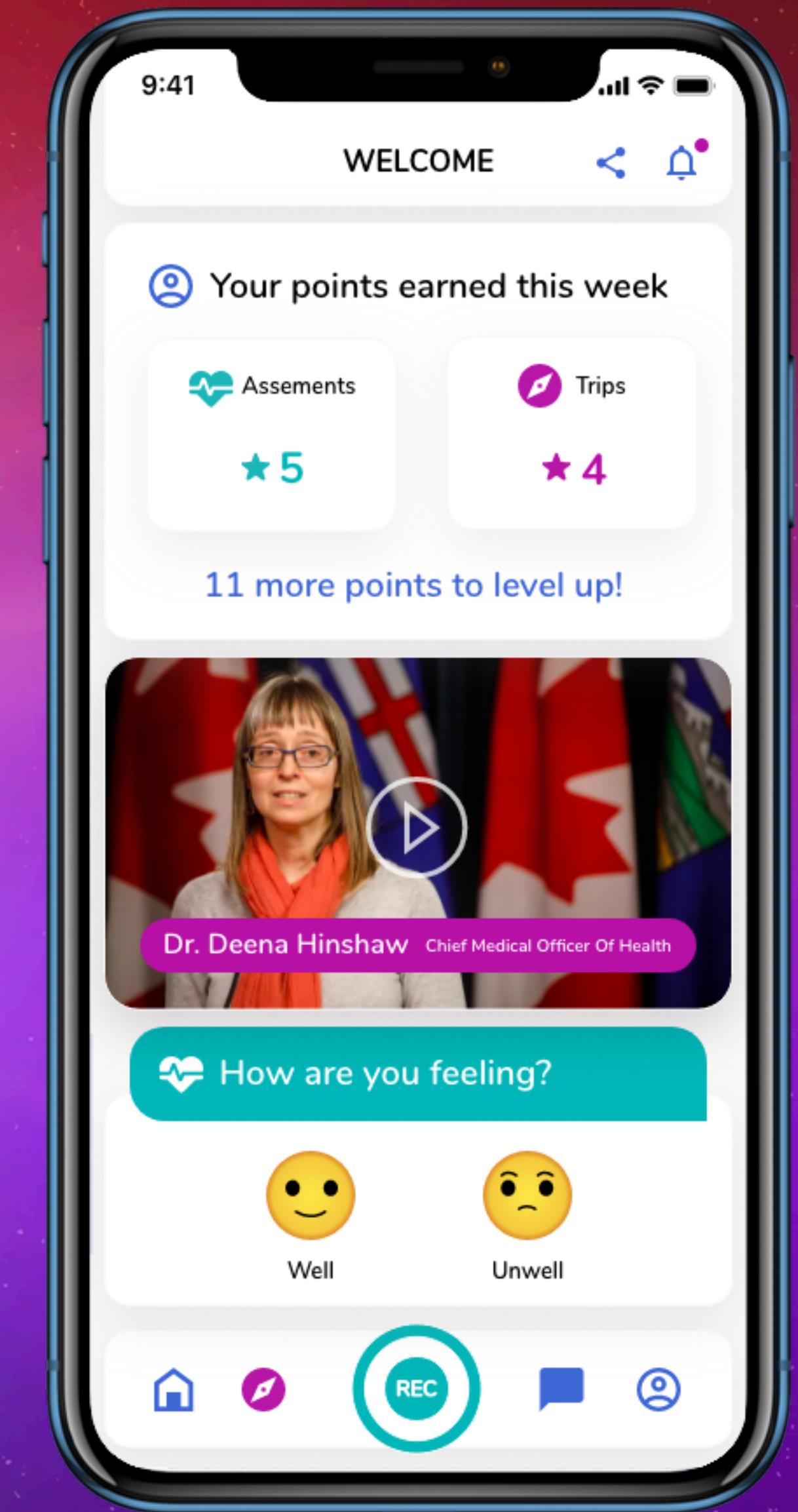


RAY

COVID-19 SELF-ASSESSMENT
AND CONTACT TRACING APP



COVID-19

PROBLEM

- We don't know which objects have the virus nor all of the people who are infected with it.
- This keeps us isolated at home for our own safety and the safety of others. Continued isolation will destroy our economy.

MANUAL CONTACT TRACING

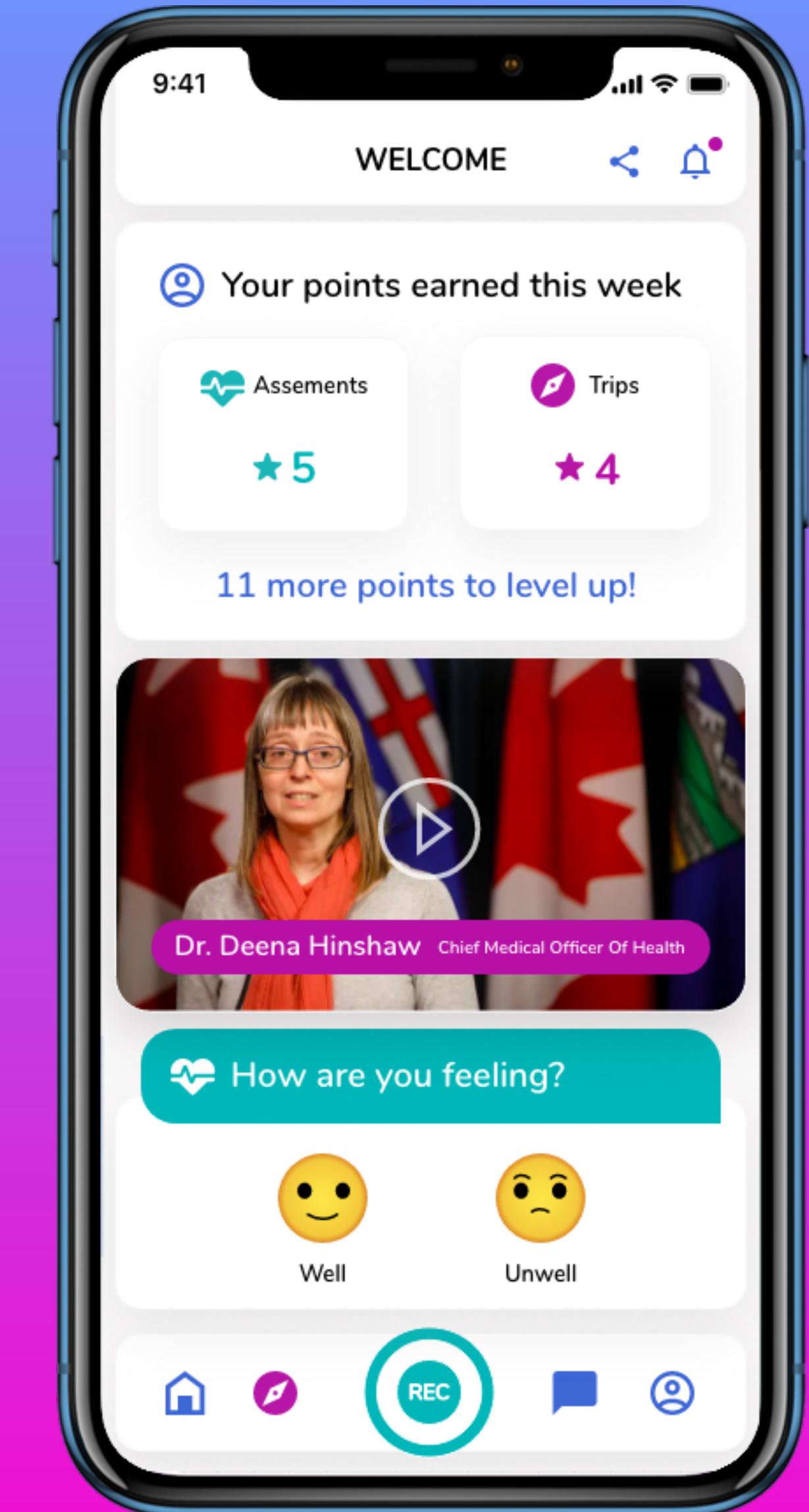
CURRENT SOLUTION

- Contact tracers ask infected people to recall where they have been and who they have been with for the past 14 days.
- Contact tracers hunt down as many of the people who might have been exposed as possible.
- This slow, outbound process begins days after the patient is first infectious.

SELF ASSESSMENT & CONTACT TRACING APP

SOLUTION

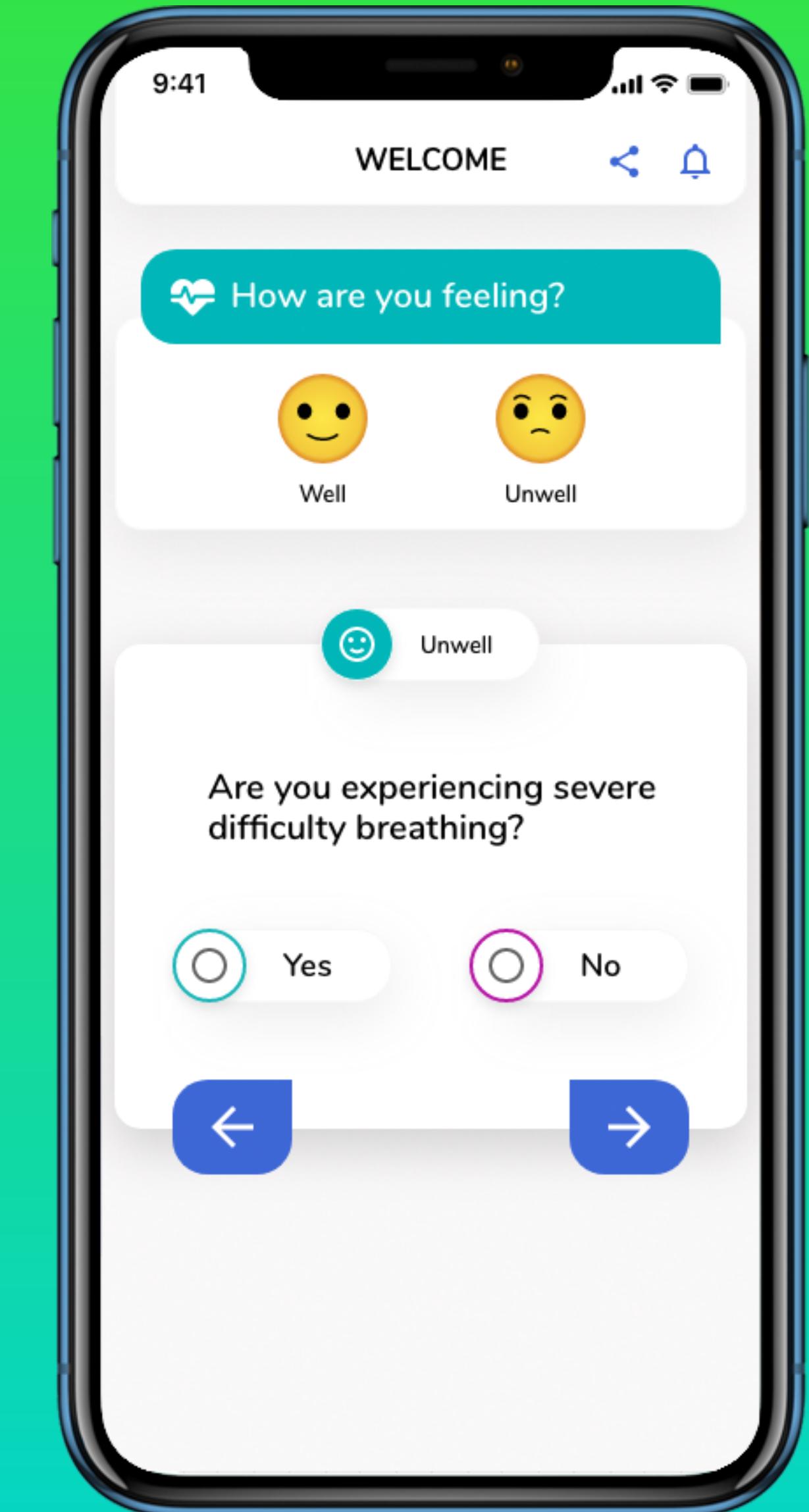
- We are rapidly aware of the **locations** of outbreaks.
- Affected and at risk people receive guidance at scale.
- Isolation orders can be made more granularly freeing up those at low risk to come out of isolation.



DAILY SELF ASSESSMENT

HOW ARE YOU FEELING?

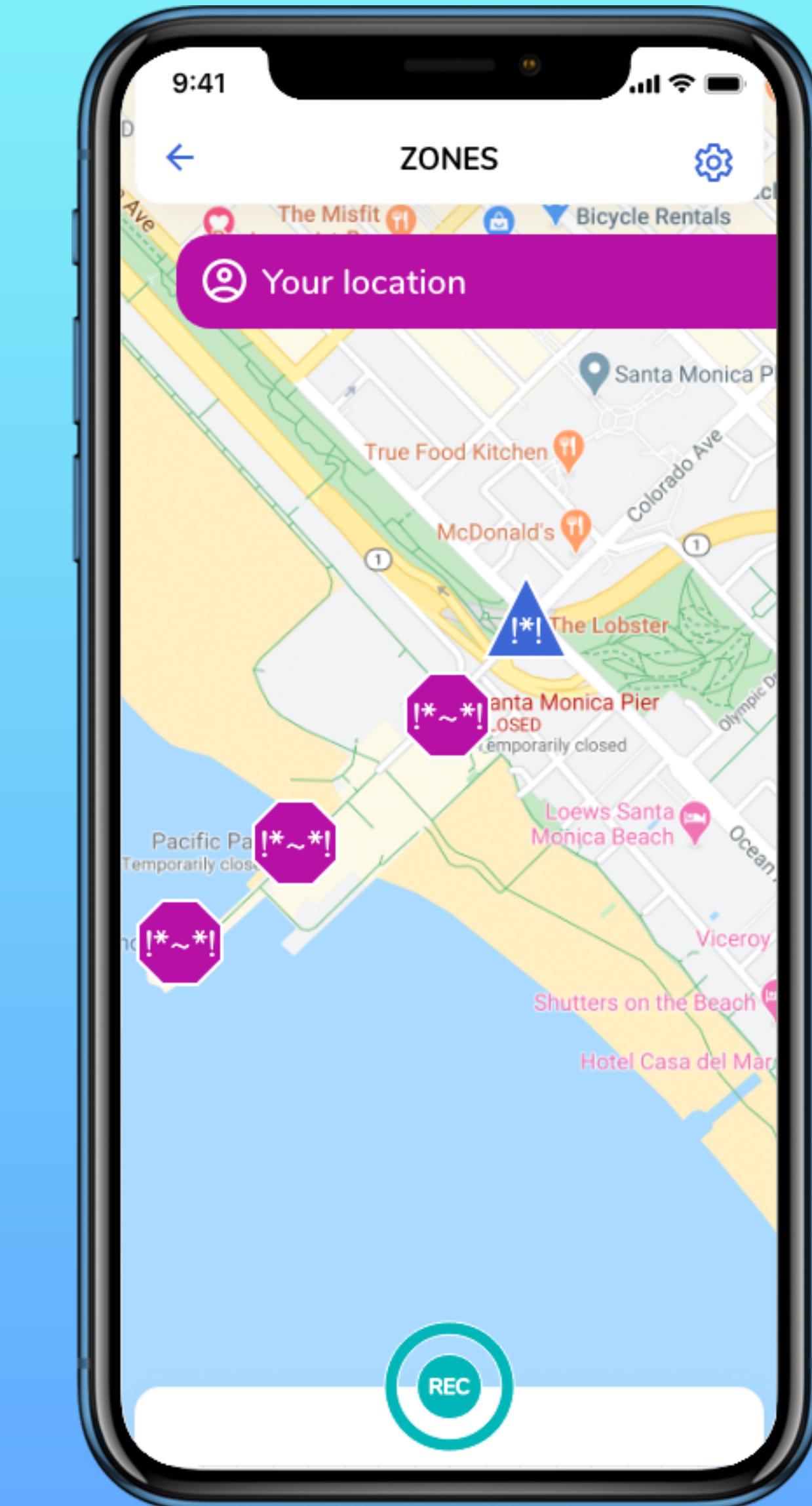
- People who are symptomatic or infected are instructed according to public health authority protocols.
- When people are symptomatic or infected, this information is anonymized and shared publicly.



GEOLOCATION

WHERE HAVE YOU BEEN?

- When app users enter **zones** (public spaces), their visit to that zone is logged publicly as an anonymous visitor.
- Should that person become symptomatic or test positive for COVID-19, people who visit that zone at the same time and for 72 hours afterward are considered together.



PROXIMITY

WHO HAVE YOU BEEN IN CONTACT WITH?

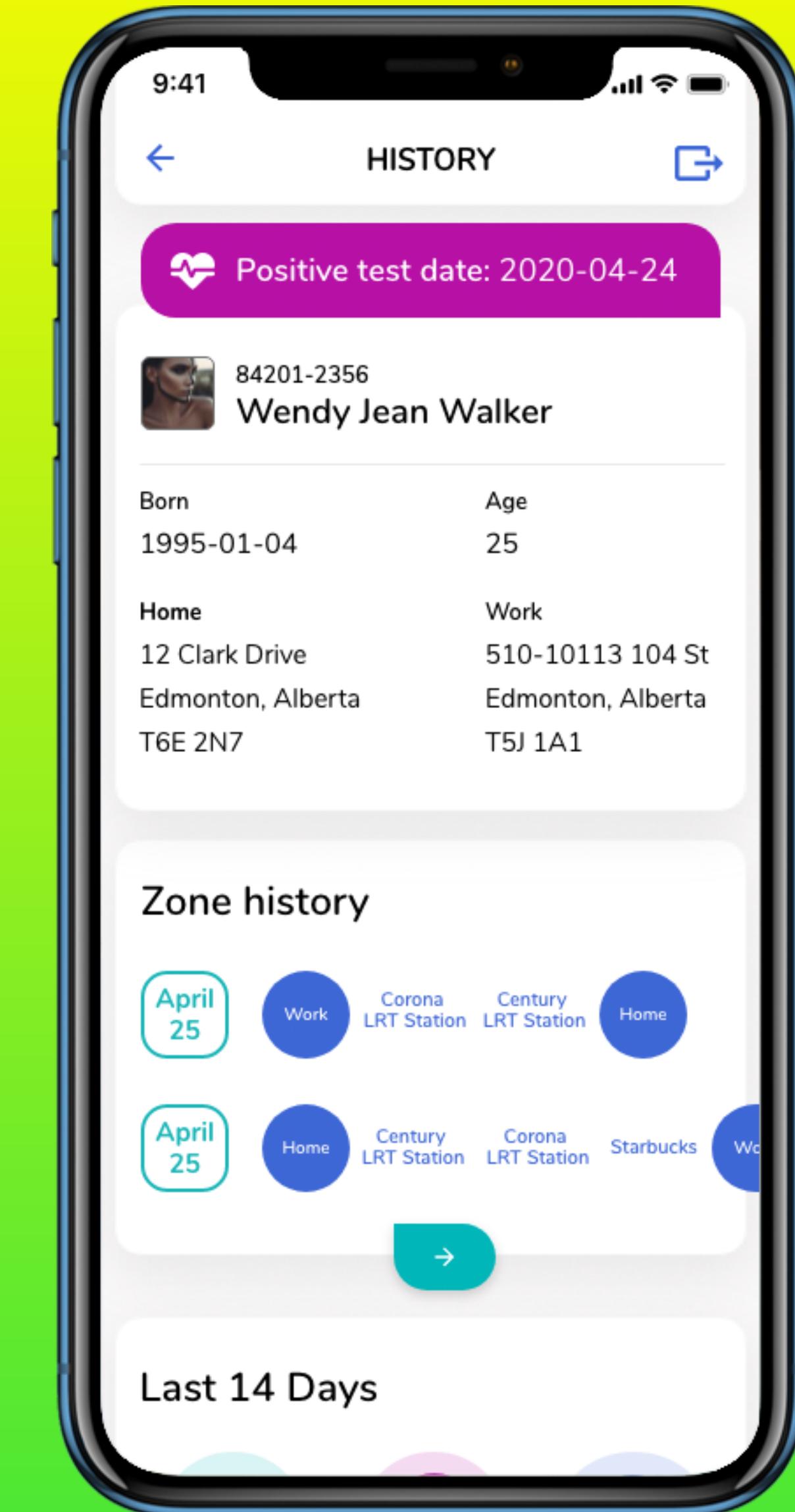
- Google and Apple Contact Tracing API.
- Extended to include Symptomatic as well as Affected (infected) and Exposed user roles.



VOLUNTARY

GDPR, PIPA AND PIPEDA COMPLIANT

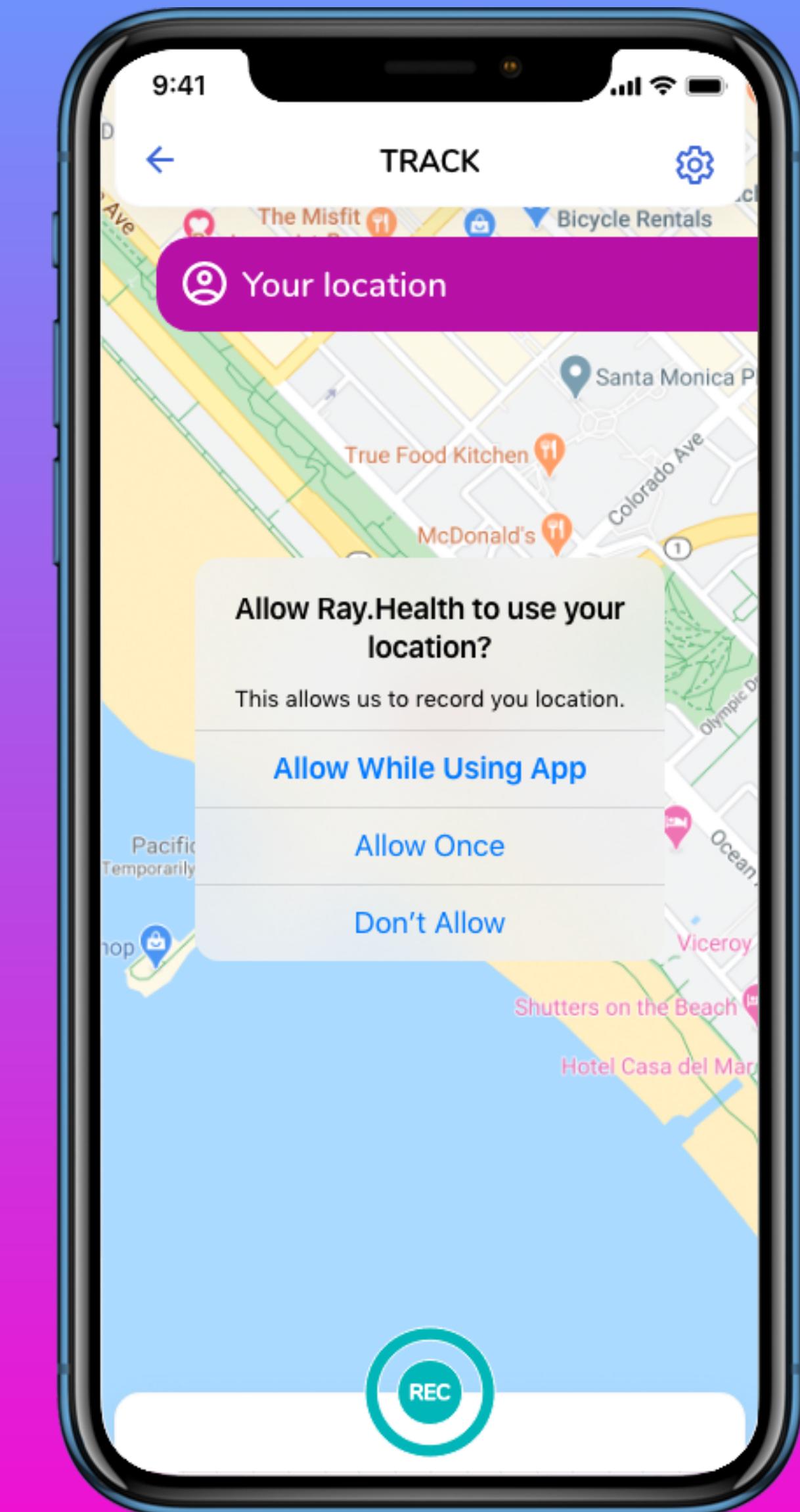
- **Governments and Public Health**
Authorities do not compel people to provide their personally identifiable information on this platform.
- **People can voluntarily provide their location history and PII to contact tracers if they so choose.**



ANONYMIZED

OPEN AND PUBLIC DATA

- Each visit to a zone is recorded as an anonymous user.
- Zones are limited to public spaces.



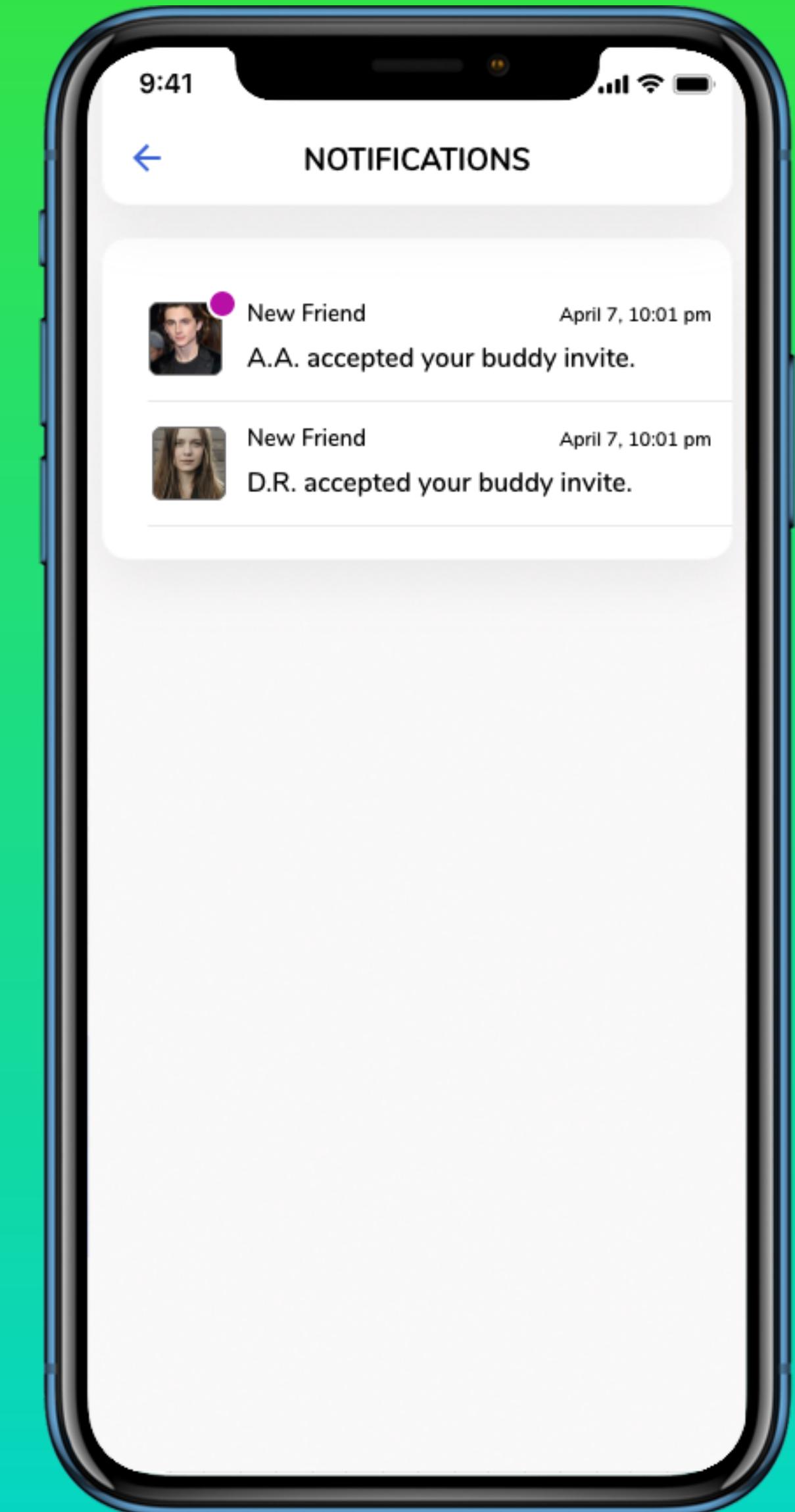
TRACTION

INCENTIVES

The app appeals to:

- Selfish needs of security and control for individual users
- Unselfish desires to do one's part.

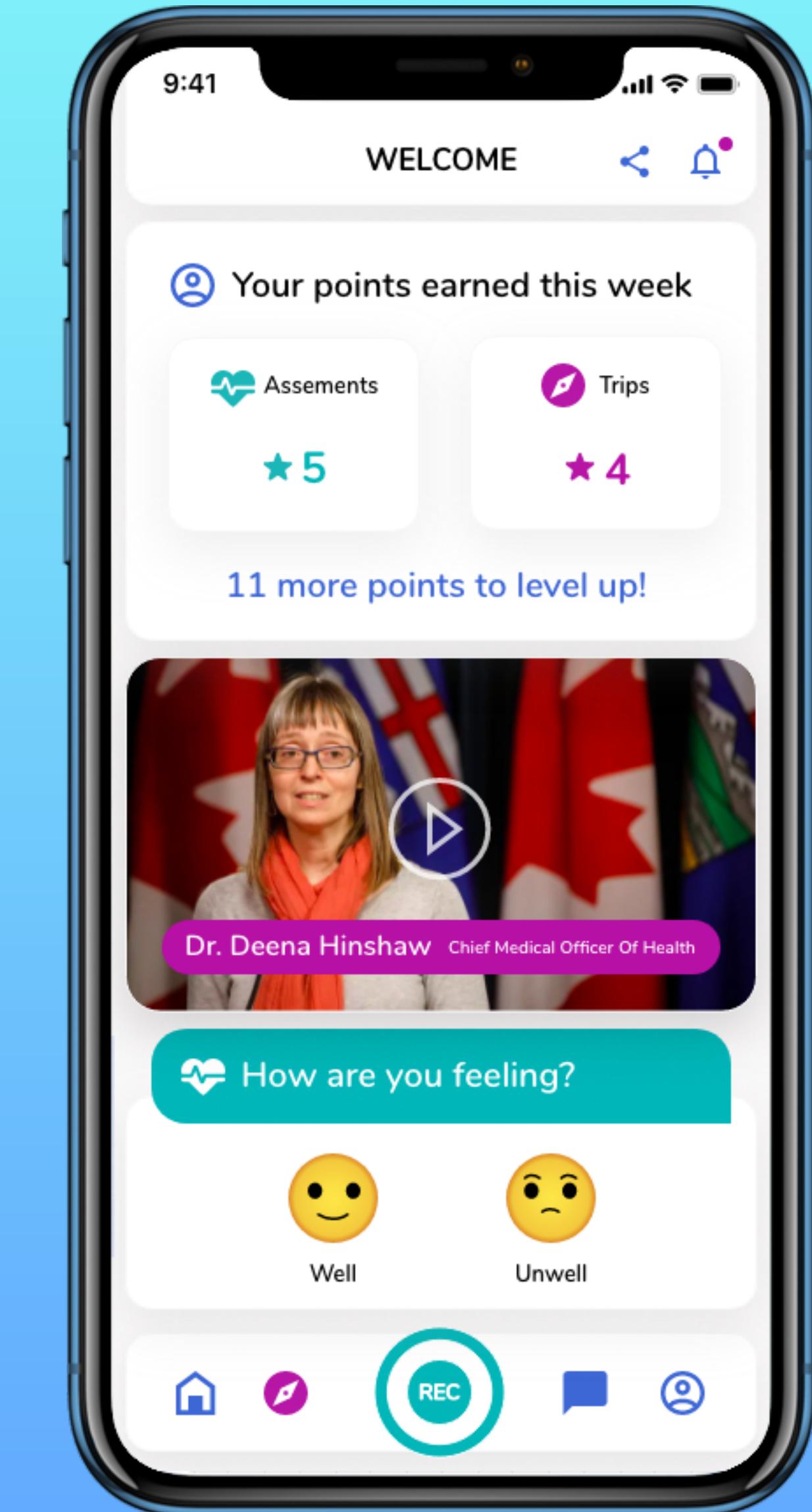
Growth hacking initiatives TBD.



ENGAGEMENT

GAMIFICATION

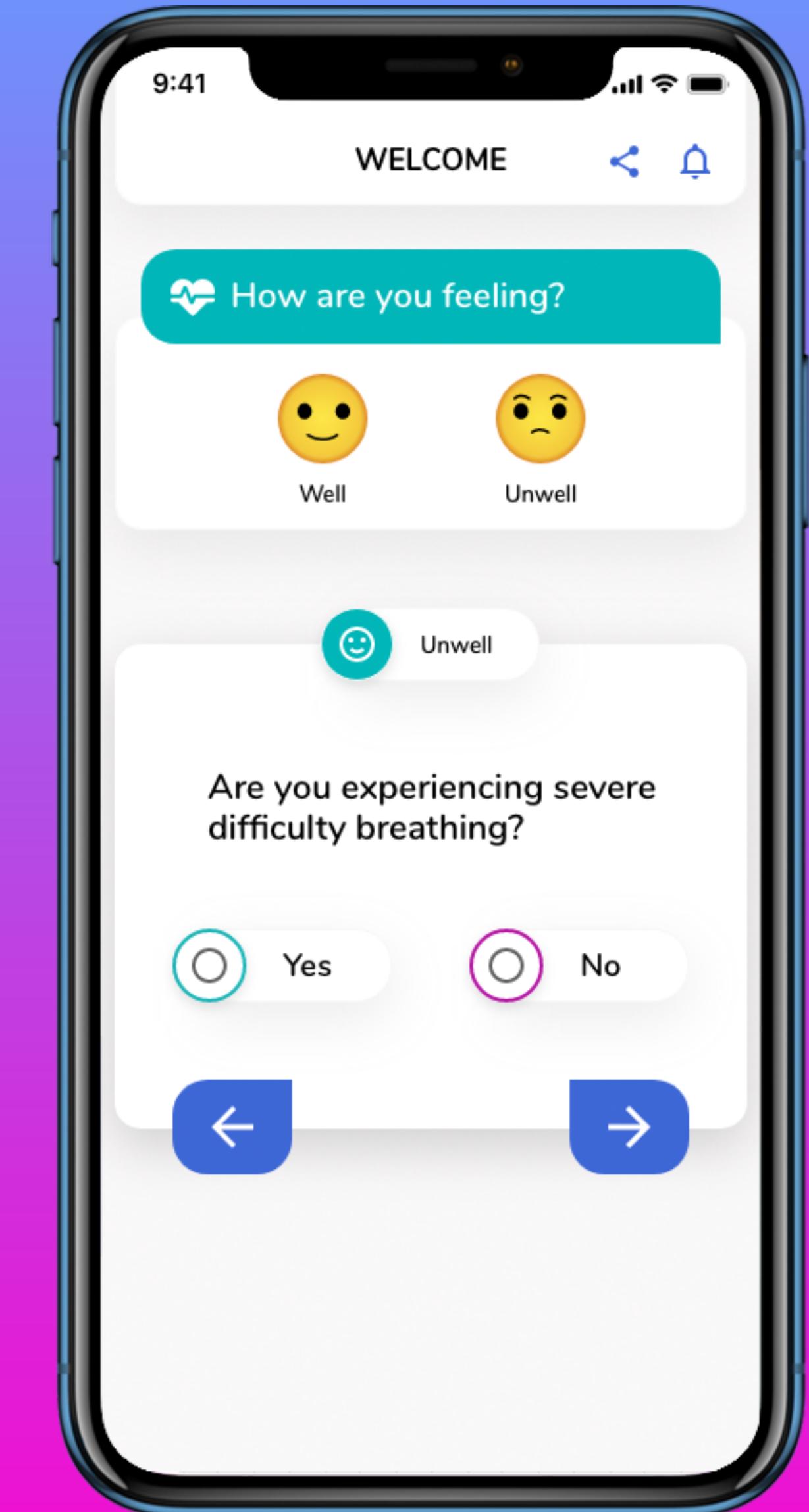
- Motivation to continue using the app would wane over time as users will (hopefully) predominantly not receive feedback that they are at increased risk.
- Gamification and continued connection to a cause greater than one's self are essential to long term success.
- The app rewards positive behaviour and encourages daily use.



PANIC

TOLERANCES

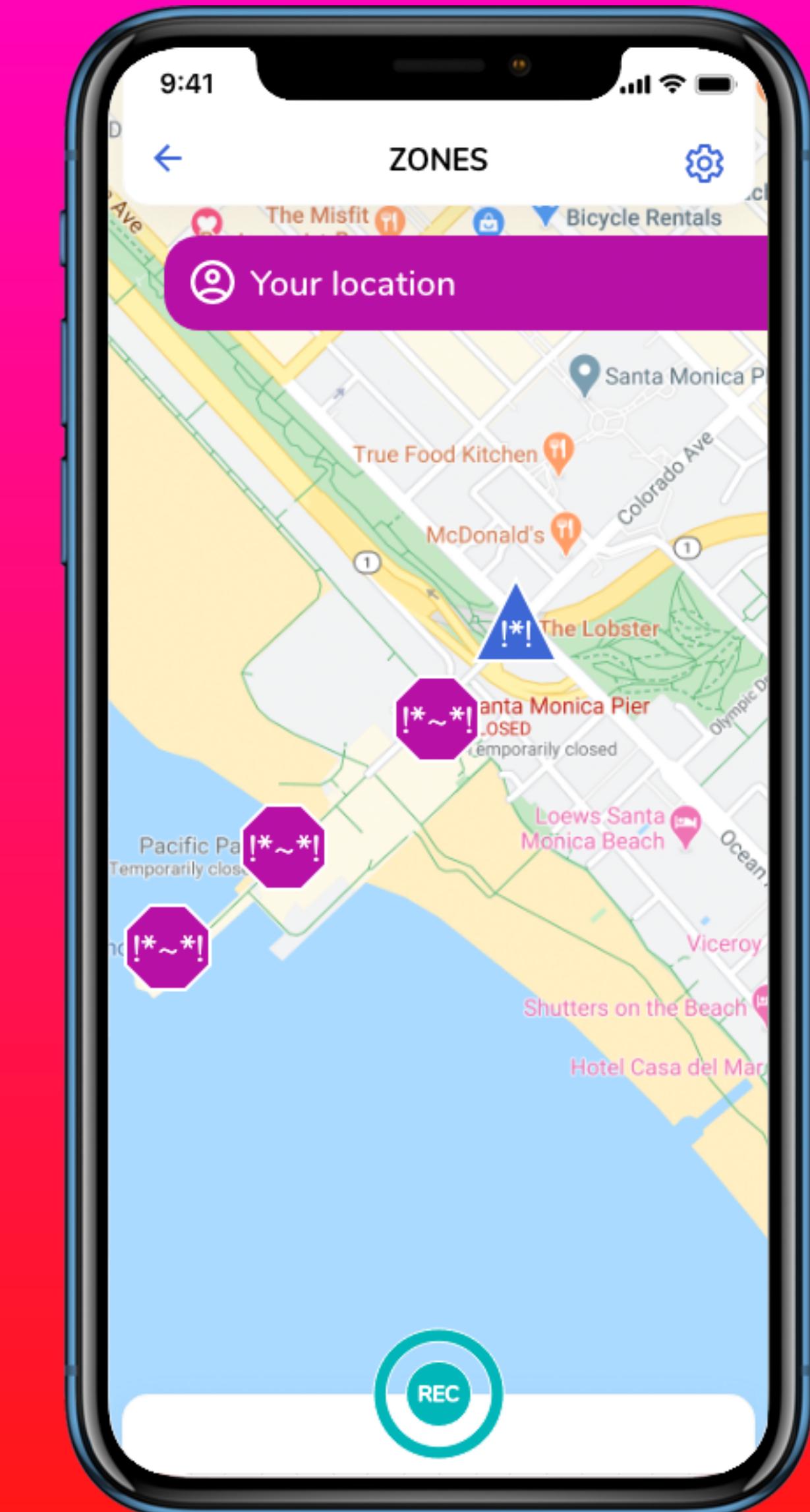
- Automated messages do not alert people they are at risk, but rather prompt them to self assess.
- Direct messaging to app users from public health authorities is at the discretion of the agency.



STIGMA

PREJUDICES

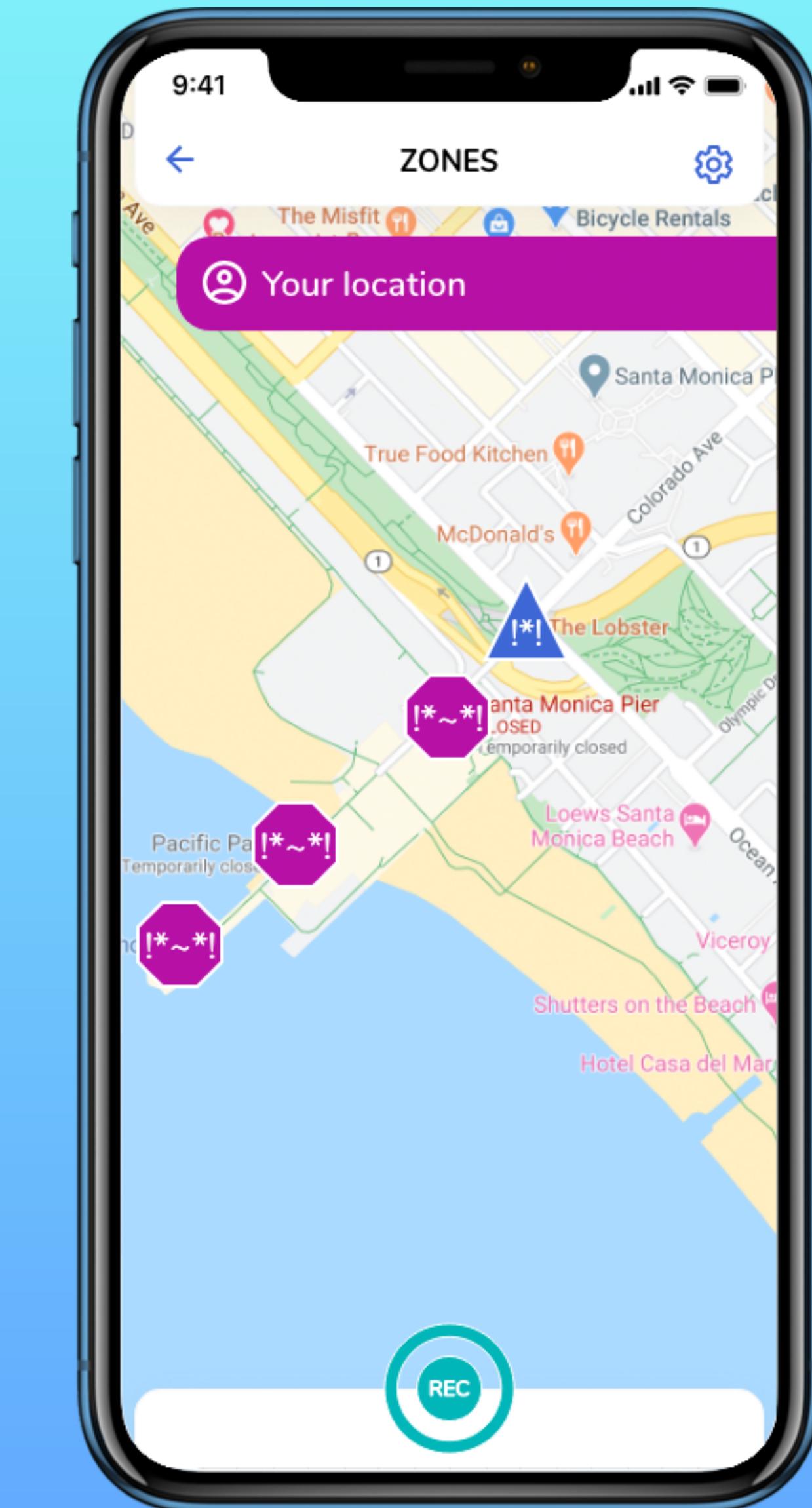
- Identities of individual users are never made public.
- The advisories for zones that infected and symptomatic users have visited are transient.
- The risk factor formula and the anonymized inputs are transparently shared.
- Weightings of small sample sizes and unverified assessments will be accounted for accordingly..



SECURITY

PREJUDICES

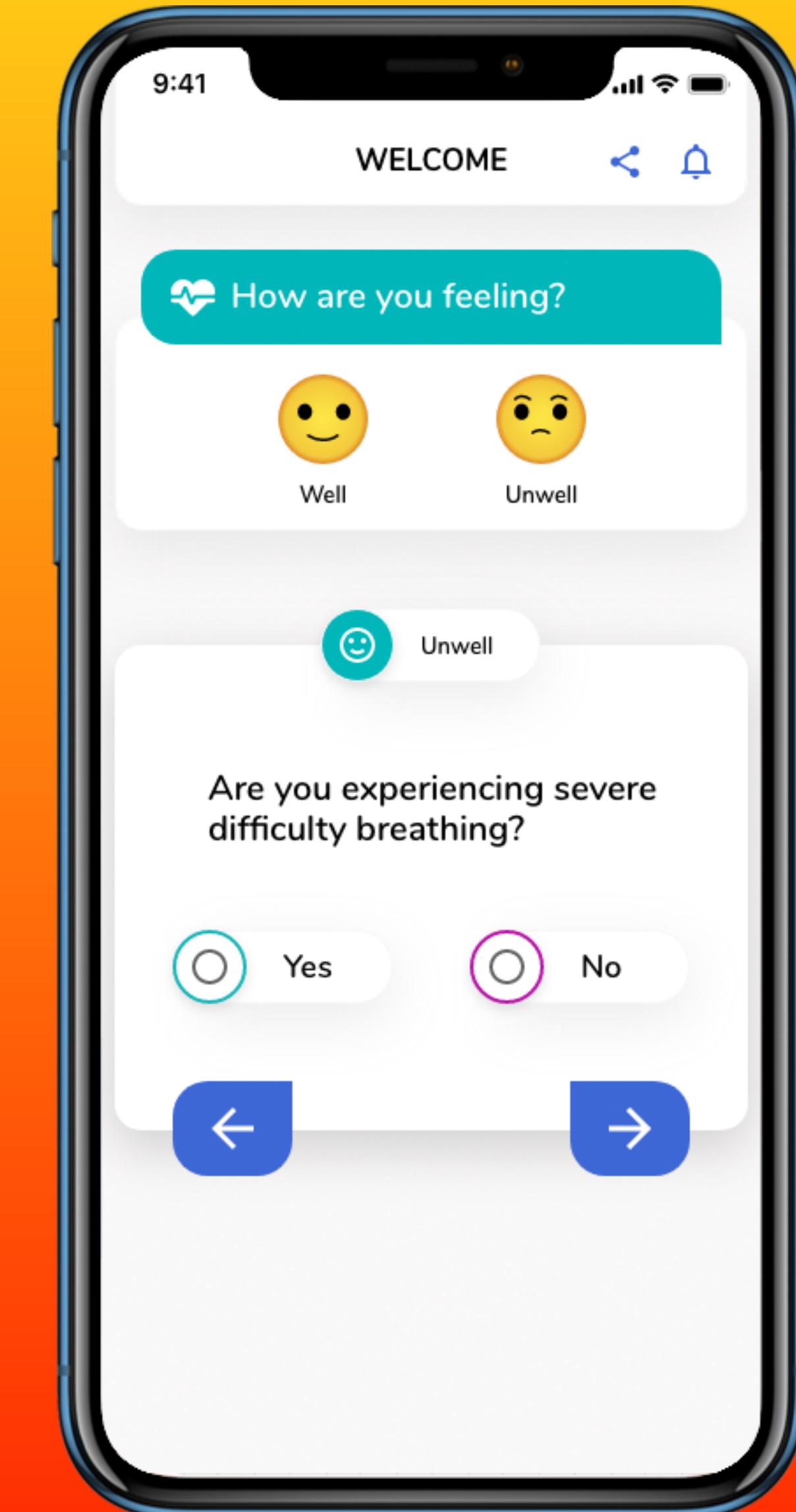
- Personally identifiable information will remain on each user's mobile phone.
- Sharing of this information will be out-of-band and voluntarily transferred directly to a contact tracer when interviewing a user who has tested positive.
- Public data sets are anonymized.



STRAIN ON PUBLIC RESOURCES

OVERWHELMING MANUAL SYSTEMS

- The app's daily self-assessments make calls to centres and visits to frontline workers for redundant. The app reduces load on these systems rather than increasing it.
- People who are asymptomatic receive no prompts to utilize public resources. Only people who are symptomatic are prompted to seek testing.

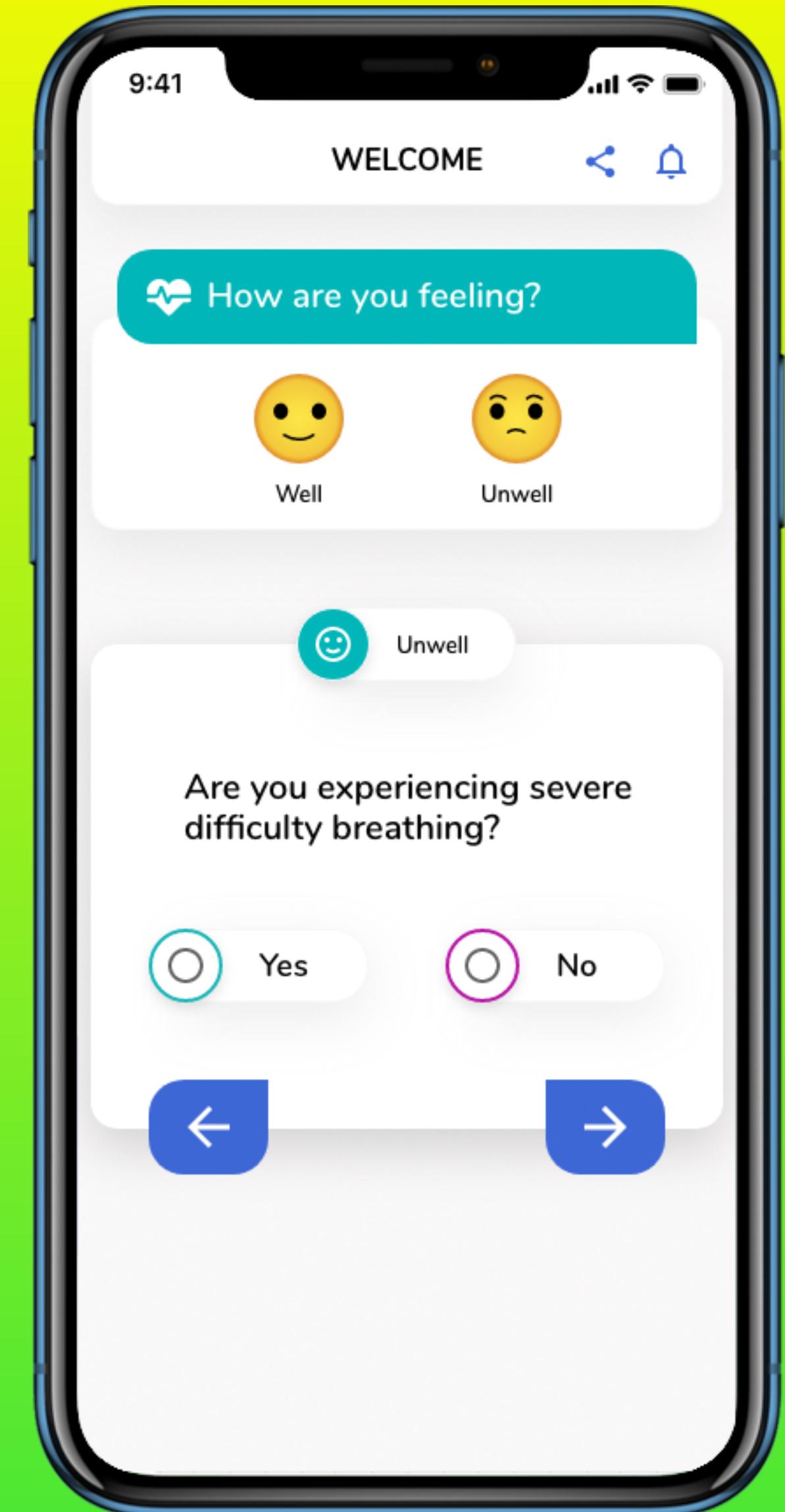


BAD DATA

TROLLS AND ERRORS

False positives and false negatives are considerations of the statistical model.

Discrepancies between geolocation and proximity histories reduce confidence.



HOW YOU CAN HELP

FUNDING

Core team of 10 to build the MVP over the next 3 weeks.

HUMAN RESOURCES

We are seeking skills in epidemiology, cryptology, dev ops, front end and full stack developers.

INTRODUCTIONS

The app requires at least one public health authority's endorsement in order to be eligible for Apple's App Store and Google's Play Store.



THANK YOU

GREGG OLDRING, FOUNDER

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