

Covid-19 white label solution for rapid identification of infection chains



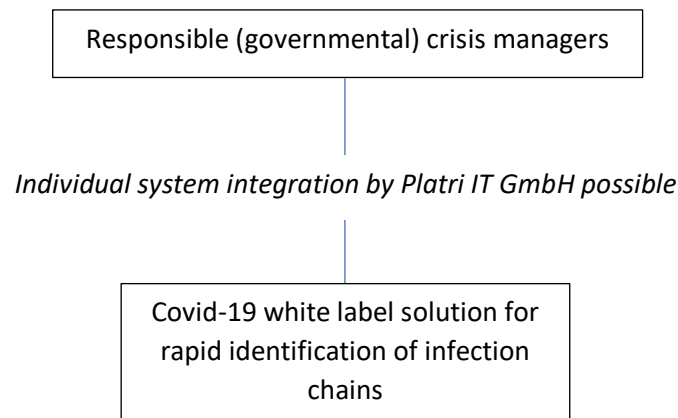
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Preface

This paper is addressed to all responsible crisis managers worldwide. It describes a complete white label solution for anonymous tracking of citizens and the coordination of test stations and health authorities:

- Data-protection-compliant, block-chain-based (and therefore unforgeable), anonymized tracking in real time
- System works as mobile app as well as without a smartphone.
- Infection chains are identified in real time and potentially infected persons are directly transmitted to the system in anonymized form.
- Systematic organization of people who need to be tested via dashboard (own login for health departments)
- Automated system that is monitored by health departments in order to use the existing test capacities 100 % effectively
- People who need to be tested receive perfectly customized information
- Potential opportunity to support the revival of economic systems

The project is 100 % open source and can be reviewed at <https://github.com/Platri/Flatten>. The concept illustrated in this paper represents a basic possible version. It is a variably adaptable concept. Please regard the inserted screens and explanations as a white label solution, which will be individualized to your situation.



The core team in charge of this white paper, which has created and continuously updates this white paper, is Platri IT GmbH, based in Germany. You can commission Platri IT GmbH to implement the concept individually adapted to you and to integrate it into your systems.

Step 1: Government agencies send information letters to citizens

You start the project by sending letters to your citizens as shown below:

Dear Madam/Sir ###,

to contain the current situation, from now on every citizen will use the mobile app "Appname". Please download the app from the Google Playstore or Apple App Store. Afterwards follow the instructions in the app.

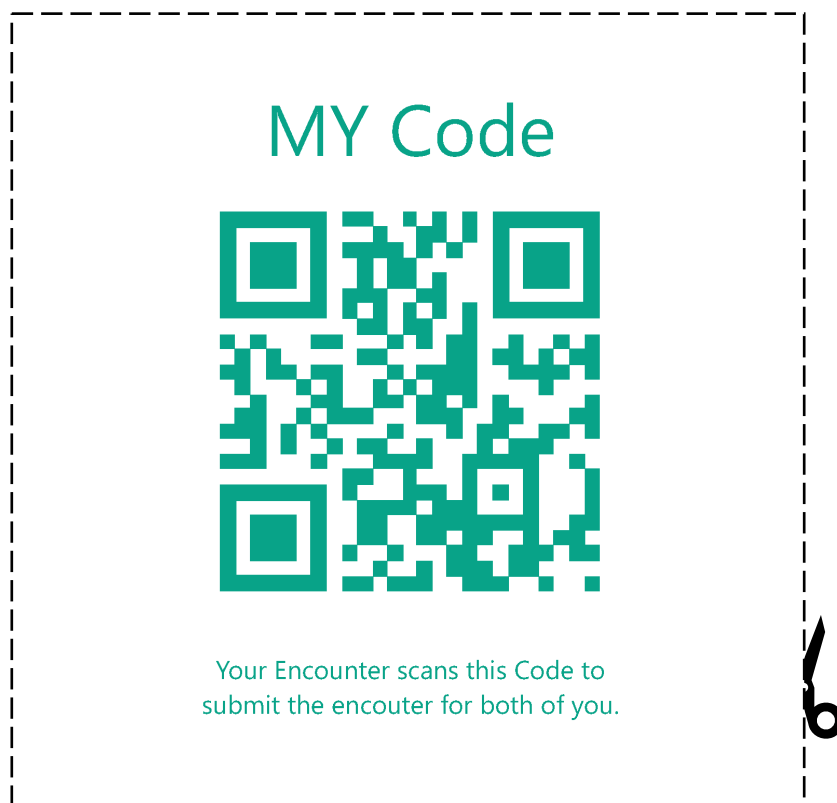
Crisis-ID

Every citizen has been provided with a Crisis-ID. You will find your Crisis-ID in the form of the QR code printed below. The Crisis-ID will be deleted after the crisis.

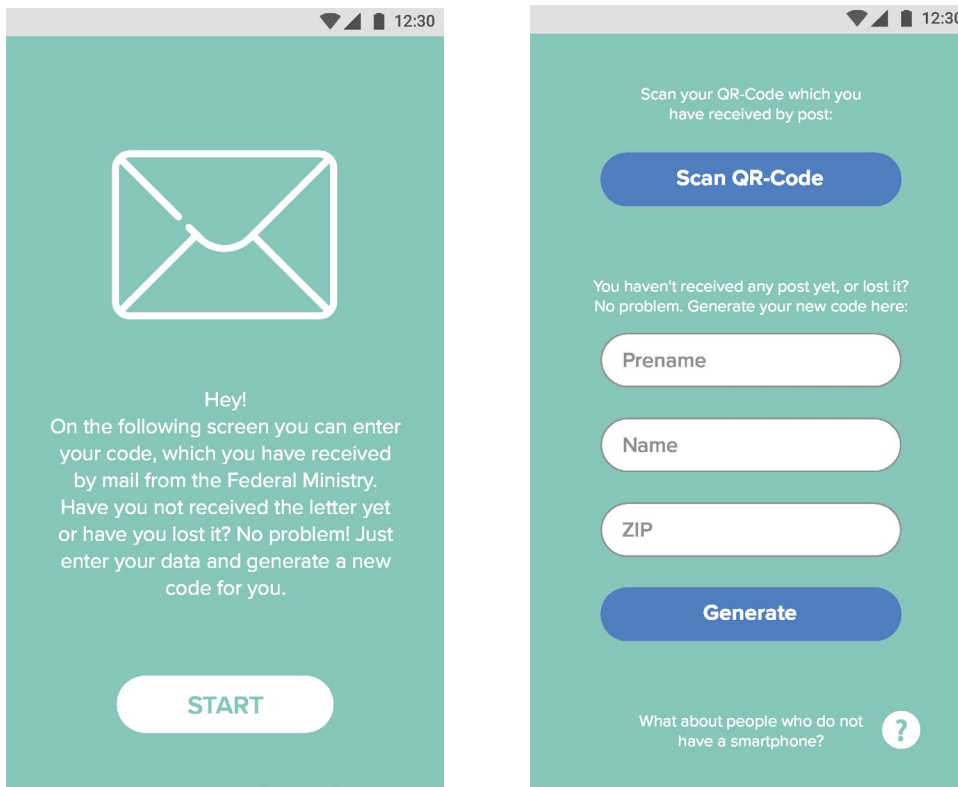
No smartphone? No problem!

If you do not own a smartphone, please use the attached QR code. Please always have this QR code with you. Ask people you encounter to scan your code. At supermarkets etc. there are people ready to scan your QR code when you enter the building. This way you will be registered in the system there as well.

Cut out this QR Code and have it with you, if you do not have a smartphone.

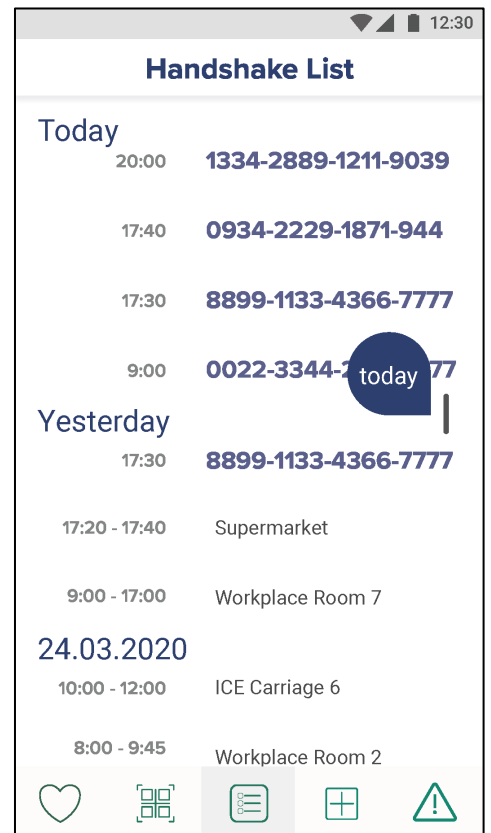
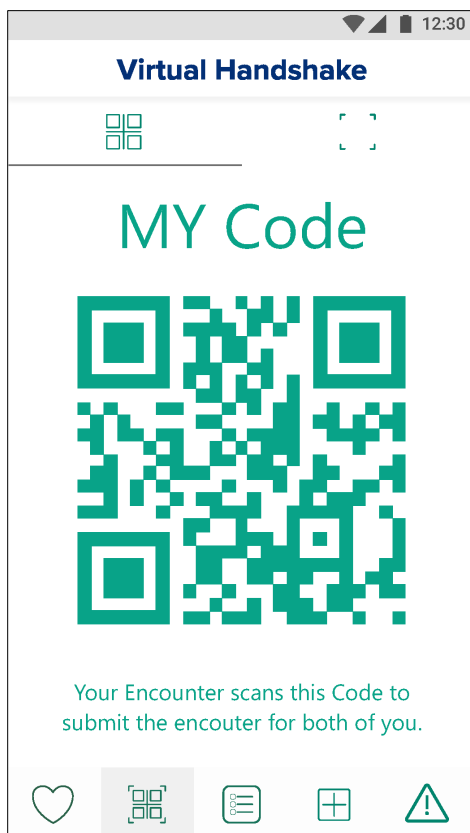
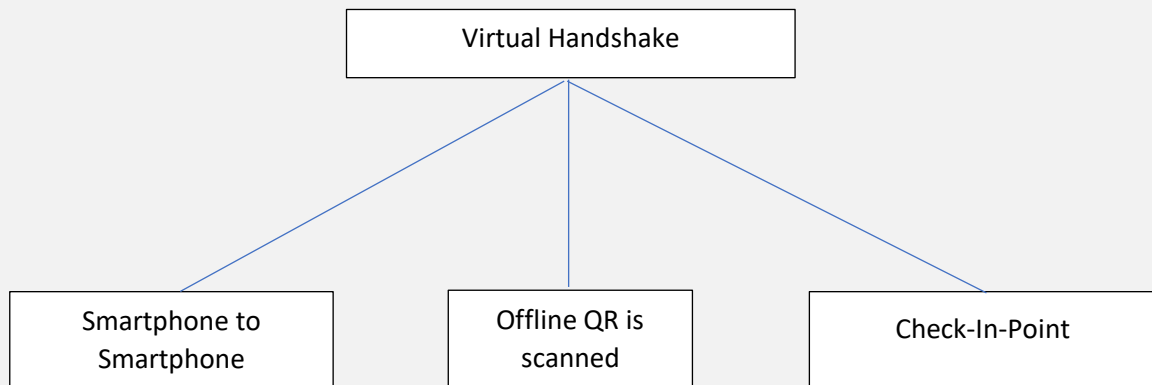


Step 2: Registration in App



When first used, the citizen will register by scanning his QR code. From then on, the user can use the app in addition to the paper form. If a citizen has not (yet) received his access data, he can also enter his data manually and create an account.

Step 3: Citizen scans encounters



Smartphone to Smartphone

Every citizen has their own QR code, which is permanently stored in his app and will be shown for scanning in a contact situation. Alternatively, the citizen can also scan the QR code of their contacts. This way a "virtual handshake" will be created, which is stored in both of their "handshake lists". Thus there is one person scanning and one that is being scanned for each meeting process.

App prototype: <https://xd.adobe.com/view/50fa8759-6d69-4c2b-5be3-8abf4dfbec11-26cb/>

Offline QR is scanned

All citizens without a smartphone permanently carry their printed out QR code with them. Citizens with smartphones scan the "offline citizens" so that the encounter is recorded in the system for both.

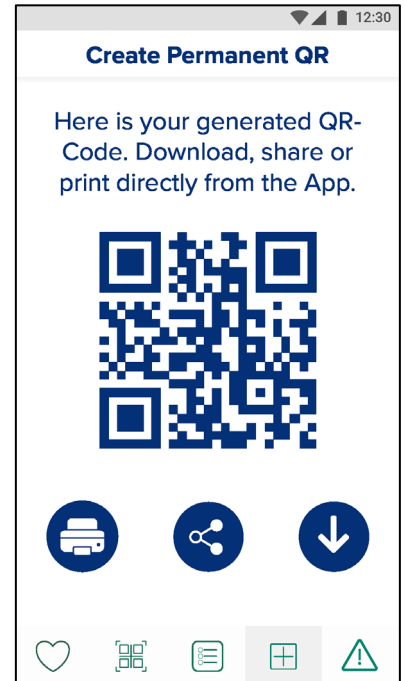
Check-In-Point

Supermarket employees (etc.) scan QR codes as people enter and leave, so that they will be tracked in the system. This can be realized directly by all companies and institutions. It is possible to automate this manual work process with a built-up scan station. Citizens with smartphones can check in by themselves.

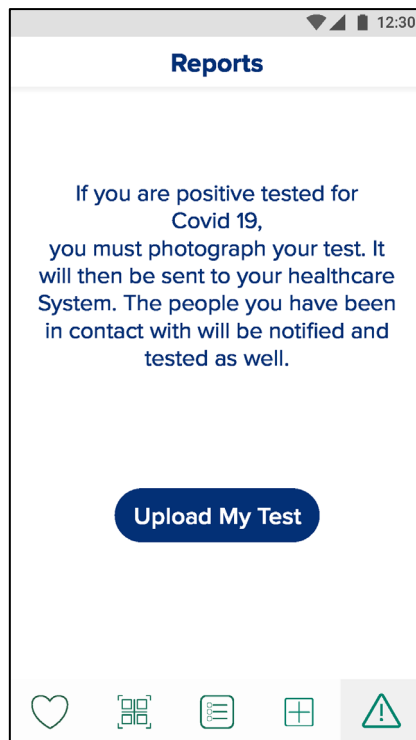
This is a huge opportunity especially for companies with several offices. They attach such check-in-point (in the form of a printed QR code) on each office door. If an employee has been tested positive for Covid-19, then only those employees who were in the same office-rooms at the same time, will be tested.

Offline meets Offline

In case two offline citizens meet, there is the possibility to attach lists to the letters mentioned above. In these lists offline people can put other offline people's Crisis-IDs, so that possible infections chains can be identified later as well. However, it is most likely a better idea to initially allow younger people more freedom of movement. In this case it can be assumed that offline-to-offline-encounters will be rare and thus the whole system can provide a very good coverage.



Step 4: Infected person is reporting / being reported

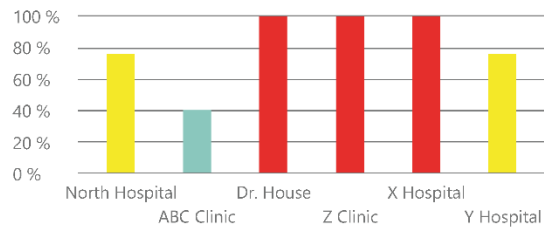


If a citizen has been tested positive for Covid-19, he uploads his test results here. Users without smartphones use an automated phone hotline of their health department.

Alternatively test results can be put into the database directly by laboratories. In this case a tested person will get notified about their results. If there is a positive result, all people linked to the infected person's contact chain, will be notified without revealing the identity.

Step 5: Health department coordinates tests

Hospital Capacities



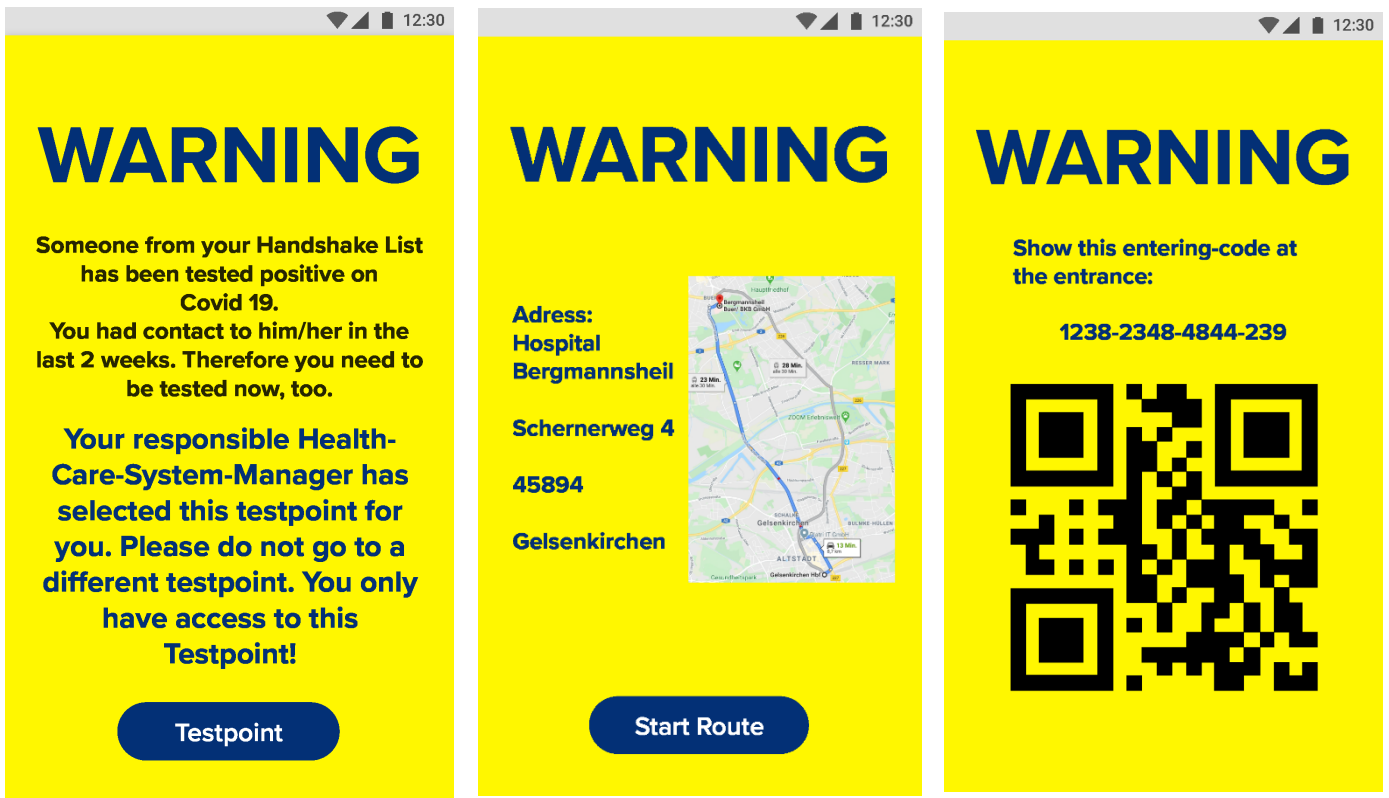
These People had in the last 2 weeks contact to a Person which got tested positive on Covid 19. Select Teststation for them.

Person	Health Status (average last 7 days)	Position	Test Station
1334-2889-1211-9039	🔴	Adress	North Hospital ▾
0934-2229-1871-9444	🔴	GPS Position	<div style="border: 1px solid #ccc; padding: 5px; margin-top: 5px;"> North Hospital ▲ North Hospital ABC Clinic Dr. House Z Clinic X Hospital Y Hospital </div>
8899-1133-4366-7777	🔴	Adress	
0022-3344-2121-8877	🟡	Adress	
8899-1133-4366-7777	🟢	GPS Position	

[Send Push-Warning](#)

The responsible health department receives the test results of the infected citizen and verifies them. A dashboard anonymously lists people who have had contact with infected citizens in the last two weeks. They are sorted in descending order according to their current health status, which is documented by a health diary of each citizen in a side area of the app. Here, further variables can be defined, according to which people can be sorted and prioritized for the test places (and possible treatments). For the assignment to test stations, a dashboard is displayed, which shows the current capacity utilization of the respective health institution, so that all institutions can be coordinated and thereby they are equally utilized.

Step 6: Potentially infected citizen is advised to get tested



Citizens who have had contact with newly infected people in the past two weeks, will be informed via a push notification in the app. They will receive information about a test point to which they are supposed to go. The citizen then logs in with his QR code at the test point and the test will be performed.

Overview: Process Diagram

