

# Open-Source WHO/Governments Symptomatic Map COVID19 Selfquarantine App

opensource application that would give institutions a real-time platform to monitor the symptoms of all citizens about coronavirus and create the **SYMPOTAMATIC MAP** in real time to anticipate the **covid19** spread.

## Introduction

Now here in Italy we are already in self-quarantine (and we will be long) so make available to governments/oms and science and who, all symptomatic big data through involving all citizens, it will guarantee more sense of responsibility, more control and accurate/timely interventions and above all, less contact and risk for our general practitioners and health staff, providing the symptomatic data of the population to science to study the coronavirus faster to find therapy and vaccine.

## Proposal

The Who **opensource** app should give to the Governments/Healthcare Institutions a real-time platform to monitor the symptoms of the Coronavirus about all the citizens, symptomatic and asymptomatic ones.

Talking with doctors in Italy, emerged that it would be really fundamental to have the **symptomatic map** as soon as possible (not so important the spread map: it's too late) to block new infections and intervene with "symptomatic priorities" by all the available resources.

According to such citizen symptoms the healthcare Authority will be able to decide if they need or not to be tested or when and how.

The main idea of the app is to have a **symptomatic map** so that authorities will be able to intervene at the right place and as soon as possible before the infection spreads and avoid the **COLLAPSE OF HEALTH STRUCTURES**. Because of privacy limitations, probably the mandatory element would be finding **WHO/Government sponsorship** **Government institutions & Institutes of Health** would be the only ones predisposed to manage / analyze data.



## Features

### FAMILY CORE PROFILING

First name  
Surname  
Pwd  
Address QUARANTINE  
ID  
Phone  
Mail  
Facebook / Twitter / Instagram  
Name / Surname/ Mail/ phone of his general practioner \*

## Functionality

- Quarantine start date
- Daily body temperature
- Symptoms list (the citizen selects if necessary or questionnaire mode to simplify data entry for the elderly)
- Medicines assumed List (list of medicines that citizens select by category, e.g. antiviral, antipyretic, etc.)
- List to be selected ONLY during "family members" profiling
- Previous Pathologies List (possibility to select multiple previous diseases, e.g. cardiopathic, diabetic, immuno-suppressed, etc.)
- List to be selected ONLY during "family members" profiling
- 'got int contact people' List updated daily by user (name, surname, place of contact, etc.) if "test positive" geotracking last 3 weeks

11:20   


 SymptoSelfQuarantine

INSERT YOUR OWN FAMILY MEMBERS

PERSON 1

PERSON 2




11:20   


 SymptoSelfQuarantine

INSERT "PAOLO" DATA

RESIDENZA O DOMICILIO

11:20   

 SymptoSelfQuarantine

START PAOLO'S CLINICAL DIARY

PREVIOUS PATHOLOGIES

☐ Diabetes

☐ Asthma

☒ Heart problems

☐ Other



MEDICINES ENGAGED IN QUARANTINE




☐ Antibiotics


☐ Antiinflammatory

☒ Antipyretics

☐ Other

11:20   

 SymptoSelfQuarantine

CLINICAL DIARY of MARCH 26, 2020

SYMPTOMS

Cough

☐ ☐ ☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐

0 5 10

Temperature

☐ ☐ ☐ ☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐



35 36 37 38 39 40

Sore throat

☐ ☐ ☒ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

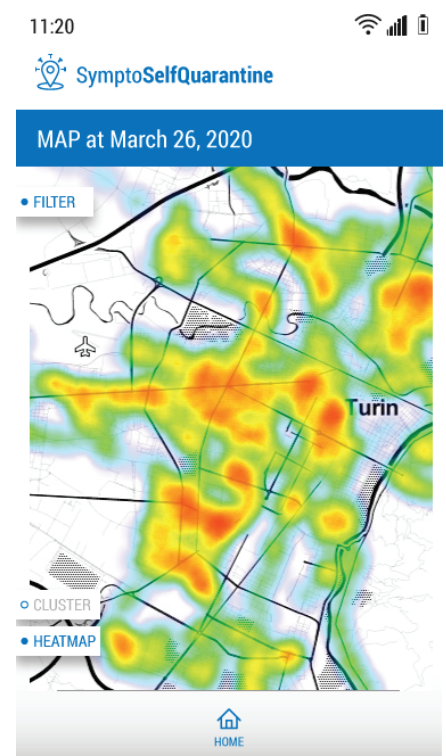
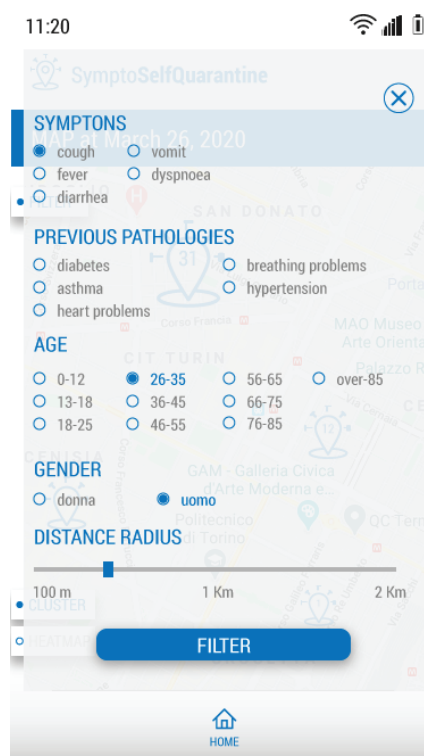
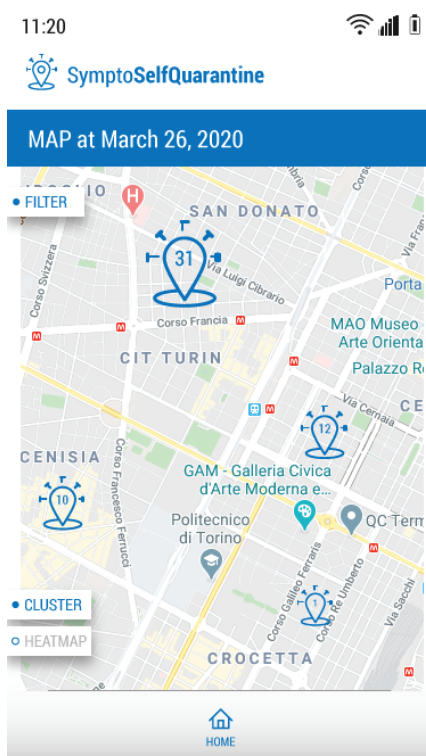
0 5 10

☐ Other

## Symptomatic map in real time features

- Realtime Symptomatic quarantines/self-quarantines Map
- Map Filter for symptoms (possibility to select multiple symptoms eg cough, fever, breathing problems etc.)
- Map Filter for previous pathologies i (possibility to select multiple previous diseases, e.g. cardiopathic, diabetic, immunosuppressed, etc.)
- Map Filter by age range
- Map Filter by gender
- Map filter Covid19 tested
- Map Radius filter (1-100 km)
- Realtime notifications of instructions from government institutions to the citizens (quarantine, end of the quarantine, where to find food, medicines, and so on)
- Ability to request for medicine for quarantined people that can't move out of the house
- **\*ADVANCED (backend): Ability to see on the map how many patients (filtered by symptoms) is undergoing every general practitioner in order to help doctors with too many cases**



To the end user, the application will give only aggregated/anonymous data.

## Advantages/Targets app:

- Monitoring citizen's health daily
- Identification of potential ASYMPTOMATIC cases that emerged by the symptoms of one's own family

*Eg Family of 5 members: father, mother, 2 children and grandmother.*

*a) mother, grandmother and son have SYMPTOMS*

*b) father Paucisymptomatic*

*c) second child no symptoms*

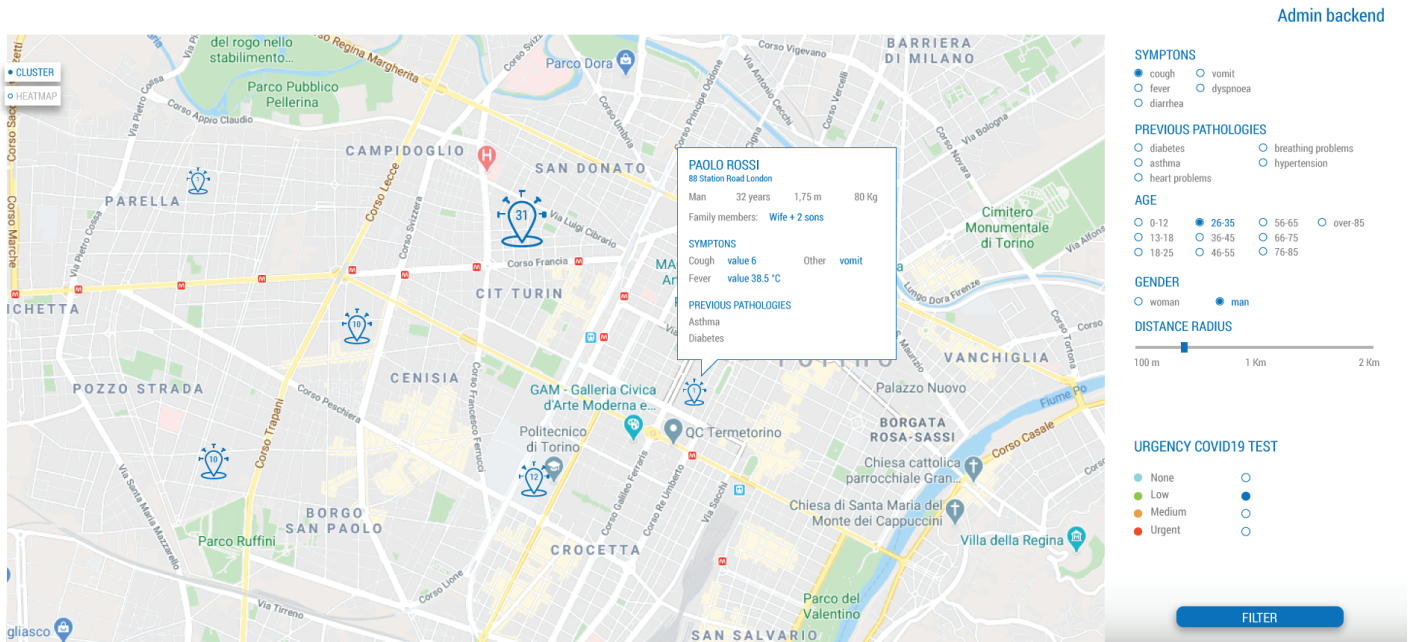
The SECOND child is probably an **ASYMPTOMATIC** or **SUPER SPREADER** or a "**big luck one**"

- Clinical / symptomatic picture and the symptomatic history of each citizen during the period of self quarantine to allow a more precise and accurate reconstruction in case of aggravation and hospitalization.
- Saving time, human resources, beds, intensive care, respiratory etc.
- Decreased contagion risk of general practitioners and health staff
- Identification by symptomatic map of new outbreaks in ADVANCE
- Historical movements and movement areas of each citizen during the self-quarantine period (geotracking last 3 weeks for positive tested ones)
- List of contacts during the self-quarantine period (each citizen enters data)
- Real-time SYMPTOMATIC BIG DATA collection allow doctors a better organization of the resources and virologists to study and understand how the virus behaves faster to find therapy and vaccine
- Protection of user privacy, to the end user, the application will only provide aggregate / anonymous data ((data managed / stored directly by Governments and Health Institutions )
- All data collected will be managed and protected by each national health institution(or government )
- All the data collected would be shared with WHO to allow the study of the virus worldwide
- Worldwide tool for any future epidemic emergency
- Quick and easy implementation



## IMPORTANT CONSIDERATIONS

"FUNDAMENTAL features" of the "Symptomatic Model", which guarantee its **EFFECTIVENESS** and real **UTILITY** for citizens, State and Science, are:



- The registration phase must allow you to upload your **FAMILY CORE** members to the app, symptomatic or asymptomatic ones.
- The management of the symptomatic daily data of every member allows the **deduction** and **IDENTIFICATION** of "potential asymptomatic cases" present in the family and the management of the clinical diaries of all family members.
- Enter your previous pathologies by category / specific (cardiac, respiratory, diabetes, asthma etc) and the possibility of adding disease by the user, allows:
  - a) to improve the statistics of previous diseases that could aggravate the clinical picture if you are infected Covid19 with other pathologies
  - b) allows science, potentially, to be able to experiment with other medicines or therapies using data (based on symptomatic / previous pathologies) provided directly by citizens in "self-diagnosis".
- Updating medicines assumed during the self-quarantine, both for symptomatic and asymptomatic, allows Science to study, potentially:
  - a) if there are "inhibitory" medicine working for asymptomatic,
  - b) or therapies that improve the conditions of the symptomatic at the moment not considered in the official therapeutic protocols.
- About symptoms it's mandatory to insert the 'INTENSITY' value of every daily symptom in order to see improvements or aggravations of the clinical picture:
  - a) the citizen can always check his clinical diary
  - b) Healthcare institutions can manage aggravations priorities , determined by the data collected in real time.

- The real time MAP of SYMPTOMS will give informations to all citizen about the "**symptomatic situation**" around him and understand and avoid dangers of his external movements ( food, pharmacy etc ..)
- GOVERNMENT App will reassure citizens about the use, protection and management of their personal data and **OPENSOURCE** will accelerate any ADD-ON by an international team that can contribute and accelerate development and deployment.

## CONCLUSION/VISION

*"After much talk about the Chinese / Korean model, I think it is time to create our" WORLD symptomatic model "that manages the correct variables with an advanced epidemic.*

*Changing the approach of numbers in the field, collecting and analyzing the symptomatic data of all citizens in addition to those "de facto" about contagions and deaths, I think it can change the epidemic scenario in the making, both for the State in the management of healthcare resources (general practitioners, facilities and health personnel, tampons test available), both for Science by acquiring symptomatic big data with which to study the behavior of Covid19 for therapies and vaccine.*

*A real-time symptom map could represent a turning point in the management and study of the pandemic and would become a "global model" for acquiring data from all citizens to better guarantee their health and at the same time be able to analyze, accurately and in advance , the actual contagious situations (symptomatic /asymptomatic), providing scientists with data that are currently not available but present.*

*Privacy is a dogma that is currently on our side, not an enemy to be defeated but rather a precious ally to guarantee citizens peace of mind and awareness in providing their symptomatic data "daily" through a government app. The "value of the symptoms" maintains and guarantees the "proportionality" linked to the health situation and the contagion in progress, delegates the responsibility of the data to the government institutions (Healthcare Institutions, Government / Civil Protection) and finally declares from now on its use exclusively for the duration of the epidemic.*

*It won't be the last pandemia, so better to create a useful and simple instrument and use this situation to allow all world people to be confident with this new scenario by the right instrument.*

*Having the "symptom map" first through the technology available to us right now, can change the war scenario, from a "wait" approach to a "resolute and pragmatic" one, to help, with the help of **ALL CITIZENS**, our best health and scientific excellence for months "at the front" with few weapons and defenses. "*

## FOUNDERS PROPONENTS

Social Research group for  
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<https://bit.ly/2xHwIAU>