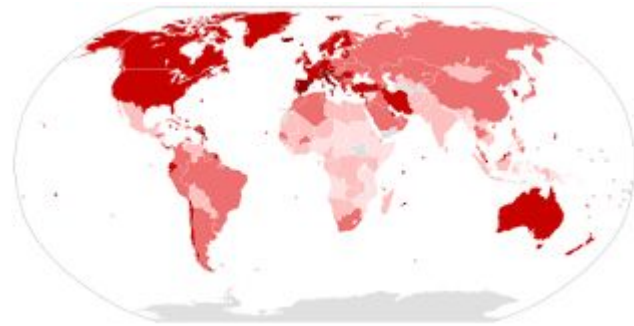OPEN CORONAVIRUS

https://github.com/open-coronavirus/open-coronavirus

Open-Coronavirus

- ❏ **OPEN-CODE**
- ❏ an **OFFERING** to official bodies and authorities
- ❏ **QR** codes
- ❏ **ANONYMOUS** tracing of contacts intended as **INCENTIVE** (informs you, allows you to safely go out, …) not as an obligation.
- ❏ Tools are **READY** for selective quarantine de-escalation

Mobile app for pandemic control -until an effective vaccine will be available- based on **results of diagnostic tests and tracing of infections**

Functionality

MODULAR App

4 Functional modules: independents and configurable

1. Self-assessment questionnaires and self-monitoring
2. QR codes
3. Citation of Covid diagnostics tests for acute, recent or previous infection
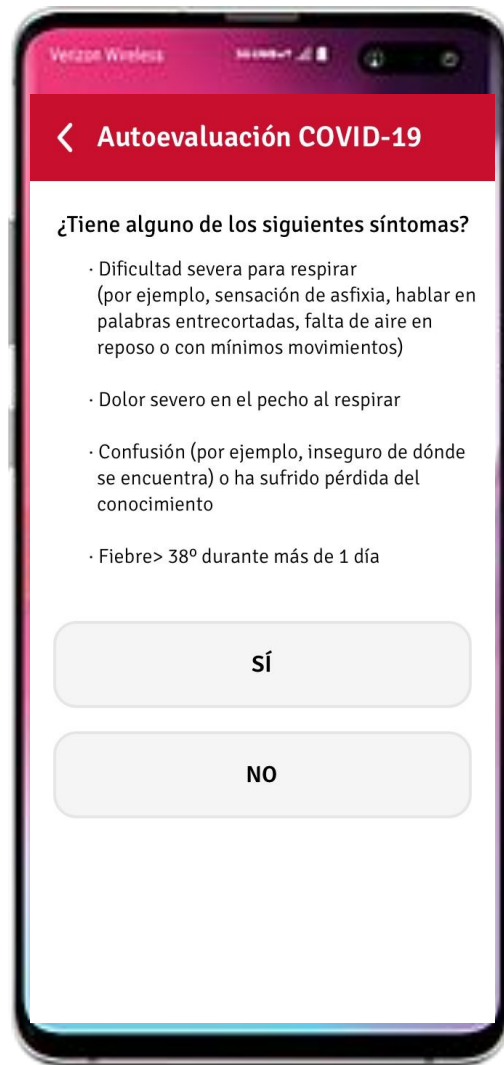4. Peer-to-peer tracing of Covid infections
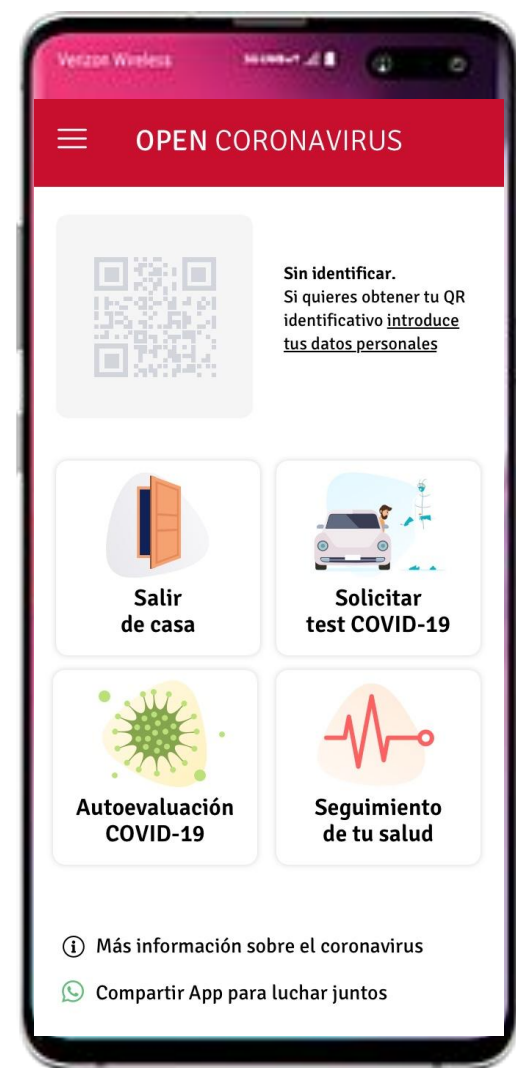
Self-assessment

Seriousness criteria or clinic of gravity?

Clinic of suspicion and/or mild symptoms?

Recent contacts?

Comorbidities and risk groups?

Self-assessment - results

❏ Go to the emergency room and/or request medical assistance

❏ Can circulate but maintain physical distancing

❏ Self-isolate, quarantine a minimum of 14 days and health self-monitoring

❏ Request Covid 19 diagnostic test

❏ No precautions needed - can move freely (acquired immunity)

Verizon Wireless

< Autoevaluación COVID-19

Resultado de la autoevaluación de COVID-19

No tiene clínica sospechosa de infección.

Debe realizar distanciamiento físico o pedir opcionalmente una prueba de diagnóstico drive-through que le permitiría salir en caso de ser negativo

SOLICITAR TEST COVID-19

Medidas de distanciamiento físicos
· Quédese en casa según lo dictado por la autoridad.

· Salga a comprar alimentos y otros mandados esenciales una vez a la semana,

· Mantenga una distancia de 6 pies (2 metros) de otras personas cuando salga al público.

Vuelva a realizar esta evaluación si desarrolla nuevos síntomas o entra en
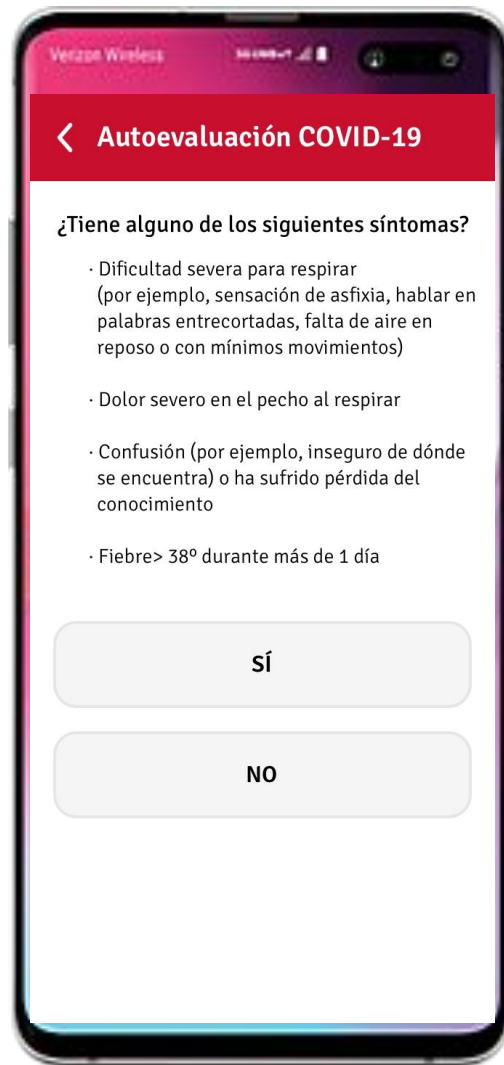
Health self-monitoring

Scheduled self-assessment with daily alerts

Communicate with health center

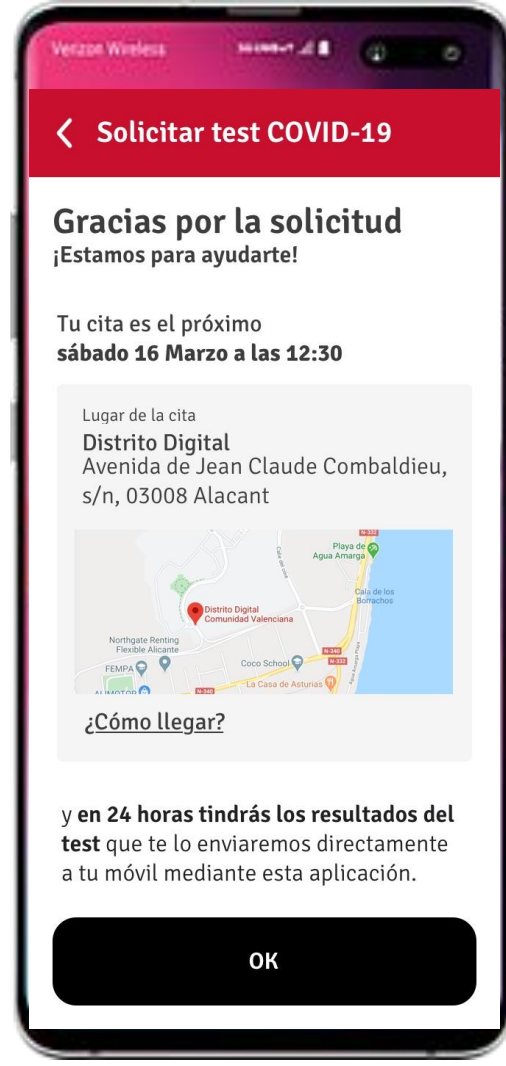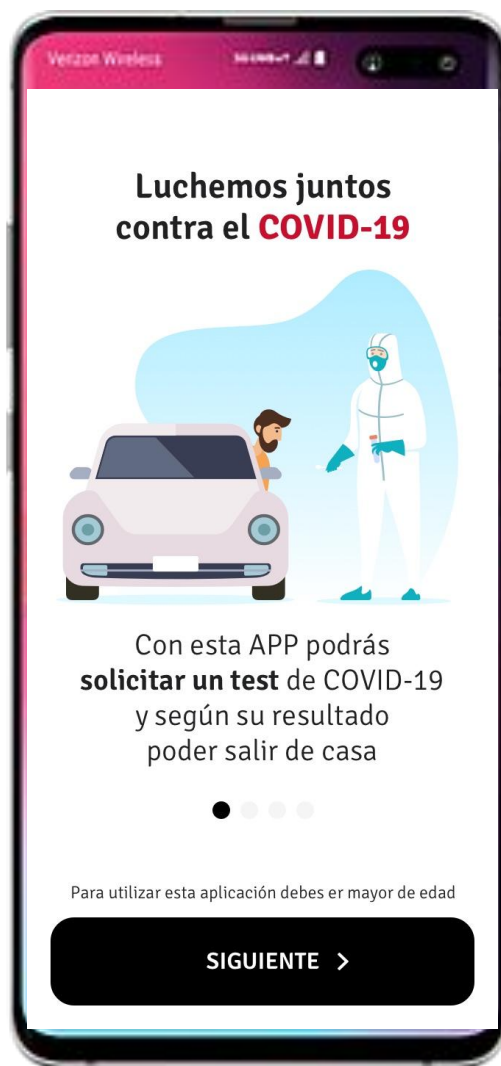Healthcare Operator Numbers (Telehealth)

Ambulance request

Diagnostic test citations module

❖ Citation at nearest diagnostic test center
  ➢ Drive-through
  ➢ Primary Care Facility
  ➢ Hospital Facility

*Needs integration with local health system

Citation of Covid-19 diagnostics tests

Acute infection (max window - first 3 weeks):

- **PCR** - processing and results in SMS at 2 days
- **Ag detection** (quick Dx tests) - results in 15 '

Recent or past infection: seroconversion and immunity status

- * **Serology IgM and IgG Antibodies** - results in 15 '(greatest sensitivity and specificity, require blood sample)
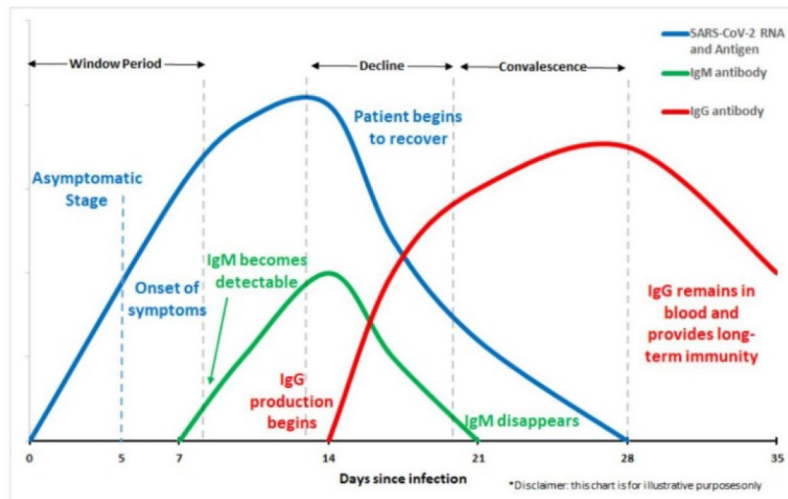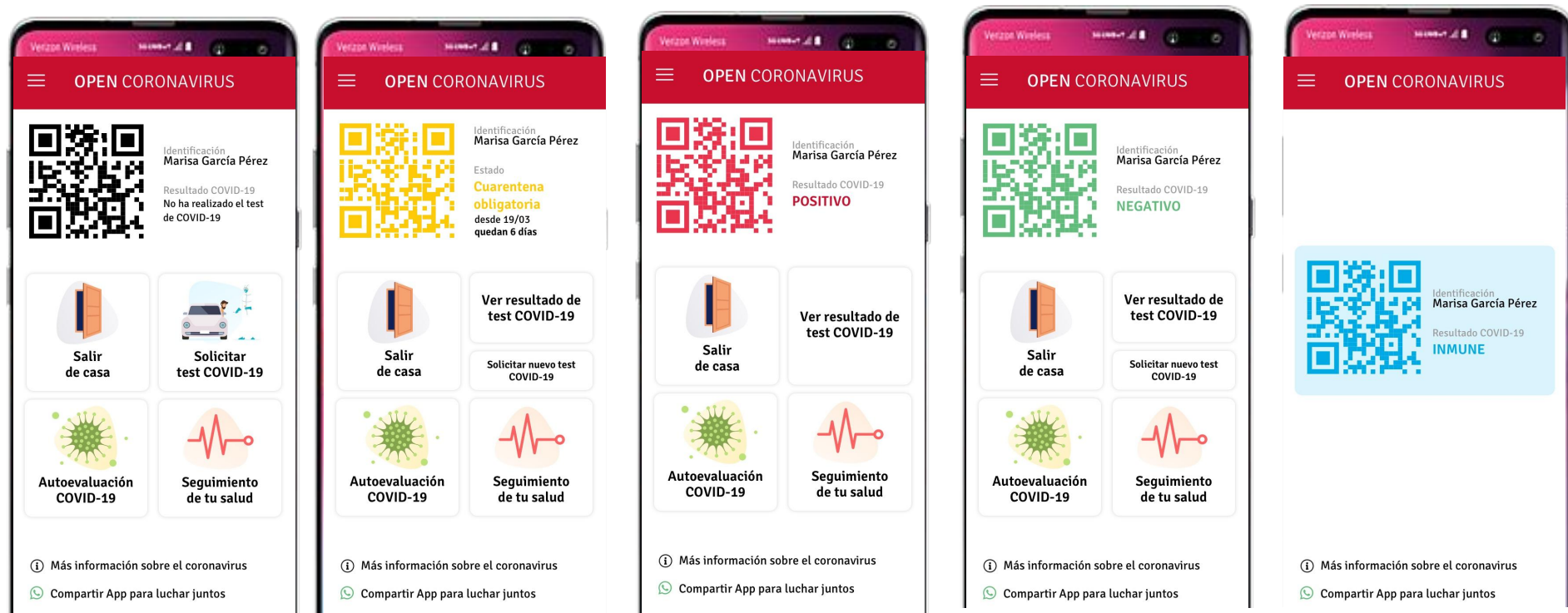- **Total Ac** - quick Dx tests (digital blood sample)

Figura 1. Periodo de positividad de las pruebas rápidas serológicas

QR - Codes

Citation of Covid-19 diagnostics tests

If the rapid antigen test is done, the result is obtained in 15 minutes.

• If the PCR test is done, the result is processed and sent by SMS within two days.

• If either test is positive, the citizen must do a 14-day isolation and repeat the tests once this period has ended.

• A certificate of "past infection" (a positive serology results) can be offered on paper, and also electronic (app), to citizens who have had this result

Contagion tracking module

Anonymous

Bluetooth (optionally GPS)

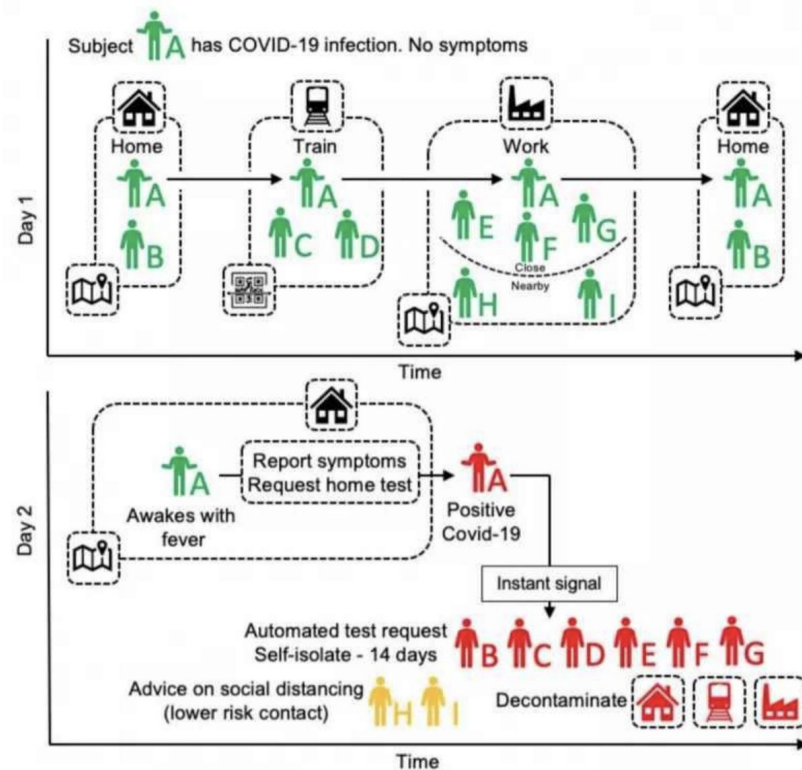Oxford methodology for cutting the chain of infections

Contagion tracking module

No SIM   73% 🔋

7:46
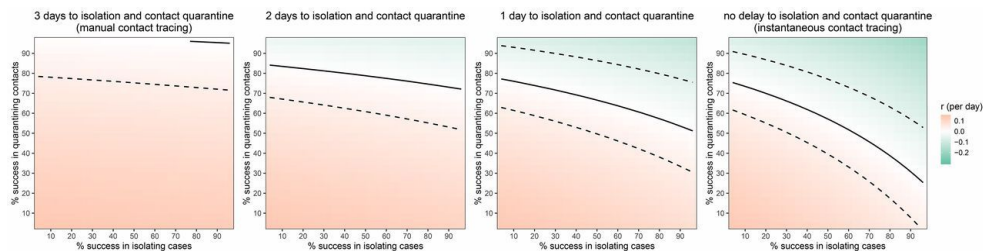
THURSDAY, NOVEMBER 6

🦠 **OPEN CORONAVIRUS**   now

El viernes te cruzaste con una persona que ha dado positivo en COVID-19.

Te hemos dado cita para que un test del coronavirus el 16 Marzo a les 12:30 en Distrito Digital (Avenida de Jean Claude Combaldieu s/n, Alicante).

No SIM 73%

7:46

THURSDAY, NOVEMBER 6

OPEN CORONAVIRUS now

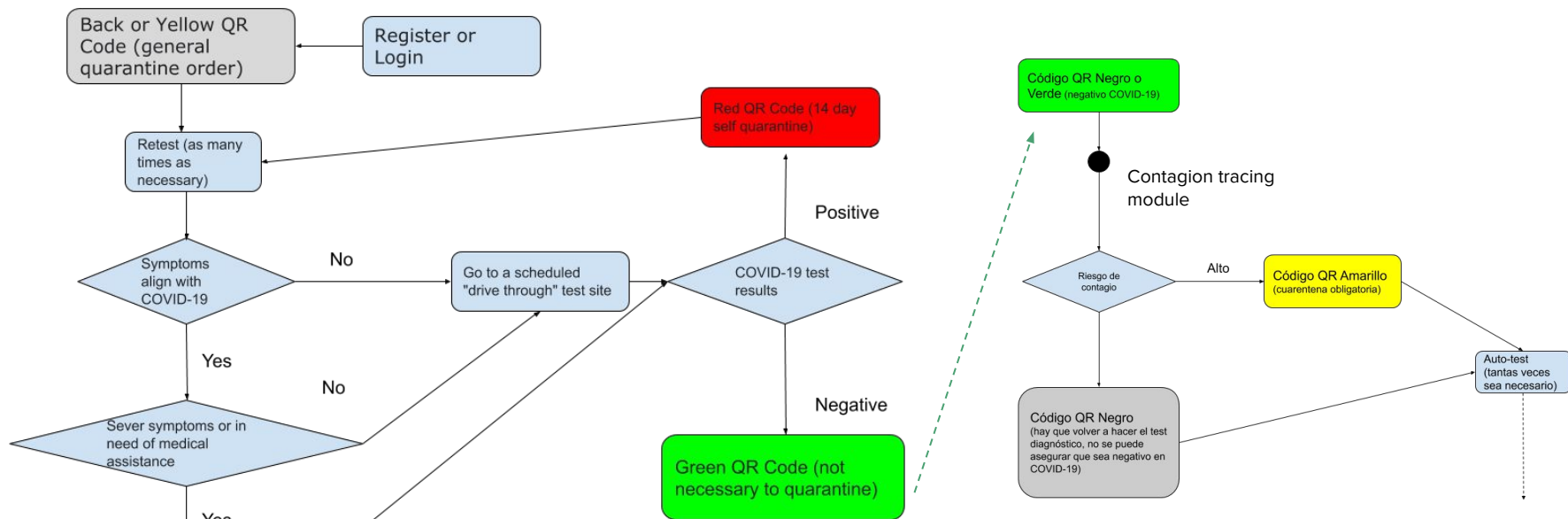**El viernes te cruzaste con 3 personas que ha dado positivo en COVID-19.**

Status transitions

The **green state** will **only** be **permanent** if a test has been carried out to verify acquired immunity or in case of previous infection> 37 days. Otherwise (no acquired immunity) the green state will allow circulation but with physical distance, it will be traced by the contagion module and can return to yellow or red state (*green discontinuous arrow)*

Maximize privacy and utility of data

In compliance with the user's privacy rights:

- Prior consent
- Anonymization / encryption of personal data
- Decentralized peer-to-peer contagion tracing network
- Transparency

Limited time storage of contact registries further protects the privacy of SARS-CoV-2 virus carrier diagnoses

- Do not exceed the time during which a diagnosed carrier could have infected another individual, which for Covid-19 is between **14 and 37 days.**

Default configuration

- Decentralized peer-to-peer tracing
- Anonymous broadcast with temporal random numbers:
    - A broadcast of the random numbers associated to the devices belonging to contagious people will be carried out so that any device will automatically and continuously check if any of those random numbers is found in its own device registry.

Conclusions

❖ Main objective: safe, progressive and fast quarantine de-escalation.

➢ Avoid repeat outbreak

❖ Main features: Open source, not mandatory, anonymized data, decentralized network and temporary records

❖ Ready for integration by the health authorities and official organizations

Team Work

Open-source
community

15 direct contributors