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IIT-M startup to develop wrist-based tracker for COVID-19

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It is expected to hit the market by the end of June 2020



Indian Institute of Technology Madras-incubated Start-up Muse Wearables is developing a wrist-based tracker with skin temperature, Heart Rate and SpO2 (Blood Oxygen saturation) sensing. The device can continuously track these body vitals remotely that will help in early diagnosis of COVID-19 symptoms.

The tracker is Bluetooth-enabled and can be connected to the mobile phone via an app called the Muse Health App. The user vitals (temperature, heart rate, SpO2 levels) and activity data are stored in the phone as well as a remote server. Administrative access can also be provided for centralized monitoring of people in containment areas for COVID-19 symptoms.

The tracker can get notifications from the Arogya Setu App and raise an alert to the user when he enters a Covid Containment Zone. The Startup hopes to be able to bring out the first batch of finalized products in the next 20 days.

These COVID-19 trackers will help the current situation in early hypoxia detection as well as patient care and will lead to a better health Management of suspected patients or localities. It will also help normal people in proactive monitoring of their health.

Muse Wearables, which was incubated by IIT Madras Incubation Cell, has already completed product design for the tracker and are now working on finalizing and fabricating the product. They have also initiated work on the manufacturing moulds. They will also be filing IP (Intellectual Property) for the developed technology.

Speaking about the current status of this COVID-19 Symptoms Tracker, K. Prathyusha, Chief Operating Officer, and Head of Hardware Engineering, Conzumex Industries, which operates the brand ‘Muse Wearables,’ said, “As a wearable tech company, we have a strong background in developing wearables and deploying them in the market. Our main objective with this product is to facilitate identification of patients who have COVID pneumonia sooner so that they can be treated more effectively. We are developing algorithms to estimate body temperature from skin & ambient temperature, heart rate and motion sensing. With continuous temperature and SpO2 monitoring, we will be able to detect silent hypoxia (an early symptom of Coronavirus infection even in asymptomatic patients) at an early stage. This will also help the general public for proactive health monitoring along with fitness tracking and sleep tracking. We are aiming to hit the market by the end of June 2020.”

Speaking about the Muse Health App, Ajay Yathindra, CPO, Conzumex Industries said, “Our Muse Health App has the ability to get notifications from other Apps and send it to our tracker. Upon receiving notifications, the tracker will vibrate and indicate via LED to update the user. So users can opt to get notifications from Aarogya Setu App, in order to not miss any important alerts related to COVID.”

Speaking about the Muse Backend Services, George Francis, CTO, Conzumex Industries said, “We have created our backend such that users can trigger an SOS alert in case of emergencies, which will be followed up through tele consultations, thereby enabling us to provide an end-to-end proactive health monitoring system to our users. We are creating a Digital Health ID for every user so that users can choose to share their health data with others like doctors etc by providing access to their health ID.”

The wearable tracker’s major objective is to enable remote detection of COVID-19 and Monitoring of COVID-19 patients by providing a low-cost solution that is accessible to everyone.

Speaking about the role of IIT Madras Incubation Cell (ITMIC) in supporting such startups, Dr. Tamaswati Ghosh, Chief Executive Officer, IIT Madras Incubation Cell, said, “IITMIC continues to assist its start-ups through these challenging times and hopes that industry support will help them ramp up their efforts in a more meaningful way. We are very proud of our start-ups who are working on a range of products that are vital to India's fight against COVID-19. They have quickly mobilized and repurposed their offerings in response to the situation and are striving to make a positive contribution to the nation's anti-virus efforts.”

The unique features of the product include:

- Comfortable to wear on the wrist at all times as compared to a fingertip based SPO2 sensor
- Wrist based continuous SpO2, skin temperature and heart rate tracking
- Remote monitoring of patient vitals by doctors etc
- Automatic alerts and emergency response system if a user's vitals are out of range
- Automatic Activity Tracking (Steps, Calories, Distance)
- Automatic Sleep Tracking
- Long Battery Life (up to 4 weeks on a single charge)

Users can raise an Emergency Alert (SOS) in case of any difficulty and the alert raised when body temperature is higher than the threshold. Alerts are also raised when SpO2 levels are too low or when the user is entering into a COVID containment area.

Priced at around Rs. 3500/-, this new wearable product will soon be deployed in the market for consumers across all the 70 countries that the startup currently sells in.