

COVID-19 Research at National Institute of Technology Silchar

Research Area: Surveillance, Health Care

Project Title: Development of a Quarantined Patient Health and Location Tracking System with GUI support and breach alert system

Expected Outcome: Due to the pandemic like COVID-19 it is necessary to isolate and quarantine the patients to inhibit the spread of the pandemic. Our objective is the development of a system which we can effectively monitor the patient health data, access the data remotely using a GUI based web application and real-time tracking of patient's location and raise a breach alert when the patient wanders out of the specified unrestricted area. The system includes a device which is strapped on the patient so the entire solution is non-invasive. The device includes a GPS module for triangulating the location of the patient, Temperature and ECG Sensors for collecting health data and a microcontroller for processing and transmitting the data wirelessly to the server. The server hosts a Web-app which enables the users to visualize the data through its GUI enriched interface. The system also facilitates the real-time tracking of the patient's location and updates it on the server. If the quarantined patient steps out of the designated area space, an SOS signal is immediately sent to the server and all the responsible authorities are notified of the breach. Through this system, we aim at containing the patients to a safe-space while keeping track of the health and thus preventing the further spread of the pandemic due to the affected individuals.

Expected Timeline: 30 days or less

Remarks: For development of the prototype the device and the GUI based web-app, successful testing and recording of the test data-sets from the patients to set up the database and deploying the server and its testing.

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