



30 March 2020

CoviID: new app to avoid future lockdowns

After South Africans commenced a 21-day lockdown, a group of researchers from the University of Cape Town (UCT) are working tirelessly on a smartphone app that could play an important role in managing future outbreaks of COVID-19 and economic recovery.

“The problem with a lockdown is it works, but only for a short period of time,” explains Associate Professor Co-Pierre Georg, convenor of UCT’s sought-after master’s in financial technology. “There’s a huge demand for apps that allow governments to – among other things – trace the physical contacts a person had once they test positive for corona.”

Georg and his students – working remotely – have come up with CoviID, an app that addresses both of these needs, as well as a novel third functionality of incentivising people to practise good hygiene during viral outbreaks.

“We can use insights from behavioural economics to nudge citizens to engage not only in good health practices, but also good hygiene practices, including social distancing and self-isolation,” added Kungela Mzuku, who was in the first financial technology class during 2018 and now works at Standard Bank as an innovation developer in its emerging tech team.

“This will become a key preventive component for public health officials, and I am excited to see how the latest technology can help us achieve this in a privacy-preserving way.” As Georg explains, research shows that COVID-19 is likely to mutate again, which means outbreaks of the virus could become a seasonal occurrence.

This, in turn, means that to act swiftly and avoid total lockdowns – as well as the economic consequences they carry – in years to come, governments must be adequately informed about outbreak statistics in real time.

Using Bluetooth and geolocation, CoviID will be able to track and trace the movements of an individual covering the two weeks prior to their testing positive for the virus.

In terms of being able to prove a user's status – which will no doubt become necessary for travellers, school children and university students, and for anyone to enter public spaces – the app will enable a verified healthcare professional to attest to their status once they have been tested.

“Whenever you want to prove your status, you show a QR code – either saved to your phone or on a piece of paper – and somebody can scan it to receive the information.”

As for incentivisation, Georg says that Discovery Health (a medical insurance provider) with their rewards programme, Vitality, has shown that people respond well to being incentivised for healthy behaviour.

During an outbreak of the coronavirus, for instance, social distancing and self-isolation could be rewarded. Once the app picks up that a user has been at home for a few days, for example, they could be eligible to receive discounts from partner companies like grocery stores. “This will help the government to incentivise people to do the right thing without having to go into full lockdown every time there is an outbreak, which is very costly,” he says.

Of course, the sensitive nature of this information requires a platform that will allow people to share it in a manner that is safe, secure and prioritises their privacy. “Designing this kind of app is not rocket science, and we're not the first or only ones to do it,” says Georg. “The thing that makes us different, however, is the fact that we've designed this from a privacy-first perspective.”

Using blockchain technology, which helps to ensure protection of privacy, Georg and his team have put impressive measures in place to reveal only the most necessary information. The CoviID app will collect a user's personal location and infection status and store it on their phone using a technology called self-sovereign identity – not on a centralised government or private-sector database. This provides the user with full authority and control over who gets access to the data, for what purpose and for how long.

Since time is of the essence, Georg and his team have had their heads down to release the first version of CoviID within the next three weeks. The idea is that eventually the South African Department of Health will be in charge of rolling out the app to users. The researchers are in discussion with various governmental role-players to raise awareness about the project with the goal of first rolling it out in South Africa, but ultimately all over Africa.

The team has also made progress with possible private sector partners and has buy-in from MTN and Standard Bank already.

“Actually, I’ve never experienced such a quick turnaround time on project proposals,” says Georg. “I received email replies from CEOs within a few hours and even on a Sunday morning. Team South Africa is truly coming through this time.” He says that even though we are entering a time of great challenges and hardship, this spirit of collaboration and cooperation has left him feeling hopeful.

“I think we can get through this together and come out stronger on the other side,” he concludes. “It’s also exciting to think that UCT could make a meaningful contribution during this crisis.”

Visit the [CoviID website](#) for more information.

ENDS

Issued by: UCT Communication and Marketing Department

Nombuso Shabalala

Head: Media Liaison
Communication and Marketing Department
University of Cape Town
Rondebosch
Tel: (021) 650 4190
Cell: (076) 473 5882
Email: nombuso.shabalala@uct.ac.za
Website: www.uct.ac.za