# Privacy-preserving contact tracing

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**Abstract:** Governments and health authorities are working intensively for months to find solutions to the COVID-19 pandemic. Software developers are contributing towards contact-tracing apps, designed to warn people if they have been in contact with an infected person. Contact tracing has proven useful to slow down transmission for many infectious diseases, but it also rose many privacy concerns. Given the sensitivity of the personal data at hand, the apps should be designed to comply with the data privacy laws. Therefore, it is necessary to ensure adequate formalization of their privacy policies by forming mathematical models for privacy. Further, the use of these apps should be voluntary and no longer available after the COVID-19 pandemic. In order to minimize the data collected from users, these apps should use Bluetooth technology instead of tracking the location data. Also, the collected and generated data should not be stored in centralized databases, which opens the possibility for the use of blockchain technology.

**Keywords:** COVID-19, contact tracing, privacy.

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