

# Covid-19 Quarantine Alert system (CQAS)

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In news

Covid-19 Quarantine Alert system(CQAS) is being used by the authorities to prevent quarantine violation amidst covid-19 pandemic

About the Covid-19 Quarantine Alert system(CQAS)

Who developed it?

It was developed by the Department of Telecommunication, Centre for Development of Telematics(C-DOT) in coordination with Telecom Service Providers. The Ministry of Electronics and Information Technology has encouraged state government agencies to use the Covid Quarantine Alert system.

How does CQAS work?

- The software application automatically triggers an email or SMS if any identified corona positive person moves away from their quarantine location.
- The system would send triggers to the identified monitoring agencies for any potential violations from the quarantined location subject to network availability and triangulation limitations.
- **It uses a cellphone tower also called a base transceiver station (BTS)** data to determine the approximate location of a person.
- If this person has been put on a watch-list, the system throws up an alert if their phone goes out of that geographic area and connects to a different BTS
- The CQAS creates a virtual-boundary, commonly known as **geo-fence**, around the quarantine premises for the

targets received from the State governments.

- Such targets are duly **approved by the Home Secretary of the State under Section 5(2) of Indian Telegraph Act 1885.**
- The real time location is fetched from the telecom networks, analyzed by CQAS in its Big Data Analytics engine, following which the periodic alerts related to geo-fence breaches are generated and sent to the state administration and district authorities.
- Bihar and Andhra Pradesh were the firsts to come on board the DoT-CQAS.
- The CQAS offers many services, including automated email alerts for real-time quarantine geo-fence breaches to the authorities and catering to any mobile phone.

#### **Powers of under Indian Telegraph Act 1885**

- The CQAS service is authorised by the home secretary of the respective states and is allowed under the provision of section 5(2) of the Indian Telegraph's act for public emergency
- The law invoked, telegraph act's section 5(2), is used for legal interception of telecommunications that is allowed in the Indian constitution under specific conditions, such as for national security and to prevent a crime.

#### **Section 5(2) of the act says,**

**On the occurrence of any public emergency, or in the interest of the public safety, the Central Government or a State Government or any officer specially authorised in this behalf by the Central Government or a State Government may, if satisfied that it is necessary or expedient so to do in the interests of the sovereignty and integrity of India, the security of the State, friendly relations with foreign states or public order or for preventing incitement to the commission of an offence, for reasons to be recorded in writing, by**

order, direct that any message or class of messages to or from any person or class of persons, or relating to any particular subject, brought for transmission by or transmitted or received by any telegraph, shall not be transmitted, or shall be intercepted or detained, or shall be disclosed to the Government making the order or an officer thereof mentioned in the order: Provided that the press messages intended to be published in India of correspondents accredited to the Central Government or a State Government shall not be intercepted or detained, unless their transmission has been prohibited under this sub-section.

### **About C-DOT**

- The Centre for Development of Telematics is an Indian Government owned telecommunications technology development centre.
- It was established in 1984 with the initial mandate of designing and developing digital exchanges.
- C-DOT has expanded to develop intelligent computer software applications. It has offices in Delhi, Bangalore and Kolkata.
- It is one of the 2 Indian Government organisations which have been appraised at Maturity Level 5 of CMMI-DEV v1.3, other being Bharat Electronics Limited (BEL) Software Technology Centre.

### **Base Transceiver Station (BTS)**

- A base transceiver station (BTS) is a fixed radio transceiver in any mobile network.
- The BTS connects mobile devices to the network.
- It sends and receives radio signals to mobile devices and converts them to digital signals that it passes on the network to route to other terminals in the network or to the Internet.
- BTS is also referred to as the *node B* (in 3G networks) or, simply, the *base station* (BS)