REPORT

AppAssay

Technical evaluation of Bluezone - Electronic mask

Bluezone contact tracing app evaluation

This is an evaluation summary of Bluezone, the official Vietnamese COVID-19 contact tracing app, which is sponsored by the government of Vietnam and developed and operated by BKAV, a Vietnamese software company. Bluezone is a smartphone app with a cloud component. So far, it has been downloaded more than 10 million times and the number of users is growing as it is promoted strongly by the government. The app was updated in August 2020, and many technical concerns found in the earlier versions were substantially reduced. However, significant additional concerns have emerged.

The August 2020 version of Bluezone appears similarly effective in performing automated Bluetooth Low Energy-based contact tracing, as many other apps developed for the same purpose around the world. Bluezone changes contact every 15 minutes, and thus in this respect is protecting user-privacy in a manner that is comparable to world-wide best practices. In addition, the developer of Bluezone states that they have published the source code of the app to increase transparency. However, careful analysis by reverse engineering the actual app from the Google Play store shows that significant amounts of code have not been made public. Within the code, which is not shown to public, lies a personal data security risk.
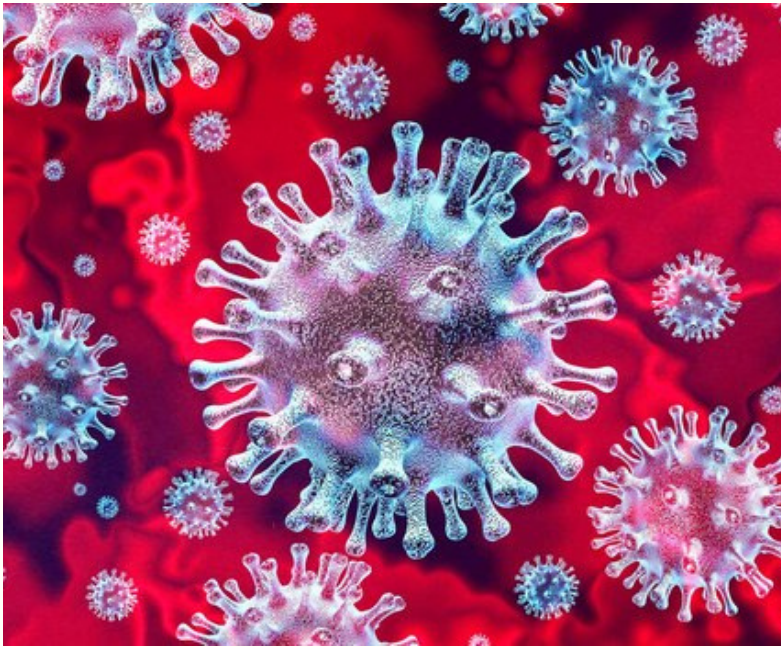
RECOMMENDATIONS:

BEFORE YOU DOWNLOAD BLUEZONE READ THIS EVALUATION.

RUNNING BLUEZONE HAS PRIVACY RISKS.

USER'S FULL CONTACT HISTORY CAN BE DOWNLOADED BY THE OPERATOR.

PARTS OF THE CODE HAVE NOT BEEN MADE PUBLIC.

Security risk

In the app, there is a functionality that allows the developer to download, at any time, the full contact history and the cryptographic root seed of any Bluezone user. The root seed stores in a single location the user's passwords and other cryptographic secrets. The code is set to run a completely silent download of the contact history and the seed. That means that there is no approval needed from the app user, nor is the app user notified in any way.

Recommendations

For more information see https://appassay.org/apps/bluezone/

Transparent development of tracing apps has proven to be an effective way to solve human rights issues. High personal data standards, users' trust, and improved adoption rates are achieved by openly soliciting feedback and publicly collaborating on code base. For an example, look up German Corona-Warn-App.

The challenges with the Bluezone app are easy to correct by changing some lines of code, but that is not sufficient for gaining the users' trust. The conflicting public statements by the developer (such as "The app stores data on your own device, not on centralized servers") and the hidden code, are transparency and communication issues that need to be changed. Making the true intentions of the app known is an important starting point. Full report at https://appassay.org/apps/bluezone/.

ABOUT US

App Assay is a volunteer organization. We are well-being tech nerds that want to see faster, more accurate, less resource intensive diagnostics and participatory preventive healthcare. We are passionate about human well-being and human rights.

We collect the best tech innovations and learn from them. We pull apart the tech and test the code, we figure out what data collection and sharing methods work. We write comprehensive and independent reports of our findings.
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