



Technical Information

SwissCovid app: Using Bluetooth and the API of Apple and Google

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Within the framework of the SwissCovid app, various technologies are used in close cooperation with Google and Apple.

Bluetooth

Bluetooth Low Energy (BLE) is a technology for measuring the distance between two mobile phones. Under perfect conditions it has a maximum range of about 100 meters (outdoors, without walls or similar objects between the two phones).

It is only possible to determine via BLE that a device is close to another device. SwissCovid uses Bluetooth via the "ExposureNotification" framework to detect other mobile devices in the critical range of about 2 meters in open spaces. Walls can block the transmission of the Bluetooth signal to a certain extent, so there should be very few false alarms in this context. However, false alarms are quite possible, for example if Plexiglas windows are not detected. Furthermore, the mobile device cannot indicate whether people are wearing masks.

The application does not use satellite positioning, so it is not possible to find out where a person / mobile device is located. It also does not use any other mechanism for geolocation, such as 3G/4G cellular antennas.

People who are informed by the SwissCovid app about the contact with one or more infected persons can freely decide how they want to react. The application displays the phone number of an information hotline where these persons can anonymously receive further information. It is up to them to decide whether they want to make use of it. The app also recommends that if symptoms occur, the coronavirus check should be carried out on the Internet or medical advice should be sought.

API

The operating system plays a role in every smartphone and computer: it protects the information stored in it, controls access and implements communication protocols. Citizens who have bought a phone accept the conditions for its use.

The Exposure Notification API is provided by Google and Apple for their respective operating systems. It is fully documented and implements a variant of the DP3T protocol (on a cryptographic level): <https://www.apple.com/covid19/contacttracing>.

The operating systems that implement the functionality (iOS 13.5 and Google Play Services, an Android component) are themselves the property of the publishers.

This approach offers advantages in terms of security and interoperability. It prescribes the principle of decentralised comparison proposed by DP-3T and does not allow the centralisation of information collected by telephone.

The COVID codes produced by the Swiss health authority are not part of the API and are never managed by the operating system. When a user of the SwissCovid App declares himself as having been tested positive, the application transmits the cryptographic codes to the BAG servers