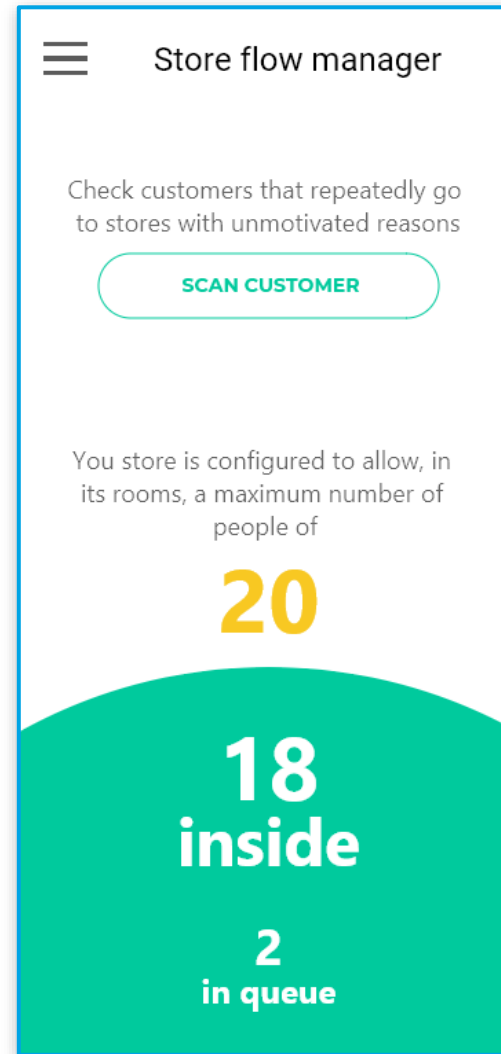
Merchant Mode – Queue management and access limitations

The **Merchant** mode is designed for cashiers or controllers of supermarkets, pharmacies, and any service open to the public.

In this mode, the application offers two features:

- Automatic **queue management** based on the location capacity
- Notify when a user goes to a service of the same category **more times than allowed**

The identification of the user (however **anonymous**) is done **automatically** via Bluetooth, or reading the QRCode generated by the user app, or with face scanning (anonymous).





Thank you

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