

Paul Penwick is staying home @pjf · Apr 20
There are at least three people on my timeline decompiling and digging around in Australia's [#covid-safe](#) app, and I'm very grateful for their efforts.

(When I wake up tomorrow I'll share anything interesting that might have come up.)

2 3 32

geoffrey huntley @GeoffreyHuntley
Replying to @pjf

I would like to subscribe to this newsletter.

5:22 PM · Apr 26, 2020 · [Twitter for Android](#)

View Tweet activity

4 Likes

geoffrey huntley @GeoffreyHuntley · Apr 26
Replying to @GeoffreyHuntley and @pjf
I am authoring this newsletter

geoffrey huntley @GeoffreyHuntley · Apr 26
Let's dissect #COVIDSafe (Android) - docs.google.com/document/d/17G...
...
[Show this thread](#)

QUARANTINI TIME!

GIF



<https://twitter.com/GeoffreyHuntley>

Google Doc - Dissection of COVIDSafe

Dissection of COVIDSafe (Android)

File Edit View Insert Format Tools Add-ons Help

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←

👉👉👉👉👉👉👉👉👉👉...

👉👉👉👉👉👉👉👉👉👉...

👏 Welcome folks

Disambiguation

Source Code

Interactive User Interface De...

Hoaxes and Fake News

License

! A few words from Mike Can...

!! Hot-topics that need to be ...

🚧 Status

🔑 Interesting Threads on Tw...

👏 Welcome folks

This document details how the Australian “COVIDSafe” (<https://www.covidsafe.gov.au/>) application works by dissecting COVIDSafe v1.0.11 (Android) application to learn what it does and how it does it by *looking at* the source code. Explicitly this means **not** interacting with any web services endpoints.

The primary author of this document (Geoff) can be contacted at <https://twitter.com/geoffreyhuntley/> (DM’s open and welcome) or via discord and needs your help with building this document. Please join the discussion over at <https://discord.gg/4xr7AW5> and ask folks how you can help out.

If you would like to buy Geoff a coffee then head on over to <https://github.com/sponsors/ghuntley> as Microsoft will dollar match 1:1. You can find more about Geoff over at <https://linkedin.com/in/geoffreyhuntley> 😊

Disambiguation

Discord Community



Matt Watt
@karwalski

Some awesome work being done by a community review of the [#CovidSafe](#) app. Discussion on discord at



Join the Inside COVIDSafe Discord Server!

Check out the Inside COVIDSafe community on Discord - hang out with 1 other members and enjoy free voice and text chat.

discordapp.com

TEXT CHANNELS



general

offtopic



reverse-engineering

documentation

legal-privacy-and-legisla...

VOICE CHANNELS



Decompiled Australian Source Code

Geoffrey Huntley
ghuntley

Principal Developer Advocate
Launceston, Tasmania
Sign in to view email
ghuntley.com/now
Developer Program Member
PRO
Block or report user

Sponsors

Organizations

Overview Repositories 574 Stars 595 Followers 419 Following 452 Gists

Pinned / Top repositories

- noyami**
A silly emotional rant about the state of devops tooling/the infrastructure sector in 2018. #noyami
CSS ★ 75 9
- COVIDSafe_1.0.11.apk**
Pull up a chair whilst we dissect CovidSafe v1.0 learn what it does and how it does it by lookin of the application. Explicitly this means not info
Small ★ 33 3
- emailaddress/emailaddress.github.io**
Find (almost) any GitHub user's email address! Not affiliated with GitHub, Inc.
HTML ★ 1 1
- dotnet/reactive**
The Reactive Extensions for .NET
C# ★ 4.3k 553
- reactiveui/ReactiveUI**
An advanced, composable, functional reactive model-view-viewmodel framework for all .NET platforms that is inspired by functional reactive programming. ReactiveUI allows you to abstract mutable sta...
C# ★ 5.4k 962
- NixOS/nixpkgs**
Nix Packages collection
Nix ★ 4.9k 4.7k

1,863 contributions in 2018

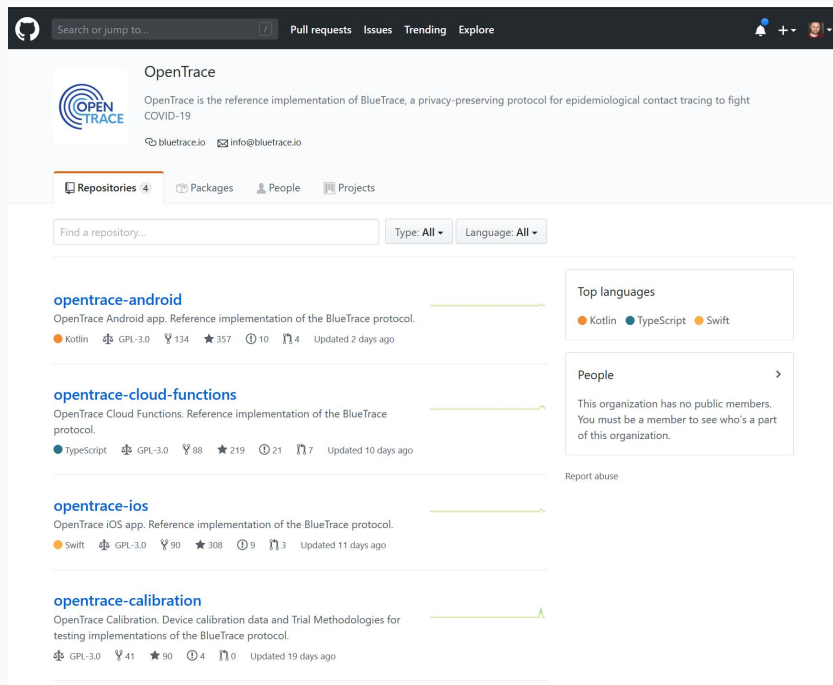
Learn how we count contributions.

Activity overview

1% Code review

Gut feel? Obtained 2 to 3 weeks from Singapore before Singapore open-sourced as refactorings and cleanups are absent.

Singapore Source Code



The screenshot shows the GitHub page for the OpenTrace organization. The header includes a search bar and navigation links for Pull requests, Issues, Trending, and Explore. The organization's profile shows the OpenTrace logo, a description of the project as a reference implementation of BlueTrace for COVID-19, and contact information (bluetrace.io and info@bluetrace.io).

Below the profile, there are tabs for Repositories (4), Packages, People, and Projects. The Repositories tab is active, displaying a list of repositories with a search bar and filters for Type (All) and Language (All).

The repositories listed are:

- opentrace-android**: OpenTrace Android app. Reference implementation of the BlueTrace protocol. Languages: Kotlin, GPL-3.0, 134 forks, 357 stars, 10 issues, 4 pull requests. Updated 2 days ago.
- opentrace-cloud-functions**: OpenTrace Cloud Functions. Reference implementation of the BlueTrace protocol. Languages: TypeScript, GPL-3.0, 88 forks, 219 stars, 21 issues, 7 pull requests. Updated 10 days ago.
- opentrace-ios**: OpenTrace iOS app. Reference implementation of the BlueTrace protocol. Languages: Swift, GPL-3.0, 90 forks, 308 stars, 9 issues, 3 pull requests. Updated 11 days ago.
- opentrace-calibration**: OpenTrace Calibration. Device calibration data and Trial Methodologies for testing implementations of the BlueTrace protocol. Languages: GPL-3.0, 41 forks, 90 stars, 4 issues, 0 pull requests. Updated 19 days ago.

On the right side of the repository list, there are two sections: "Top languages" showing Kotlin, TypeScript, and Swift; and "People" which states that the organization has no public members.

Defect preventing onboarding - AU AppStore



Rowena

@rowenanews

I've been trying since it was released but I am now making a concerted effort to download Australia's covidsafe app. So far, 1 minute+ still waiting to get into App store settings to change App store to Australia... #WhoKnew?

11:47 AM · Apr 28, 2020 · Twitter Web App



Rowena @rowenanews · Apr 28

Replying to @rowenanews

Apple won't let me change my region to Australia without cancelling all my subscriptions, spending all my credit and entering (possibly an Australian) bankcard. So I'll just carry my negative test result on my phone & wave it people. #Covidsafe.



geoffrey huntley @GeoffreyHuntley · Apr 28

Replying to @rowenanews

What was your app store set to?



1



Rowena @rowenanews · Apr 28

My phone is from the UK so I kept getting messages that the app isn't available in my region...



1



geoffrey huntley @GeoffreyHuntley · Apr 28

Lovely - thank you. I've added it to docs.google.com/document/d/17G... as a defect to bring more attention to this issue.



Defect preventing onboarding - 4G/WiFi



xssfox (not a furry) Yesterday at 11:43 PM

@Geoff the WiFi thing is due to cloudfront blocking non Australians

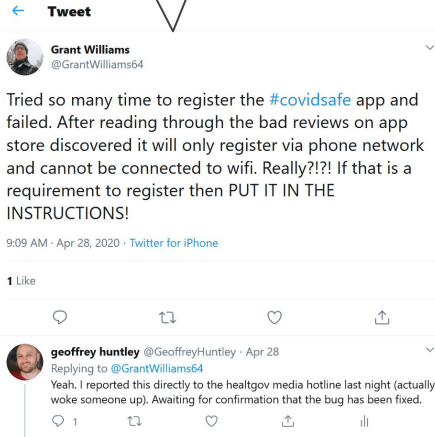
403 ERROR

The request could not be satisfied.

The Amazon CloudFront distribution is configured to block access from your country. We can't connect to the server for this app or website at this time. There might be too much traffic or a configuration error. Try again later, or contact the app or website owner. If you provide content to customers through CloudFront, you can find steps to troubleshoot and help prevent this error by reviewing the CloudFront documentation.

Generated by cloudfront (CloudFront)
Request ID: AF00B0KXJ15n7WYgAEJwP0-BcBldg070qe1MUY0dy273yCgcu==

Except IT IS blocking
Australians.



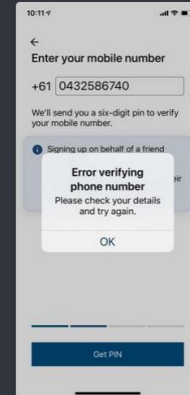
sigrevolt Today at 10:11 PM

Yeah, connected to anywhere but Aus I get this

thrillhouse Today at 10:11 PM

hmm so maybe it is restricting access outside australia

sigrevolt Today at 10:12 PM



Yeah, seems that way

Defect preventing onboarding - SMS



BIRRR

@FixBushInternet

#covidsafe app requires sms authentication, come on @Telstra hurry up with SMS over wifi for the 42% of RRR people who don't have mobile service!

#smsoverwifi #BIRRR #betterbushcomms

@PaulFletcherMP @MarkCoultonMP @senbmckenzie

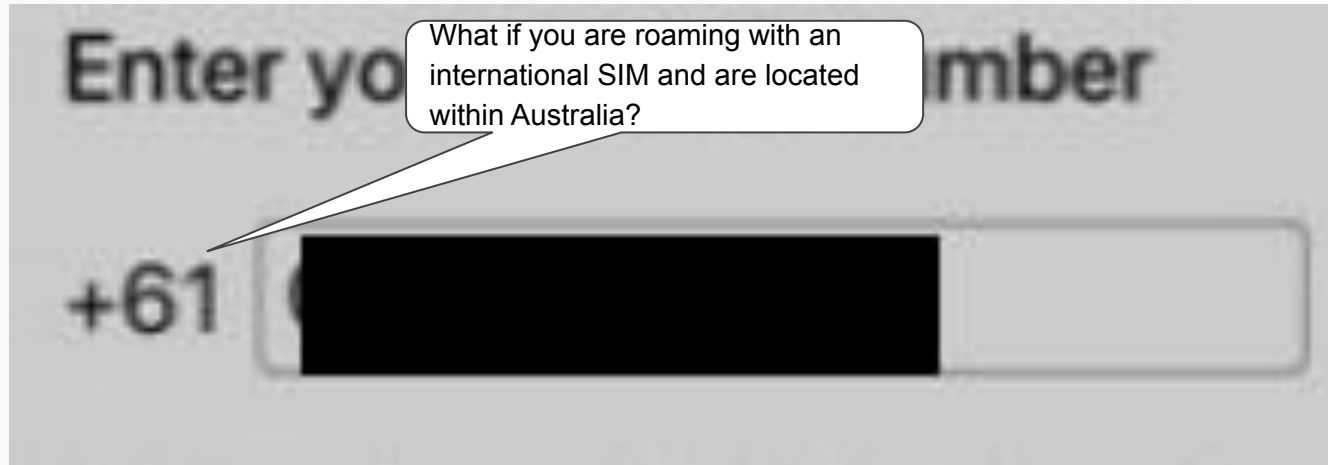
@SenatorMcGrath @SenMcDonald

@M_McCormackMP

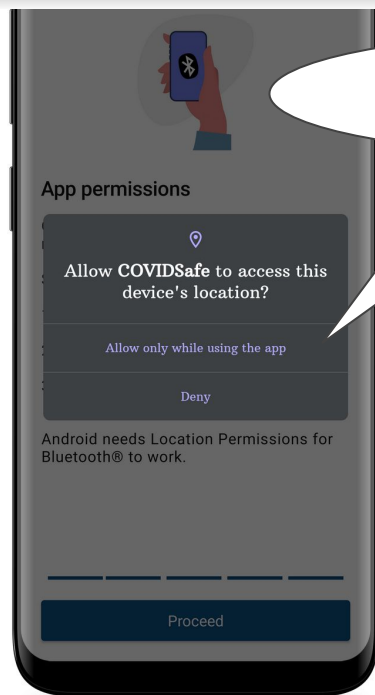
5:57 AM · Apr 27, 2020 from Queensland, Australia · Twitter for iPhone

Where's the "call ph# and a robot narrates the PIN option"?

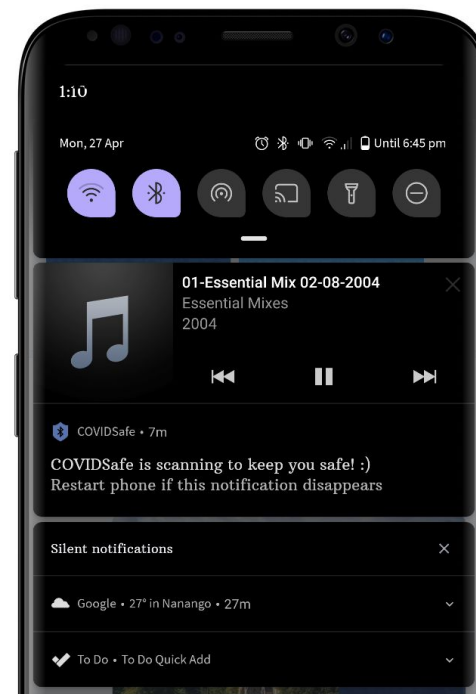
Defect preventing onboarding #4 - Roaming




Confirmation that GPS is NOT used



Android's permission model does not provide separate permissions for only Bluetooth scanning.









Bluetooth Advertiser & Bluetooth Scanner

 Why GitHub? ▾ Team Enterprise Explore ▾ Marketplace Pricing ▾ / Sign in Sign up

ghuntley / COVIDSafe_1.0.11.apk Watch 6 Star 33 Fork 3

[Code](#) [Issues 0](#) [Pull requests 0](#) [Actions](#) [Projects 0](#) [Security 0](#) [Insights](#)

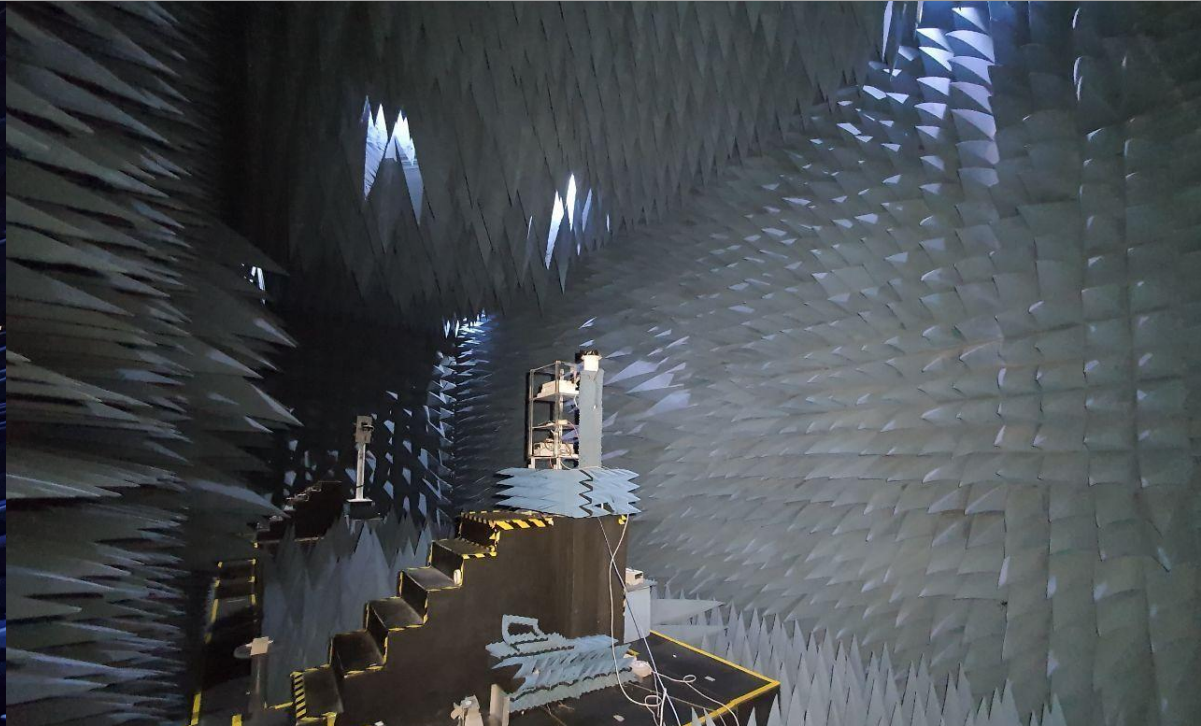
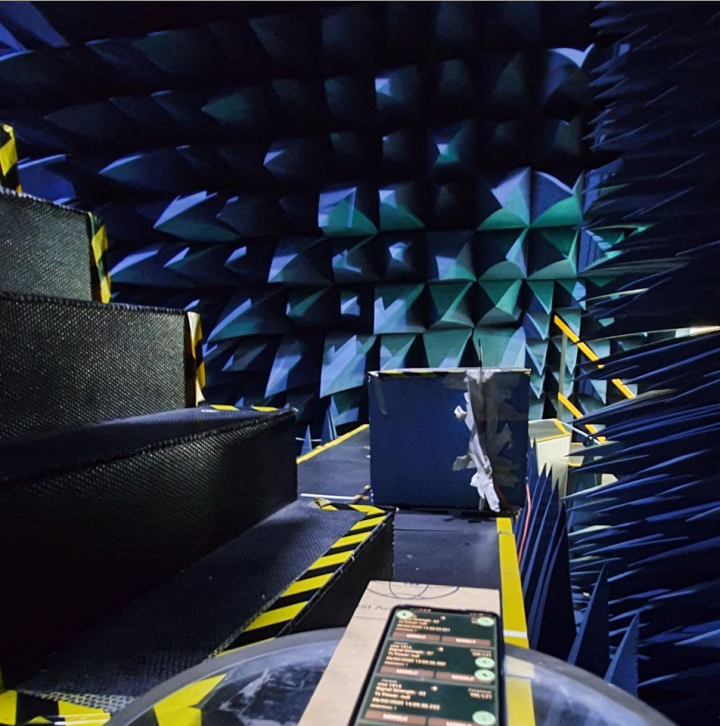
Tree: ebce5cfbf7 ▾ COVIDSafe_1.0.11.apk / jadx / sources / au / gov / health / covidsafe / bluetooth / Create new file Find file History

 HarryJohnso Initial commit	Latest commit 8fd2375 3 days ago	
..		
 gatt	Initial commit	3 days ago
 BLEAdvertiser\$callback\$1.java	Initial commit	3 days ago
 BLEAdvertiser\$stopRunnable\$1.java	Initial commit	3 days ago
 BLEAdvertiser.java	Initial commit	3 days ago
 BLEScanner.java	Initial commit	3 days ago

Bluetooth Calibration



Bluetooth Calibration



Bluetooth Distance Estimation Theory

ICSNC 2013 : The Eighth International Conference on Systems and Networks Communications

Distance Estimation of Smart Device using Bluetooth

Joonyoung Jung, Dongoh Kang, Changseok Bae
Personal Computing Platform Research Team
Electronics and Telecommunications Research Institute
Deajeon, Korea
{jyjung21, dongoh, csbae}@etri.re.kr

Abstract— Distance estimation identifies the distance between two machines in wireless network. The Received Signal

localization system [6]. In this paper, we discuss the M2M distance estimation using Bluetooth RSSI.

Bluetooth Distance Processing (serverside!)



Jed Wesley-Smith
@jedws

so, "the app" being the thing on your phone doesn't know what a "close contact" is at all, it records all interactions and uploads them to the central DB. Someone? then post-filters the data to give to the state and territory health officials.

6:06 PM · Apr 27, 2020 · [Twitter Web App](#)



Jed Wesley-Smith @jedws · Apr 27

This allows the definition of a "close contact" to be changed later if required. It also means the data-trove contains far more private info than most journalists describe. It is a significant distinction from a privacy perspective.



1



1



9



Jed Wesley-Smith @jedws · Apr 27

I said above the "[the app] records all interactions and uploads them to the central DB", it is important to note that this upload only happens per the user's request on being notified they're #COVID19 positive (ie. hopefully not all that much)

and the user consents for their data to be uploaded via a SMS 2FA flow. (ie. user consent 🥰)

Data is expired after 21 days

PrivacyCleanerReceiver

- Deletes data older than 21 days from the Street Pass and Status Record sqlite3 databases
- Entry point is PrivacyCleanerReceiver.startAlarm(Context)
- startAlarm sets a repeating alarm with AlarmManager to run
 - now (System.currentTimeMillis), and
 - in one day (86400,000ms)
- AlarmManager then triggers the Alarm PendingIntent, which calls PrivacyCleanerReceiver.onReceive
- This calls a Coroutine which calls PrivacyCleanerReceiver.cleanDb
- Creates a java.util.Calendar (a very annoying-to-use datetime API) called twentyOneDaysAgo.
- Defaults to now. Sets hour=23, minute=59, seconds=59, then subtracts 21 days
- Passes this date to
 - StreetPassRecordStorage.deleteDataOlderThan(twentyOneDaysAgo)
 - Runs DELETE FROM record_table WHERE timestamp <= ? in StreetPassRecordDao_Impl
 - StatusRecordStorage.deleteDataOlderThan(twentyOneDaysAgo)
 - Runs DELETE FROM status_table WHERE timestamp <= ? in StatusRecordDao_Impl
- This seems reasonable.

Legislation Regarding COVIDSafe App & Data

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←

Legislation Regarding the CO...

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2.9 Customer Equipment

2.10 Boundary of a Telecommu...

2.11 Public mobile telecommu...

References:

Legislation Regarding the COVIDSafe App & Data

This is an amalgamation of the relevant legislation regarding the COVIDSafe App in order to provide an easier to read version by including definitions and statements in a single document. It also provides direct links to sections within legislation not included in the document.

Disclaimer: This is not an official legal guide and should not be relied on as such, however all statements here are directly from Federal legislation and relevant documents* with only additions of links and reference changes to reflect positions within this document. *as of 27/04/2020.*

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2.10 Boundary of a Telecommunications Network

2.11 Public mobile telecommunications service

References:

Database Schema

Epoch date	Human-readable date (GMT)	v	message	org	modelP	modelC	RSSI	txpower
1587917327	2020-04-26 16:08:47	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-48	1
1587917378	2020-04-26 16:09:38	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-41	1
1587917438	2020-04-26 16:10:38	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-48	1
1587917500	2020-04-26 16:11:40	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-52	1
1587917999	2020-04-26 16:19:59	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-39	1
1587918012	2020-04-26 16:20:12	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-38	1
1587918017	2020-04-26 16:20:17	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-39	1
1587920525	2020-04-26 17:02:05	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-46	1
1587920566	2020-04-26 17:02:46	1	<<msg>>	AU_DTA	Nexus 5X	iPhone 7	-60	1

Contact Tracing Privacy

vteague / contactTracing

Watch Star 51 Fork

Code Issues 4 Pull requests 1 Actions Wiki More

ForkingTraceTogether

47 commits 1 branch 0 releases 1 contributor 1 month old

Branch: master

Create new file Upload files Find file Clone or download Gitpod

vanessa Typo fixes. Latest commit 675fb13 2 days ago

blog	Typo fixes.	2 days ago
README.md	Typo fixes.	2 days ago

Tracing the challenges of COVIDSafe

This blog post is joint work by

[Chris Culnane](#), [Eleanor McMurtry](#), [Robert Merkel](#) and [Vanessa Teague](#).

It is made on a best-effort basis using decompiled code from the app, without access to server-side code or technical documentation.

Overview

The Australian COVIDSafe app's architecture seems approximately similar to the Singaporean TraceTogether architecture, but