

As coronavirus continues to create chaos across the world, bringing even the most powerful economies to their knees, the situation becomes even more worse in third world countries (See Link 1.1).

Lockdowns have been enforced in almost all states but in low-income states it made life worse for daily wage workers as a major part of the population relies on laborious work for daily bread and butter (See Link 1.2).

No doubt social distancing has proven to be a very effective measure to slow down the spread of the disease. Millions of people are staying at home to help flatten the curve (See Link 1.3), but still they have to go out to meet their basic needs like groceries and medicine. Some have to go to work daily especially if they work in manufacturing or they are a part of Medical staff or law enforcement agencies (See link 1.4) or pharmaceutical industries (See Link 1.5) etc. as there is high demand these days.

This clarifies that there can't be a full lockdown in any state. In poor countries societal pressure has been increased to reduce lockdowns strictness as inflation is being increased and governments fail to stop it (See Link 1.6). Here welfare organizations come into play in this situation to distribute ration but while distributing all the SOPs of social distancing are neglected leading to people interaction level to increase instead of decreasing.

Recently Government and big tech companies are trying to implement contact tracing apps to predict the spread of disease (See Link 1.7). It makes sure that exact and right numbers are predicted so that people could be guided at the right time to quarantine themselves to curb the further spread of disease.

But the problem with this feature is that it is only applicable where the populations are majority tech-oriented and other factors like access to the internet and are technically literate. Because such an implementation is only beneficial if only people adopt it in their daily lives; otherwise it's a futile effort (See Link 1.8). Big tech companies like Apple and Google are trying to embed Bluetooth based contact tracing but again these efforts are only going to show positive impact where the people are tech-oriented.

AI Companies like Landing AI have developed solutions (see Link 1.9) for streets and industry for social distancing but it lags impact if people are not prompted timely if they violate the social distance rule.

Countries like Pakistan where literacy rate is not high (See Link 1.10) and the majority of its population is not much tech-oriented (See Link 1.11) will not make the above measures successful. The same situation is for other 3rd world countries like India, Bangladesh, Afghanistan, Iran, etc.

A tool is needed to leverage the need to be tech-oriented and educated to participate in contact tracing efforts; a social distance detection and awareness tool that uses the infrastructure of the current apps available in people's phones rather than trying to implement and force something new into masses.

That's what Wanderlust-AI Provides!

- For social distance detection and awareness, it uses WhatsApp location sharing to track persons' location history and measure and predict from that data whether they are maintaining social distance or not are alerted by SMS.
- For contact tracing we use the currently available infrastructure of cameras (if not available we are proposing a low-cost product) that will use cameras and AI in the cloud to track people GPS Coordinates without the need of smartphones and from that data it will predict the right number of people who have come in contact with covid19 patient along with that it will collect picture data as privacy laws are weak in low-income countries and people are not much concerned about it. We are at a stage where saving lives matter more than privacy. Who cares about privacy when you are dead!

The feature of contact tracing with cameras doesn't require people to keep a smartphone with them. as local cameras are utilized for knowing their exact GPS Coordinates and average distance is computed in the end to analyze if they are maintaining social distance or not. This data will also help in contact tracing.

People who will use our WhatsApp based service will have more advantage as they will be alerted through Twilio SMS API whether they are maintaining social distance or not

The data from cameras in streets and industries will help the health ministries to better curb the virus because it doesn't require people to use a particular service or mobile when it comes to tracking.

This repository aims to provide a set of programs that will help health ministries or government to be able to gather data of contacts even if people don't have a smartphone. Those who will use WhatsApp based service will be alerted immediately and those without any contact info, When needed the software will extract their pictures from the video frames and make it available to National Database and Registration Authorities to track the people's address and phone number so that they could be contacted immediately to be tested and to quarantine themselves

The codes are implemented on python, it uses yolov3 and some machine learning to carry out these tasks. Currently, wanderlust is in the development phase and is limited to local machine. In future it is expected to be a cloud-based service.

(1.1) <https://www.theguardian.com/commentisfree/2020/apr/21/coronavirus-disaster-developing-nations-global-marshall-plan>

(1.2) <https://www.aljazeera.com/news/2020/03/pakistan-daily-wagers-struggle-survive-coronavirus-lockdown-200325115143152.html>

(1.3) <https://www.weforum.org/agenda/2020/03/social-distancing-measures-coronavirus-covid19/>

(1.4) <https://www.aa.com.tr/en/asia-pacific/pakistan-deploys-army-to-assist-in-covid-19-measures/1776226/>

(1.5) https://www.business-standard.com/article/economy-policy/covid-19-impact-pharma-players-come-together-for-smooth-production-120041201080_1.html

(1.6) <https://nation.com.pk/13-Apr-2020/the-case-for-easing-lockdown>

(1.7) <https://www.businessinsider.com/coronavirus-contact-tracing-government-apps-vs-apple-google-covid-19-2020-4>

(1.8) <https://fortune.com/2020/04/14/big-techs-coronavirus-contact-tracing-apps-will-only-work-if-users-buy-in/>

(1.9) https://landing.ai/landing-ai-creates-an-ai-tool-to-help-customers-monitor-social-distancing-in-the-workplace/?fbclid=IwAR2vWkR79n-mtF_JrqxeZRlvCpCU2Jei9FO_PSoEzLsbMmq0eJ_nxossdVA

(1.10) <https://www.gfmag.com/global-data/non-economic-data/best-tech-countries>

(1.11) <https://nation.com.pk/08-Feb-2018/literacy-rate-in-pakistan>

Team w@nderloop 2020