Digital stethoscope for enhanced auscultation

Heart and lung diseases have become the top causes of death in India, and require effective auscultation (listening to chest sounds) for correct diagnosis. Conventional stethoscopes used by doctors require considerable training and concentration to identify the relevant sound patterns, especially in noisy environment.

Stethoscope device

An innovative module developed at the Biomedical Engineering & Technology incubation Centre (BETiC) at IIT Bombay converts conventional stethoscopes into digital ones. It enables noise filtering, sound amplification, recording and playback, and visual representation of heart and lung sounds.

The device can be used in primary healthcare centers to record abnormal sounds, which can be sent to expert physicians for further diagnosis. This can overcome the problem of low ratio of physicians to number of people in India (approximately 1:1700). The auscultated sounds can be included in the medical records of patients. Their repository will enable rapid learning curve for medical students.

We have filed a provisional patent in August 2016 and licensed the technology to Ayu Devices Pvt. Ltd., incubated in mid 2017 at the Society for Innovation and Entrepreneurship (SINE) of IIT Bombay. The company won the Biotechnology Ignition Grant from BIRAC and was recognised as 'Emerging StartUp' in October 2017 by Bombay Management Association.

Stethoscope being tested

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