THE NEW PANDEMIC POLICY: 'AAROGYA SETU' FOR MASS SURVEILLANCE IN INDIA TO FIGHT COVID-19

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ABSTRACT

World is facing its biggest challenge against Covid-19 which is claimed to be the third world war. This virus is highly contagious and several measures have been laid to control the spread of corona virus.WhatsApp, Facebook, Instagram, Gmail, Swiggy, Zomato, Myntra, Ola etc., have deeply embedded in the lives of the peopleThe Government is using digital platform and technology to fight against corona.India's fight against Corona is people driven. India's first contact tracing app called AarogyaSetu was launched. ArogyaSetu app is based on the idea of 'technological solutionism' The main use of installing these apps in to ones' mobile is to generate "contact tracing, syndrome mapping, and self-assessment updating the number of new cases, recovered cases. The app seeks continuous access to location information (through GPS and Bluetooth technologies) to alert people to follow social distancing protocols and avoid Covid-19 hotspots The country should be transparent about the digital tool it used. The data-sharing and knowledge-sharing protocol for the AarogyaSetu is prone to misuse, considering that India still doesn't have data protection laws Individual must be informed about the use of collected information and there use by the Government. Supreme Court of India declares right of privacy as fundamental right. The response to Covid-19, involved multiple levels of government, and multiple institutional actors. This study explores the experience and policy issue related to AarogyaSetu in India to fight Covid 19. This paper will help in strengthing Apps feature and analyzing user experience and exception.

KEYWORDS: *World Health Organization, Covid19, Arogya Setu App, Technological Solutionism.*

Introduction

Covid 19 outbreak emerges in China and spread all over the world. WHO declared Covid 19 as a pandemic on March 2020.Citizens have been recommended to stay home and practice social distancing in many countries to preventing the spread of Covid 19 Global trade employment and travel are hampered due to pandemic. Government Of India declares 21 days lock down on 24 March 2020 to resist the community transmission by restricting the movement of the people, sealing of Covid 19 hotspot, closure of non-essential service provider establishment**.**

COVID-19 pandemic has pushed for mobile app solutions to support social distancing efforts. According to statistical report, as of September 2020, the number of apps available on Google Play Store is 2.96 million applications Mass surveillance has become a common strategy to track the infected

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people in this pandemic era of covid-19.ArogyaSetu app is a government initiative to ensure the safety for its citizens from this deadly virus.The App is aimed at implementing the program of the Government of India by informing the users of the app regarding risks, best practices and significant advisories to be relevant to the control of COVID-19. It uses inbuilt Bluetooth technology of the user's mobile device to connect to other registered users and inform whether the user has come in contact with anyone who has been tested positive.The app,"notify, trace, and suitably support" a registered user regarding COVID-19 infection. The self-assessment test (SAT), users can get tips on how to stay healthy or information like safety advice, do's and don'ts.

In the media section of the app Guidelines for vaccination, Vaccine Myth busters, Quick facts on vaccine, New Guidelines during Unlocking, New normal Etiquette, Covid Katha (a multimedia presentation for mass awareness), Standard operating procedures for various offices, etc are given

Digital technology method to track the disease is used in many cities, for exampleGovt made public the personal details of those under home-quarantine, mandated all those quarantined to sendselfies every hour throughout the day, government officials are plastering posters on home-quarantined patients' houses that revealed their names and those of their family members, use of facial recognition app to track quarantinedpeople.

Mobile Apps Solution in World Scenario

Government officials and health authorities are keepinga close eye on spreading of misinformation to the public via any media in other countries. A study was conducted on the people of six countries Argentina, Germany, South Korea, Spain, the UK, and the US to know how the people access news and information about Covid 19.

As for example, China is tracking people through their smart phones; or Israel, is used its counter terrorism agency to monitor people; or even Singapore, is using contract tracing smart phone app to track infected people.In West Africa cell phone play a major role for preventing.

Countries and their Apps at a Galance
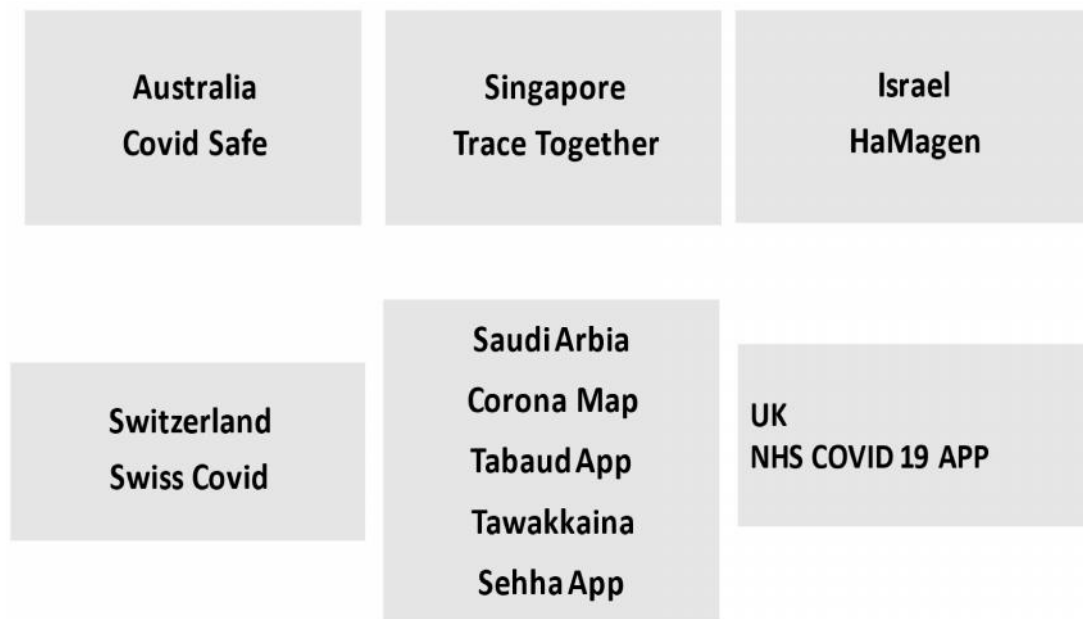
Source Figure: 1

Tabaud APP

It is contact tracing App developed by Saudi Arabia. It notifies users if they meet other registered, infected persons using the same application. It uses Bluetooth technology for detecting any nearby smartphones using the same application.

Tawakklna

It facilitate Saudi Arabian citizen's movement during lockdown. The application notifies the users in case they are close to infectious or contaminated zones

Sehha APP

It was developed Saudi Arabia in for providing e-consultations in health application through audio and video modes for users.

Covid Symptoms

It is UK based app intended to collect data from people to promote research related to Covid 19. The purpose of this application is to analyses the spread of the virus, identifying high-risk areas assessing vulnerable sections of society, and understanding the symptoms linked to health conditions. This app does not provide any information or health advice,

Pathcheck App

Path Check Organization a joint venture between MIT and Triple Blind in USA who develops it. The objective of is to integrate people and health department to contain the spread of novel coronavirus. For ensuring privacy and security for the users, the application uses Google Apple Exposure Notification API.

NHS COVID-19APP

It is UK based App developed by NHS Test and Trace. It alerts user if they come into close contact with other registered users who have tested positive for COVID-19. It allows users to report symptoms and book a free test for COVID-19. If the users check into a place or venue, it informs them whether a high number of positive cases have been listed.

Features of Arogya Setu App

On April2, 2020,Ministry of Electronics and Information Technology Government of India developed a contract tracing mobile app called AarogyaSetu for tracing the location of the user.AarogyaSetu App was developed with the objective of building a Made in India Contact Tracing App in a record time of around 21 days. ArogyaSetu's has been developed in collaborationwith Government, Industry and Academia and citizens .In Hindi AarogyaSetu means abridge for health. It is a new instrument for mass surveillance, which collect personal data. Such personal data may be shared with the health department of Government of India and state. The app is available in 12 languages. The app is available on android, iOS and KaiOS platforms. Many people call it as their bodyguard. This app has over 1147 million users on 26 May 2021.

The ArogyaSetu works uses Bluetooth technology, algorithms and artificial intelligence.It enables people to assess themselves the risk of their catching the Corona Virus infection.It based contact tracing mechanism and alert user in case if any one of contacts tests positive. The user of Arogya Satu, have to answer some questions. If some of the answers suggest COVID-19 symptoms, then the information will be sent to a government server. The data will then help the Government take timely steps and initiate the isolation procedure.User get an SMS indicating their health status.The information provided by the citizen will be made part of AarogyaSetu database

It can also identify potential hotspots around the individuals' location and helps the individual to take necessary interventions to control and mitigate the spread of Covid19.AarogyaSetu team has identified more than 3,500 hotspots across the country. It identifies the state wise figures of confirmed, recovered and deceased covid19 cases in the country.The platform has reached out to more than 900,000 users and advise them for Quarantine, caution or testing. 24% of them have found COVID19 positive who were recommended for testing COVID19.The App was downloaded by more than 16.23 Cr users.

AarogyaSetu Interactive Voice Response System (IVRS)is used for including the citizens in AarogyaSetuprotection.This is a toll-free service across the country on the basis of missed call to the number 1921and call back requesting for inputs regarding their health

The input provided by the citizen will be made part of AarogyaSetu database and information is processed to send alerts to the citizen on the action to be taken to ensure their safety.

Tracing Process of Arogya Setu App

Figure 2: Source https://www.aarogyasetu.gov.in/
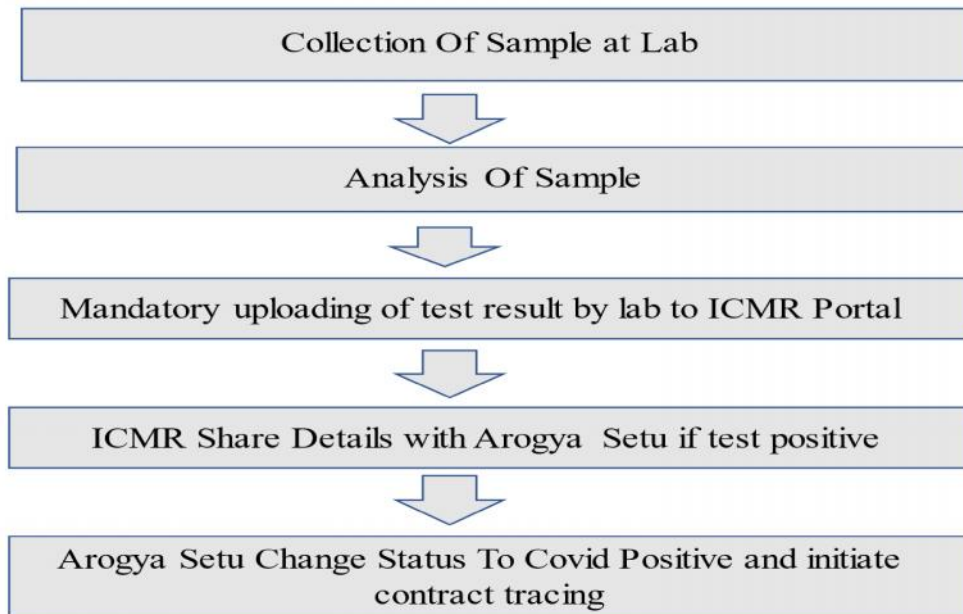
Open API Service

Registered organizations and business entities in India with more than 50 employees, can get the health status of their employees or any other AarogyaSetu User if they have given their consent. No personal data should share in this context.

Upgradation of Vaccination Status

ArogyaSetu users can update the Vaccination Status. Fully vaccinated people will get a Blue Shield on the home page of ArogyaSetu App with double blue ticks after 14 days of second dose. Those who have got a single dose will get a single blue border with a single tick on their home screen. Partially vaccinated status will give to those users who have taken one dose. Vaccination status can be updated through the registered mobile number.

Shortcoming

Apps success depend on reporting by infectious person which depend on number of testing and attitude of the person.

App will be effective only when there is high smart phone penetration and individual cell phone and network coverage.

- **One Time Pass Word Registration**

Poor user interface and unnecessary use of blue tooth making the device vulnerable to certain threats.

- **Bug within Software.**

Individual Right in Global Scenario

As per WHO guideline state will prevent unauthorized access or disclosure of information. South Korea amend the Infectious Disease Control and Preventive Act by giving wide range of power to government for collecting personal information. South Korea amend the act in context of challenges face by Middle East Respiratory Syndrome (MERS). Government power is balanced by notifying the person before collection and useless data will be delated after certain time. To face the challenges of severe acute respiratory syndrome (SARS) Canada amend its Quarantine Act by granting excessive power to state.in case of outbreak. Individual liberty is balanced by providing notice to individual whose information is shared.

Privacy Right and Aarogya Setu App

The Government need to focus on the privacy concerns since it collects sensitive personal data such as a person's gender and travel information and stores in the cloud. India does not have a law dealing with personal data protection.

Individual data can be stored in this app only for 180 days. A person can delete his data within 30 days by raising request. The user installs it on Anriod or iOS mobile. The applicant accepts the terms and privacy policy at the time of registration. The applicant has to provide personal information eg name, age, sex, profession, phone number, international travel within last 28-45 days and whether the user is a smoker. The user has to assess a self-assessment health questionnaire. The app will show the self-assessment test of health questionnaire The information will sent to a government server. If some of the answer suggest covid symptoms Government can initiate the isolation procedure.

AarogyaSetu Emergency Data Access and Knowledge Protocol 2020 enhance the prior retention of data from 60 days to 180 days. An user can request dilatationof data about users name mobile number age gender professional travel history. In usual circumstances data of those infected will not be shared with the third party. Under Section 51 to 60 of the Disaster Management Act 2005violation of the data security protocol will be punishable by jail term up to two years.

For protection of health care data there is no legislation in India. Information Technology Act, 2000 is applicable to corporate entity not for state so it is not applicable in current situation. PersonalData Protection Bill 2019 ("PDPB")Digital Information Security in Healthcare Act ("DISHA") are pending which are expected to fulfill this gap.

AarogyaSetu's Bug Bounty Programme is prepared to test the security effectiveness of AargoyaSetu. Security Researcher will qualify for a reward if he finds out valid security vulnerability subject to the Vulnerability reported or the Source code improvement reported, should be original and should not be previously reported by anyone. The Researcher should be ready to work and co-ordinate with AarogyaSetu team in implementing the code improvement.

Satisfaction Level of Indian from Arogya Setu App

A study was done to know the satisfaction level of Indian from ArogyaSetu App. 56 % of the Indian are satisfied or very satisfied with the app27 % of the Indian are lower or poor satisfied. Most of the user are positive about its acceptance. It is revealed that this app is helpful in keeping covid away and generate a sense of confidence. Real time data collection is done by this app. Authority of information may be questionable because it refers on self-reported data.

Review of App by User

Table 1

Criteria	Percentage
User Acceptance	83
Usefulness of App	72.8
Feature Of App	62.2
Trustworthiness	5.17 %

Source Kodali et al

A study was conducted on the 503 samples based on acceptance, usefulness of app, feature and trustworthiness of the App.It is acceptable to 83 % of the user 72.8% find it useful and 62.2% are satisfied with the feature ,5.17% are happy with the trustworthiness of APP

Types of Data and Responsibility

National Informatics Centre is responsible for collection, processing and managing response data collected by the AarogyaSetu. Data shall be used for the purpose of formulating or implementing health responses. NIC will process data in a fair, transparent and non-discriminatory manner. Contact and location data remain on the device on which the AarogyaSetu mobile application has been installed

Individual data includes demographic data, such as the name, mobile number, age, gender, profession and travel history of an individual, contact data, self-assessment data and location data. Contact data means data about individual has come in close proximity with, including the duration of the contact, the proximate distance between the individuals and the geographical location at which the contact occurred. Self-assessment data means the responses provided by that individual to the self-assessment test administered within the AarogyaSetu mobile application.

Contact, location and self-assessment data of an individual shall not ordinarily extend beyond 180 days from the date, on which it is collected. Demographic data of an individual shall be retained for as long as this Protocol remains in force. Individual may request for delectation of demographic data. Such request must be entertained within 30 days.

Personal data may be shared with Ministries and Departments of the Government of India State Governments and other public health institutions of the Government of India, State Governments and local governments.

Sharing of Response Data

Individual should not be being identified from the response data. An expert committee appointed by the Principal Scientific Advisor to the Government of India shall do anonymization in accordance with anonymization protocols developed.

Response data may be made available to Indian universities and research institutions for the purposes of statistical, epidemiological, scientific or any other form of academic research.

Any university or research institution which accesses anonymized response data shall not reverse anonymise such data or re-identify individuals in any manner.

University or research institution, which accesses anonymised response data, may share such anonymised response data with other Indian universities or research institutions for same purpose for which it has sought approval.

Such university or research institution shall remain subject to audit and review by the Central Government. Any non-compliance with this protocol by university or research institution can terminate any rights granted to them under this Protocol

Evaluation of Arogya Setu App from User Point of View

People have high levels of trust in scientists, doctors and experts from WHO

It is useful and trustworthy app for keeping away hidden enemy like COVID-19. It helps authorities to make greater data driven decision and real time data collection.

The app uses Bluetooth and Location (GPS) to trace interaction with COVID-19 positive cases.

Data Access and Knowledge Sharing Protocol, 2020shall be in force for 6 months from the date of issue. The Empowered Group shall review this Protocol after a period of 6 months.

Most of the users were optimistic about ArogyaSetu app. AarogyaSetu users can Update the Vaccination Status.Those users who have taken at least one dosewill get the tab of "partially vaccinated".

Users demanded additional features such as geo-location tracking, timely COVID-19 updates, information on red-orange-green zones, and deployment in non-smartphone platforms.

The process of supporting the open-source development is managed by National Informatics Centre (NIC). Though AarogyaSetuapp has been launched in the time of an ongoing pandemic, the Governments are trying to maximize data collection. This may often be at the cost of privacy rights of citizens

Government must focus on fixing the bugs, improving the quality of data collection, and user privacy.To ensure the reliability of information provided by the users there should be cross verification of data. The key pillars of AarogyaSetuis transparency, privacy and security and Open Source Software.

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