IIT Mandi makes home quarantine management app for COVID-19 patients

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Researchers at the Indian Institute of Technology (IIT) Mandi have developed LakshmanRekha, an artificial intelligence - biometric driven home quarantine management application (HQMA) for COVID-19 patients.

The developed application uses a combination of biometric verification, geofencing, and artificial intelligence, to continuously monitor and accurately detect the identity of a home quarantined person.

In addition to the quarantine management, this application can also serve as an unbreachable mobile phone platform for normal (non-COVID) mobile users, situations like under curfew, or any national emergency, for identifying the violators or lawbreakers.

The results of the research work that was funded by the Department of Science and Technology, have recently been published in the IEEE Consumer Electronics Magazine. The paper has been authored by the lead scientist on this research Dr Aditya Nigam, Assistant Professor, School of Computing & Electrical Engineering, IIT Mandi, and co-investigators on the study were Dr Arnav Bhavsar, Associate Professors, School of Computing & Electrical Engineering, along with research scholars, Daksh Thapar and Piyush Goyal of IIT Mandi, with Dr Gaurav Jaiswal from IIT Delhi and Dr Kamlesh Tiwari and Rohit Bhardwaj of BITS Pilani, Rajasthan.

Speaking about the importance of LakshmanRekha, Dr Nigam, said, "We have developed a pilot version of LakshmanRekha mobile application and tested it over small datasets. The obtained results are very good and now we are working to add more functionality, scalability and usability to make it ready for deployment."