METOVA

Contact Tracing

Exposure Notification with Trust and Privacy Protection

EXHIBIT D

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About Metova

WE BUILD THINGS

From mobile apps and websites to sensor networks and connected things, we've been building it for years and can help you do the same.

WE HELP YOU FIGURE OUT WHAT TO BUILD

Maybe you know you've got something to build, but aren't sure what yet. Our strategists and architects have helped companies solve problems from health care to lawn care and heavy machinery to heavy metal music, we'll work with you to figure out what's best for you and your customers.

WE CAN HELP YOU UNDERSTAND WHAT YOU ALREADY HAVE

Our senior technologists and architects can evaluate everything you have to ensure you've got a clear picture of whatever you might have built already (or had built for you) – so you know exactly what you're working with.

WE DESIGN BEAUTIFUL AND FUNCTIONAL THINGS

Our designers work with you to understand what your customers need and what they are hiring you for – and then we create new experiences to delight them.

WE FOCUS ON QUALITY

We build products for you that are designed to be tested with high levels of automation to help ensure that your customers always get the quality experience they expect from you.

WE HELP GROW YOUR BUSINESS

Building things and delivering them is just the beginning. Our marketing services teams can help you get new customers and communicate with the customers you have to help them get the most out of what you offer and reduce churn to ensure they remain with you over time.

aws partner network
Advanced Consulting Partner
Public Sector Partner

Gold Microsoft Partner
Microsoft

Our Engagement Methodology

DESIGN

Aligning the brand details to accompany it, product design will take place to ensure the brand translates through to the customer experience and drives engagement goals..

- Product Designs
- Wireframes
- Interface Mockups
- Final UX
- Brand Packages

QA AUTOMATION & MAINTENANCE

Quality Assurance is built into the product in the development phase and executed through launch with both automated and manual testing.

- Run Automation Tests
- Manual QA Testing
- Bug Fixes
- Platform Updates
- Backlog Prioritization

RESEARCH & STRATEGY

Research and brand evaluation to determine the right customer experience, the right digital roadmap and the right definition to facilitate development.

- Journey Maps
- Customer Maps
- Road Maps
- Product Definition
- User Stories
- Acceptance Criteria

DEVELOPMENT

Development works hand in hand with design to begin the development process, execute user stories and deliver key product roadmap initiatives.

- Sprint Planning
- Work Estimation
- Code Work
- Automation Tests
- Delivery

MARKETING SERVICES

As a product gets ready to launch, marketing campaigns begin around new user acquisition, new customer on-boarding, customer engagement, retention and conversion.

- Unified Campaigns
- Email, Push, In-App
- Paid Media
- Win-back
- App Store Optimization

Decentralized Approach

Prevent misuse of social graph data (*person, place, precise time, device*).
Maintain trust and **privacy**.

Exposure Notification API

Google and Apple OS API
Inspired by the Decentralized Privacy-Preservation Proximity Tracing (DP-3T) open source protocol developed in response to the COVID-19 pandemic.

Proximity Tracing

Country specific mobile app would exchange rotating Ephemeral IDs (EphIDs) between phones in range of each other through Bluetooth Low Energy (BLE).

Reporting

Infected persons report a unique Test ID through the App.
Test verified with Government Health Agency
Infected user's random EphIDs for the last 14 days are pushed up to a central reporting server.
All other users pull down the infected user's EphIDs and compare against their local contact log.
Any other users in proximity will be notified with a list of exposed dates, proximity range, and duraton (5-30 min increments).

Alice and Bob don't know each other, but have a lengthy conversation sitting a few feet apart

Their phones exchange beacons with random Bluetooth identifiers (which change frequently)
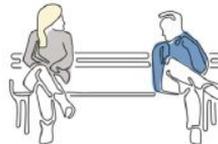
Bob is positively diagnosed for COVID-19 and enters the test result in an app from his public health authority

A few days later...

With Bob's consent, his phone uploads the last 14 days of keys for his Bluetooth beacons to the server

Apps can only get more information via user consent

~14 day temporary store

Alice continues her day unaware she had been near a potentially contagious person

Alice's phone periodically downloads the Bluetooth beacon keys of everyone who has tested positive for COVID-19 in her region. A match is found with Bob's random Bluetooth identifiers.

Anonymous identifier keys are downloaded periodically

A match is found

Alice sees a notification on her phone

ALERT: you have recently come in contact with someone who has tested positive for Covid-19
Tap for more information -->

Sometime later...

Alice's phone receives a notification with information about what to do next.

Additional information is provided by the health authority app

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COVID-19 Proposed Solution
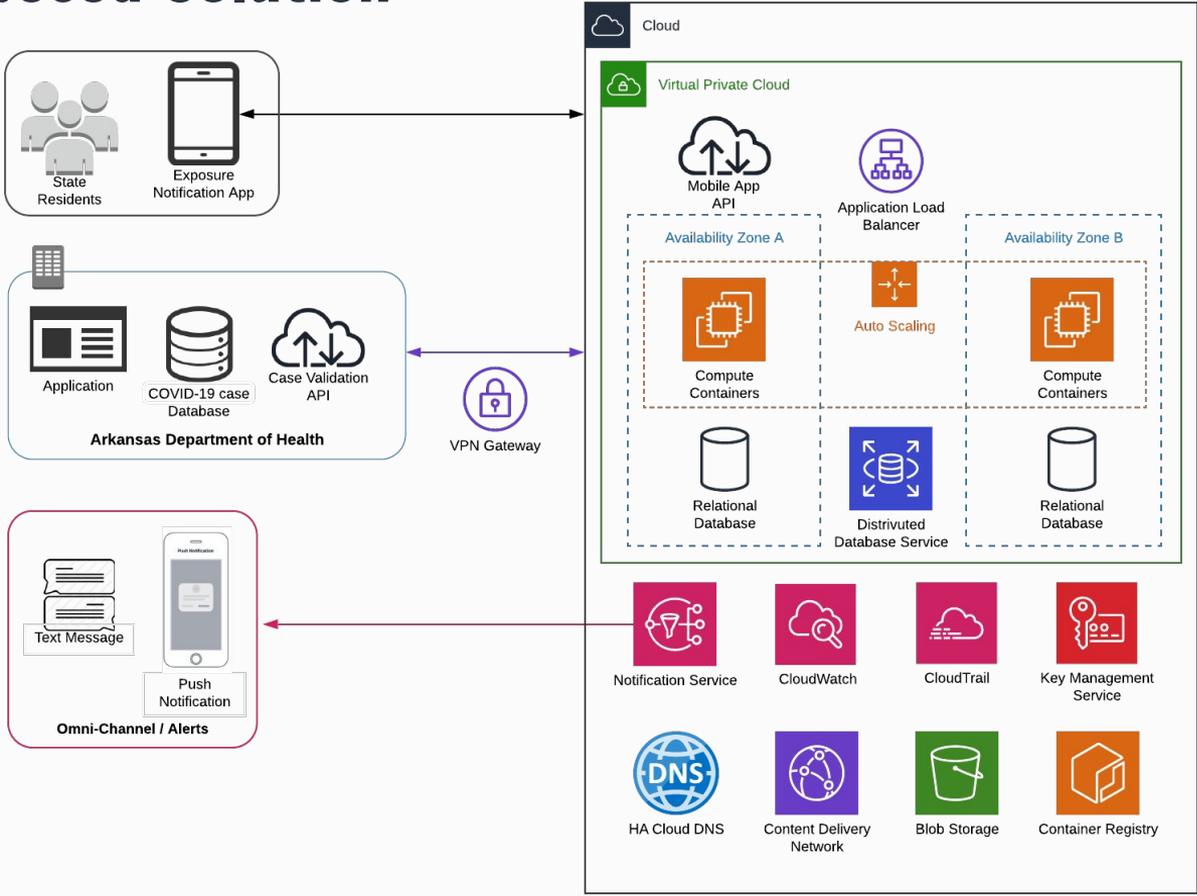
# Sample Public Health Authority App Onboarding
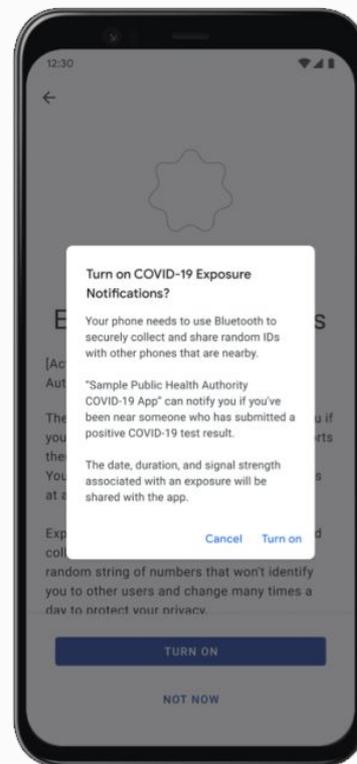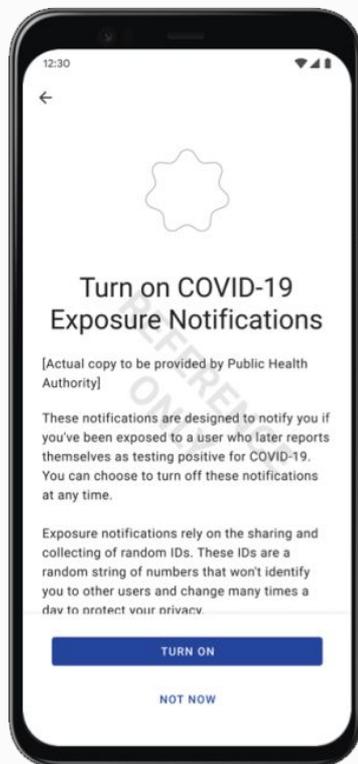
Sample Public Health Authority App Notifications Flow
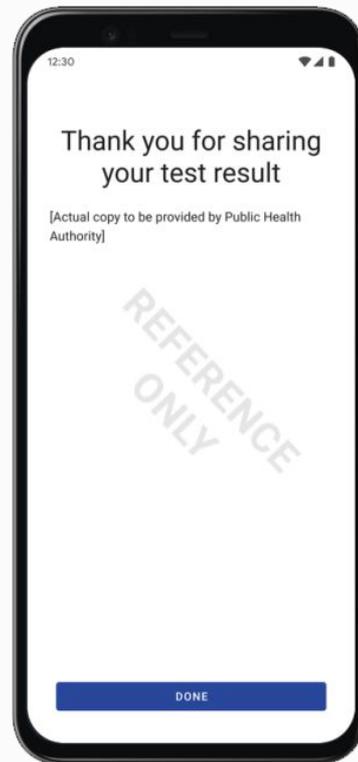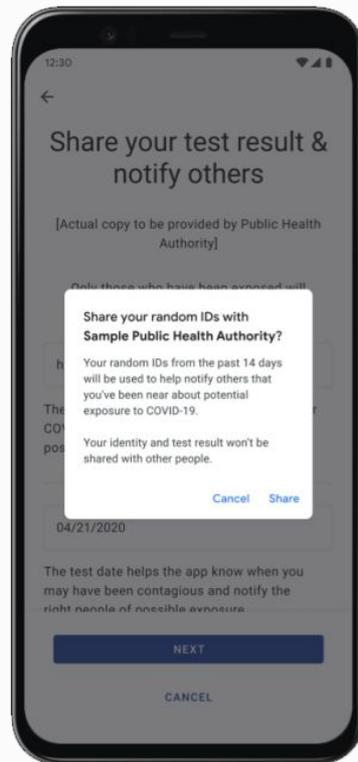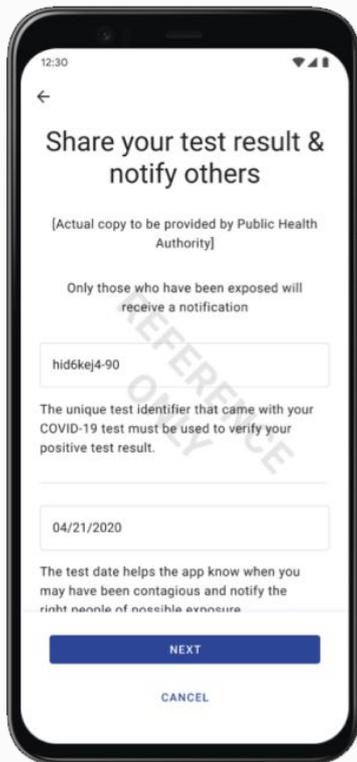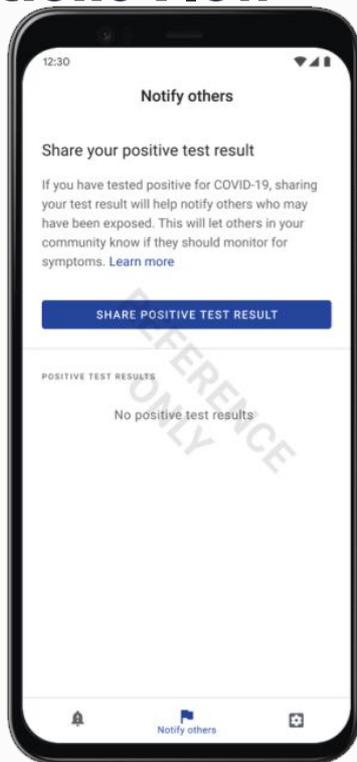
Sample Public Health Authority App
Positive Result Flow
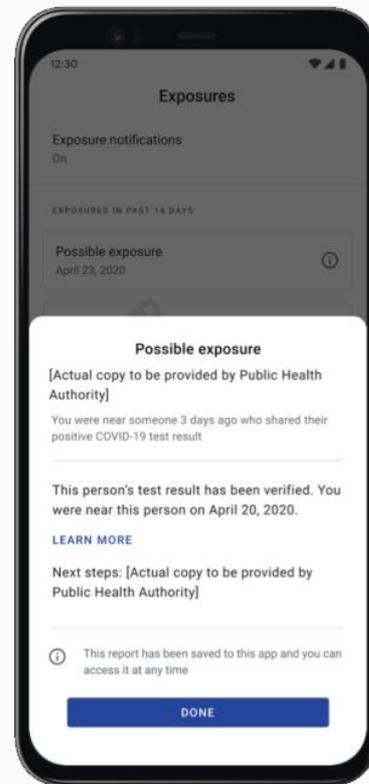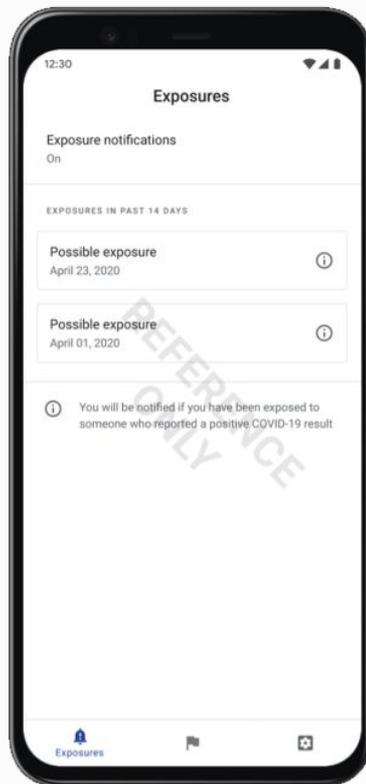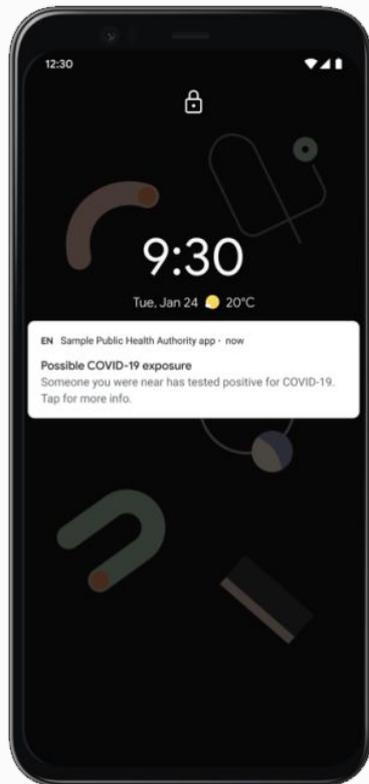
Exposure Notification API App Approval Requirements

1. Must be made by or for the use of an **official government public health authority**, and they can only be used for the purpose of responding to COVID-19.

2. Must ask for **user consent** for the Exposure Notification API to **exchange random IDs**.

3. Must ask for **user consent** to **share a positive test result** before broadcasting any such info with the public health authority operating the app.

4. Apps should only gather the **minimum amount of info** necessary for the purposes of exposure notification, and should use that only for the sake of COVID-19 response.

5. Apps **cannot access** or even seek permission to access a device's **Location Services**.

6. There can **only be one app per country**; however, Apple will unlock the app store for multiple apps if the country takes a state-by-state approach. It is possible for the solution to work across states.

Exposure Notification App Requirements

This outlines the 6 leading requirements for app approval in truncated form to illustrate the core need of what needs to be met in order to an application featuring Contact Tracing to get approval for distribution.

PCOVID TECH

Arkansas

Exposure Notification mobile app

COMPLEMENT MANUAL TRACING

Manual contact tracing is effective once a person has positively tested for COVID-19. A digital contact tracing mobile app allows for automating the notification process.

ENSURE FLEXIBILITY

As our response to COVID-19 evolves, ADH needs a tool that can be easily updated and modified. Through Metova's agile development process, we can easily make changes and push updates to users.

REDUCE FRICTION

A mobile app can meet the consumer where they are and provides an effortless, highly reliable tool to fight the Coronavirus pandemic. Metova has built thousands of mobile apps, with millions of downloads, to users across the globe.

DEPLOY QUICKLY

Building on Apple/Google's API allows larger adoption rate, trust, and quicker time to deploy the solution. The mobile app can be ready for User Acceptance Testing (UAT) in 1-month, with 2-week beta test, and then release the to the public.

INVEST IN THE FUTURE

A mobile app is an investment in infrastructure that can be used to not only address COVID-19 but future outbreaks as well. This is not a one-time investment but rather a tool that will allow ADH to better respond to whatever comes next.

Arkansas

Cloud Benefits

SCALABLE AND HIGH-PERFORMANCE

Using AWS tools, Auto Scaling, and Elastic Load Balancing, your application can scale up or down based on demand. Backed by Amazon's massive infrastructure, you have access to compute and storage resources when you need them.

SECURE

AWS utilizes an end-to-end approach to secure and harden our infrastructure, including physical, operational, and software measures.

COST-EFFECTIVE

You pay only for the compute power, storage, and other resources you use, with no long-term contracts or up-front commitments.

FLEXIBLE

AWS enables you to select the operating system, programming language, web application platform, database, and other services you need. With AWS, you receive a virtual environment that lets you load the software and services your application requires.

RELIABLE

With AWS, you take advantage of a scalable, reliable, and secure global computing infrastructure, the virtual backbone of Amazon.com's multi-billion dollar online business that has been honed for over a decade.

THANK YOU!

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