

The Stethoscope as an Improved Pre-Diagnostics Device - In the field of Cardiology



Steth-Link: The Auscultation Product-Service System

The act of listening to someone's heart by means of a stethoscope, also known as auscultation, is proven to be a difficult task. Cardiologists have to make real-time decisions off of subjective interpretations with use of an iconic, but increasingly obsolete tool: The Acoustic Stethoscope. Since the stethoscope is almost always the first tool used for diagnosis, it can be seen as the first factor that determines if the patient reaches the "further testing threshold". Therefore it is paramount for the general quality of healthcare that auscultation is performed in the best way possible, since this can determine whether further testing is done on the patient, or the patient is sent home.

Together with cardiologists, a product-service system was created that makes use of Artificial Intelligence, seamless automation, improved ergonomics and feedback loops in order to facilitate the cardiologist during auscultation.

The design proposal aims to increase medical effectiveness and diagnostic potential, facilitating cardiologists in their auscultation responsibilities by creating a new and improved diagnostic tool in the form of an electronic stethoscope that harmonises with the efficiency of the auscultation process in an unobtrusive way; benefiting both the cardiologist and the patient.



Seamlessness

Automated functionality, from recording, to transfer to analysis.



Facilitation

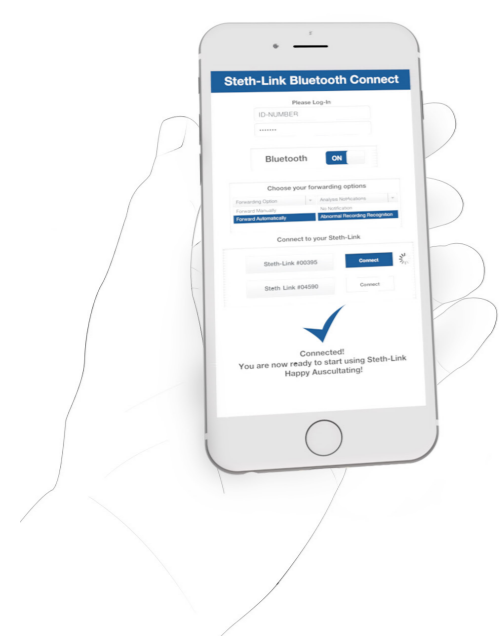
Increased control through integrated product feedback, playback and real-time volume control.



Medical Effectiveness

Heart Sound Analysis driven by Deep Learning and Artificial Intelligence

01



Connect

02



Auscultate

03



Analyse

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Integrated Product Design

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