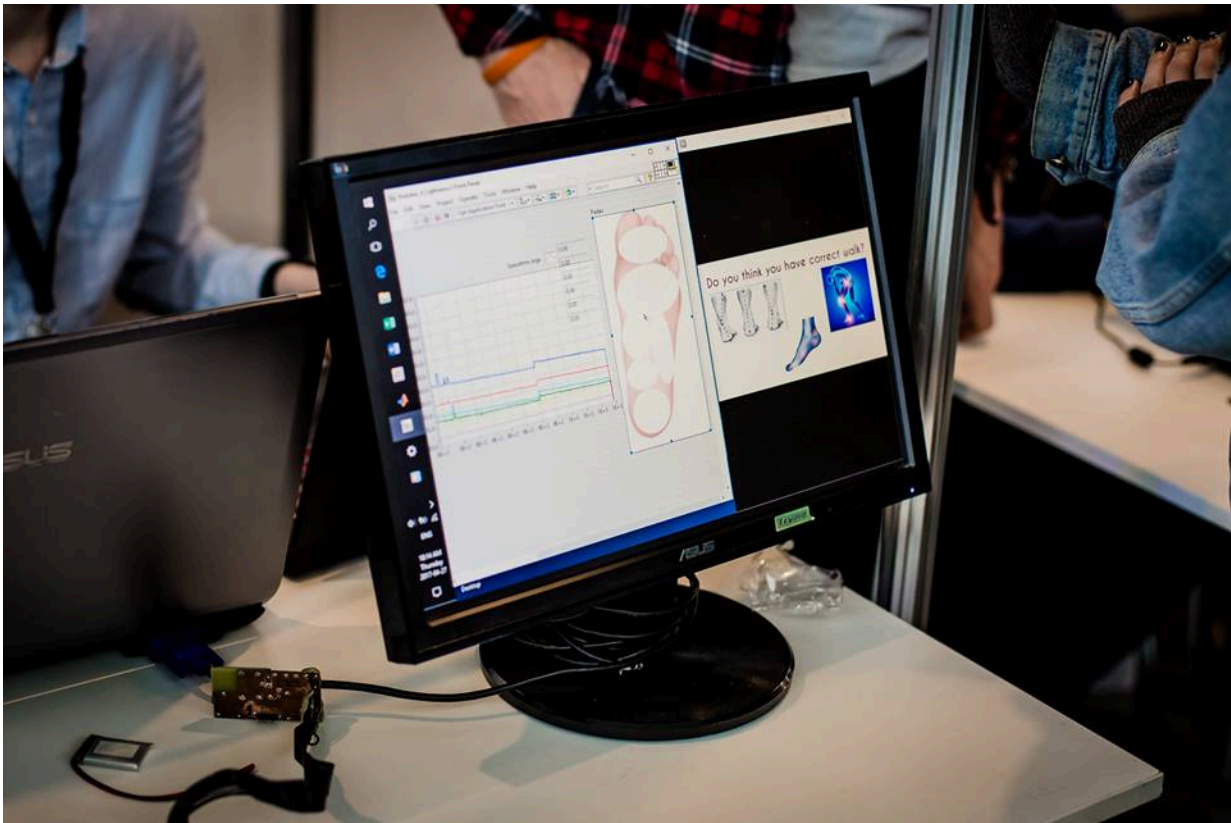


Pressure sensor can identify early stages of flat feet

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It records the data from mobile sensors placed on an insole of a shoe. Later, it is being sent via Bluetooth connection to a computer for visualization. Credit: KTU

A team of researchers at Kaunas University of Technology (KTU) have designed a device for measuring pressure on human feet. Its applications

include pediatric illnesses and monitoring the physical condition of professional athletes.

The most mechanical pressure is endured by the feet, which bear all of a person's weight while walking. The change of pressure can serve as an indicator for diagnosing the occurrence and development of certain health conditions, such as feet pathologies from diabetes, toe deformation and [flat feet](#).

Physiotherapists claim that seven out of 10 Lithuanians suffer from flat feet. The most vulnerable group is children. Although the most common solution for solving the problem is wearing special shoes, the monitoring of the gait and foot pressure would be an ideal solution for preventing the condition. The device designed by KTU biomedical electronics and biomedical engineering students records the data from mobile sensors placed on an insole of a shoe. The data is sent via Bluetooth connection to a computer for visualisation. For this purpose, a smartphone app could also be used.

The mobile device can be used not only for diagnosing health conditions, but also for monitoring [gait disorders](#) of the elderly and foot conditions of [professional athletes](#). At the moment, the team is investigating the possibility of integrating the device into shoes for convenient and pain-free use. According to the KTU students who created the pressure measuring device, its production is inexpensive and the energy costs for usage are minimal.

Provided by Kaunas University of Technology

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