eSteth: Digital stethoscope for real-time web and mobile phone based telemedicine

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A digital stethoscope is one of the most critical tools in examining patients during telemedicine consultation, allowing detection of pulmonary or cardiac illnesses by a health provider sitting at a distant location. Building on its current advancements in mobile-telemedicine, Tech4Life Enterprises has developed a digital stethoscope, called eSteth, which is designed to support telemedicine consultations, while increasing the physician’s diagnostic capacity and making the patient monitoring more reliable. It is designed as a plug-n-play biomedical device for the real-time application, which amplifies filters and transmits signals in real time, targeting sounds originated in the auscultation range of 20 Hz - 1 kHz. The device can be used in both community and clinical settings for detecting a wide range of heart and lung problems, assisting the verbal and visual assessment of the health providers. Tech4Life's mobile based telemedicine platform, 'MD Consults' is used to transfer the sounds during telemedicine consultations. eSteth is a simple plug-n-play application, especially designed for frontline health workers in the emerging countries. The device connects with the smart phone, tablet or computer using an audio jack. The transmitted sounds can further be delivered and diagnosed by the provider on the remote end connecting the head phones to the system. A small scale trial already conducted in Pakistan shows high level of accuracy and health provider satisfaction with the device.

Biography
Shariq Khoja is a seasoned researcher and high profile leader in the area of eHealth and eLearning. He has experience of over 15 years leading Health systems initiatives which focus on evidence and policies towards implementation of eHealth in developing countries. He is also an Adjunct Assistant Professor at the University of Calgary and has written over 50 papers and several book chapters, along with developing tools for organizational needs and readiness assessment, and evaluation of eHealth initiatives. He currently leads eHealth initiatives in South and Central Asia and East Africa.

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