

AlohaSafe Alert

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AlohaSafe Alert

- AlohaSafe Alert is a voluntary, anonymous, exposure-notification smartphone app
- Uses Bluetooth Low Energy technology and the Exposure Notification system developed by Google and Apple
- Knowing about a potential exposure allows you to self-quarantine, get tested, and reduce the potential exposure risk to others

Contact Tracing

- Contact tracing helps contain the spread of the virus and protects others in your community
- Traditional contact tracing techniques have challenges
 - **Resourcing:** need many contact tracers to control a pandemic
 - **Speed:** takes time to call cases, conduct interviews, identify and call contacts
 - **Completeness:** people have imperfect memory and can't identify strangers
- Solutions should preserve privacy and not enable surveillance

PathCheck Foundation - www.pathcheck.org

- Nonprofit spun out of MIT, developing and deploying digital pandemic response solutions in multiple US states and countries
- Creating open source software and disseminating information and standards, to help contain the pandemic, restart the economy, and protect individual freedom and privacy
- Privacy by design
 - **User-controlled** - requires explicit consent, can be turned off any time
 - **Identifiable information is not collected**, hence cannot be shared with others
 - **COVID-19 focused** - only for public health authorities and isn't monetized

Google/Apple Exposure Notifications (GAEN)

- Exposure Notifications (EN) are alerts people can receive on their phones to let them know they've been exposed to someone diagnosed with COVID-19
- Google and Apple are needed for things like Bluetooth cross-platform compatibility and battery life
- Restrictions:
 - One app per State, released by the Department of Health
 - Prohibited from collection location data
 - Designed to protect your privacy

How Exposure Notifications Work



Alice's phone broadcasts a random message every few minutes.



Alice sits next to Bob. Their phones exchange messages.



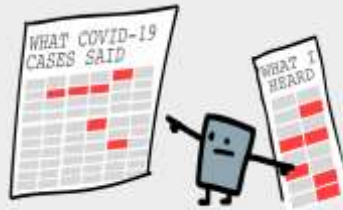
Both phones remember what they said & heard in the past 14 days.



If Alice gets Covid-19, she sends her messages to a hospital.



Because the messages are random, no info's revealed to the hospital...



...but Bob's phone can find out if it "heard" any messages from Covid-19 cases!



If it "heard" enough messages, meaning Bob was exposed for a long enough time, he'll be alerted.



And *that's* how contact tracing can protect our health *and* privacy!

by Ricky Case | @osm.me | CC0/public domain, feel free to re-post anywhere

Notifying Unknown Contacts

ENs expand traditional reach and rapidly notify known & unknown contacts...

Bob has COVID-19, but hasn't yet been diagnosed



He sees his roommate in the morning for breakfast



Bob takes a test and is confirmed positive



Manual contact tracers can quickly identify his roommate as a close contact



Has a conversation with a stranger at a cafe



Manual contact tracing may identify some customers from the cafe



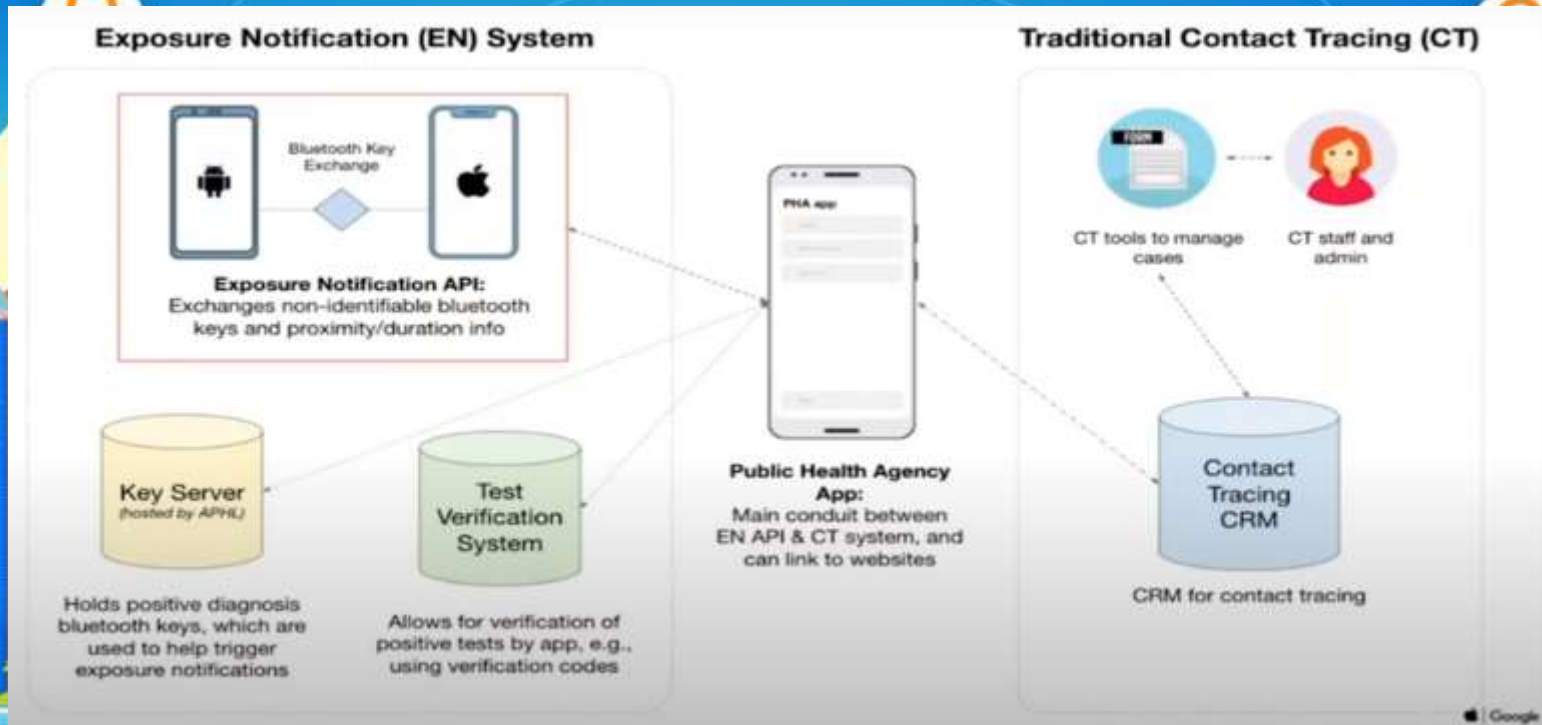
And sits near a group of strangers on the bus going home



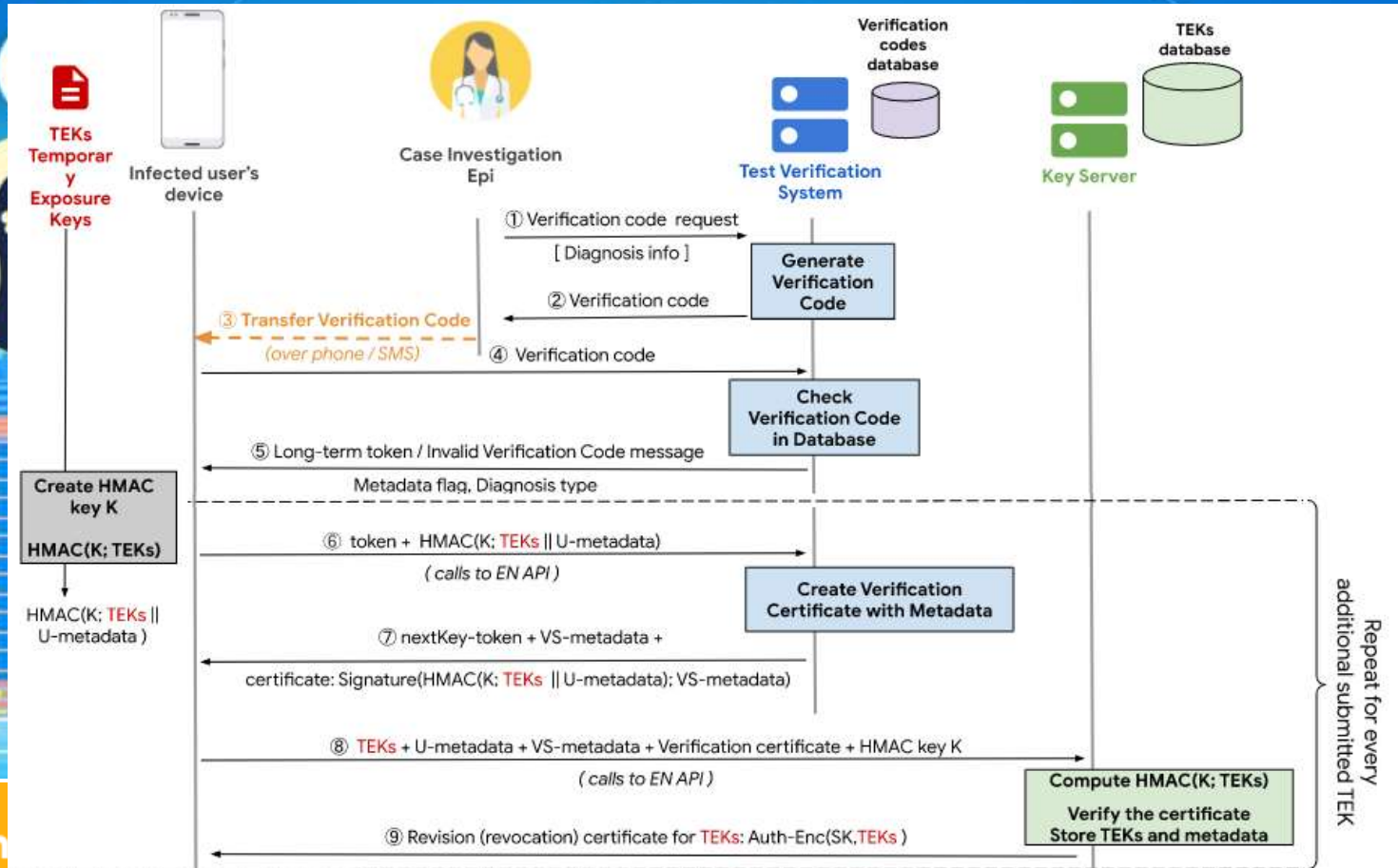
But manual contact tracing is unlikely to identify everyone on the bus who sat near Bob

Exposure notification is most useful in these cases: expanding reach and speed of Bob's unknown contacts

Contact Tracing with Exposure Notifications



Verification Flow



Defining meaningful exposures

- Based on the device's exposure data, the app computes a **risk score** to determine:
 - The level of exposure a particular user to other app users who've reported positive diagnoses
 - Whether and how to notify the user of meaningful exposure
- Risk score factors:
 - weighted minutes-at-attenuation
 - Bluetooth signal strength instead of distance
 - infectiousness weight
 - report type weight

Android and iOS

- 1000s of Android devices to calibrate
- On iPhones, EN Express is built into the operating system
 - barebones features, limited customization
- Download the AlohaSafe Alert app
 - consistent experience across iOS and Android
 - features to increase engagement and efficacy
 - customized post-EN recommendations
 - integrations with CRM and other systems

EN apps slow the spread at any level of adoption

- Oxford study found an effect at all levels of uptake
- 80% of all smartphone users (i.e. 56% of the overall population) would be enough to suppress the pandemic on its own
 - Without any other form of intervention
- For every 2 app users, you can avoid 1 infection
- Combined with other measures, as little as 15% uptake can reduce infections by 15% and deaths by 11%

Add Your Phone To the Fight

- Together, we can slow the spread of COVID-19
- We can improve contact tracing efforts without Big Brother
- Download AlohaSafe Alert to enable Exposure Notifications and help protect your community while maintaining your privacy