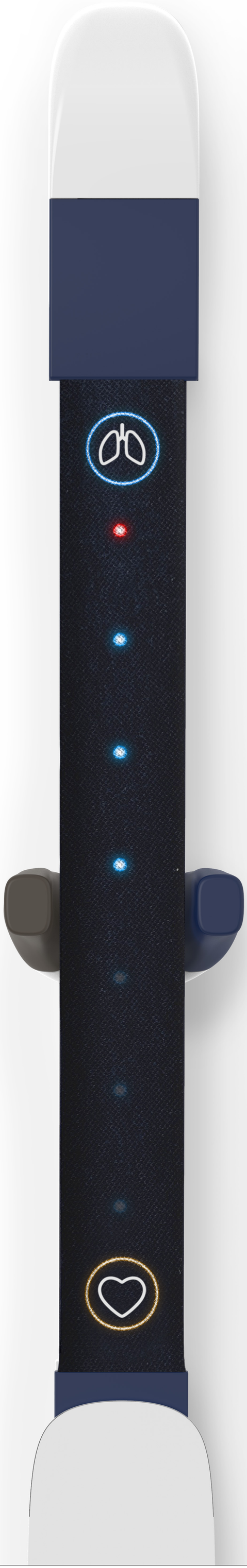


PHILIPS | Serin

An early detection solution for heart failure and COPD patients

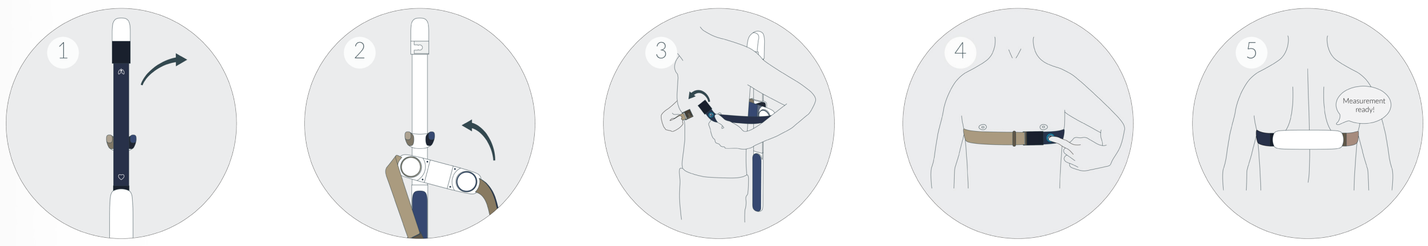
Digital stethoscopes are the most emblematic tools of doctors. Due to the recent advancements in artificial intelligence based sound analysis, these tools soon will be ready to leave behind the clinics of general practitioners, cardiologists, and pulmonologists and move to the homes of patients. But which patients could benefit the most from the technology and how would this step affect the design of stethoscopes?

Challenge

The goal of the project was to design a self-monitoring solution based on the technology of digital stethoscope that could support cardiac patients in their self-management. The first half of the project focused on identifying which patients could benefit the most from the technology while the second half was spent with detailing a design solution for these patients.

Solution

Philips Serin is a strap based self-monitoring device that can early detect lung infections for COPD patients and fluid retention in heart failure patients' lungs. The device has a double stethoscope set-up, so patients can listen to the sounds of both of their lungs at the same time. The Philips Serin is stored on a wall mounted charger. Hidden lights in the strap help patients to remember to measurements and provide feedback about measurement accomplishment. The fabric based strap design provides a friendlier and more comfortable look and increases the comfort during use. The wall mount is equipped with a holder that supports patients in the easy and accurate placement of the device on their back.



Daniel László-Deli
Designing a monitoring device for cardiovascular patients
17.05.2018
Integrated Product Design (Medisign)

Committee Dr. ir. Maaike Kleeinsman
Ir. Stefan van de Geer
Company CardioLab

TU Delft

Faculty of Industrial Design Engineering

Delft University of Technology