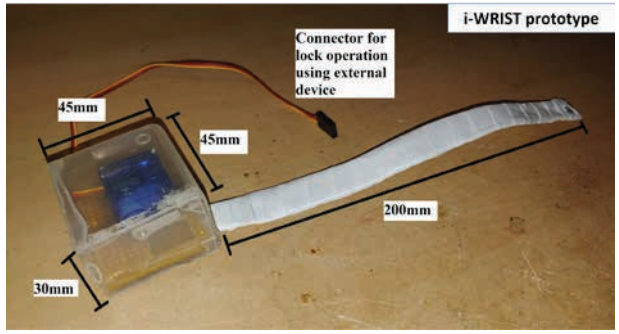
i-WRIST: Electronically Lockable Health Monitoring and Tracking Device



Problem Statement: The doctor-to-patient ratio is 1:1500 in India, and it overburdens the healthcare system posing several challenges to society, especially during a pandemic condition like COVID-19. Moreover, the unavailability of digital monitoring introduces risks for the patients and has impacted Indian patients. The IIT Bombay research team's proposed novel solution, called i-WRIST, not only helps in remote monitoring of health but can be extended to other therapeutic areas.

Uniqueness of the Solution: i-WRIST TechnoSol is an indigenous Wearable Reliable Intact Symptom Monitoring and Tracking wrist band and a Technology Solution. It is IoT based, lightweight, and waterproof wearable digital monitoring device to continuously 'track and trace' the patient's vital body parameters. Digital healthcare monitoring will help reduce the workload from healthcare professionals like doctors and paramedic staff. As of now, there is no direct competitor for i-WRIST TechnoSol except commercially available wristbands, and digital watches are the indirect competitors. The proposed i-WRIST device will comply with the medical device standards, while the commercially available monitoring devices do not.

Current Status of Technology: The laboratory testing of the integrated system is completed. The results obtained from the testing are satisfactory and match with the commercially available devices. The researchers are working on the integration of complete system and alpha testing. The approximate cost of i-WRIST TechnoSol is expected to be INR 6000-7000 per device.

Societal Impact: The proposed i-WRIST can help track the parameters of remotely located patients and facilitate faster treatment. It can reduce the work burden on healthcare professionals and can create an overall positive social impact on the healthcare system.

Patent(s): Filed

Relevant Industries: Medical Device Manufacturing, Biomedical Engineering.

Faculty: Prof. Maryam Shojaei Baghini, Electrical Engineering.