PEPP-PT

Pan European Privacy Protecting Proximity Tracing

Context and Mission

We assume that managing the COVID19 pandemic in a socially, economically and humanly acceptable way will not lead to social and or economic collapse, if we:

1. … can swiftly identify potential infection chains
2. ... thus, isolate singular infection cases and their exposed contacts to restart social and economic life.
3. … can manage testing- and health-system-resources at maximum efficiency though individual risk assessment.

The only possibility to achieving these goals is to track physical proximity interaction and immediately isolate infected cases, and quarantine their contacts. This is the way everybody – relatively short term – can return to almost normal social and economic life.

The scale required by this endeavor as well as real-time processing can only be achieved using digital processes. The natural starting point for such processes are mobile phones. Most people are already carrying them and even those who do not have them yet can be equipped swiftly and cheaply. Asian countries have already deployed such efforts successfully and have shown a restart of social life and economy very quickly after suffering from a major epidemic outbreak or have prevented such major outbreaks altogether. Unfortunately, privacy and data protection are nonexistent or weak in many of these locations, or have been abandoned in the face of the crises. Using data from telecommunication companies – without anonymization which would be necessary for tracking – or direct crowd approaches disables privacy and data protection though the back door, in addition to the imprecision of the data with respect to the epidemiological parameters.

PEPP-PR was explicitly created to adhere to strong European privacy and data protection laws and principles. The idea is to make the technology available to as many countries, managers of infectious disease responses, and developers as quickly and as easily as possible. The technical mechanisms and standards provided by PEPP-PT fully protect privacy and leverage the possibilities and features of digital technology to maximize speed and real-time capability of any national pandemic response.

PEPP-PT is an international initiative providing technical standards, mechanisms, and services creating interoperability to local implementations. These mechanisms include well-tested proximity-tracking technologies; secure data anonymization; trustworthy mechanisms to enable contact between user and health-officials in a data protection conforming environment; APIs that can provide anonymized contact chains as well as risk-scoring to other applications (e.g. for health resource management, private risk management, or the pandemic response systems). The reference implementation provides building blocks (under an open source license) for creating local Corona-Finder-Applications as well as secure and scalable backend services that can deal with hundreds of millions of registered devices per country.

The mission of PEPP-PT is to assist national initiatives by supplying a set of ready-to-use, well-tested and properly assessed mechanisms and standards, as well as support services for interoperability, outreach and operation if needed. PEPP-PT thus enables these national initiatives to focus on integration into national processes, national law, customs, and requirements. PEPP-PT offers a certification service for local initiatives so national authorities can release applications with a high level of trust, built on both their credibility and the certainty that European standards in data protection, privacy and security are enforced at all time, and that cross-border interoperability is supported. .

The mechanisms PEPP-PT provides have the following core features:

1. Well-tested and established procedures for proximity measurement for popular mobile operating systems and devices.
2. Enforcement of data protection, anonymization, GDPR compliance and certified technical as well as communication security.
3. International interoperability to support tracking local infection chains even if a chain was started abroad and spans multiple PEPP-PT participant countries. On opening borders, this provides a mechanism for local authorities to use local law and procedures while allowing international cooperation and real-time isolation as well as risk assessment.
4. Backend architecture and technology that can be deployed into local IT infrastructure and can handle hundreds of millions of devices and users per country instantly.
5. Managing the partner network of national initiatives and providing APIs for integration of PEPP-PT features and functionalities into national health processes (test, communication, …) and national system processes (health logistics, economy logistics, …) giving many local initiatives a local backbone architecture that enforces GDPR and ensures scalability.
6. Certification Service to test and approve local implementations to be using the PEPP-PT mechanisms as advertised and thus inheriting the privacy and security testing and approval PEPP-PT mechanisms offer.

If necessary, PEPP-PT can supply the following support services for national initiatives:

1. Support in implementing and financing local “installation” and “trust” campaigns, because only high saturation of users can quell future outbreaks.
2. If setting up a local trust-center – where connecting with anonymous users is made possible for health authorities – is not possible in a desirable time, PEPP-PT can either temporarily or in the long term supply such infrastructure to be made available to other participating countries following strict European data protection and privacy standards.
3. If national resources for setting up a scalable infrastructure to operate a local platform cannot be made available in a desirable timeframe, PEPP-PT can supply such infrastructure either temporarily or in the long term in other participating countries.
4. Manage a repository of building blocks used successfully by PEPP-PT members and shared with the community.

The PEPP-PT initiative is financed through donations and has adopted the WHO standards for such financing to avoid any external influence.

So far the PEPP-PT team includes scientists, technologists and experts from well-known international institutions and expert companies who can cover the areas of communication, psychology, epidemiology, proximity-tracking, security, encryption, data protection, application development, scalable systems, supercomputing infrastructure and artificial intelligence.

We gladly welcome new partners into our team. Please use our onboarding document if you are a technical entity. If you are representing a government, please be in touch and we will put you in contact with the network of governments already committed to PEPP-PT.

Please be advised that we are focused on security, data protection, speed and quality first, so we are only onboarding new partners to PEPP-PT core teams step by step. We do make all functionality and features as well as our support available to any partner immediately and openly even if no contribution to any core team is given. We would love to welcome you in the PEPP-PT community.