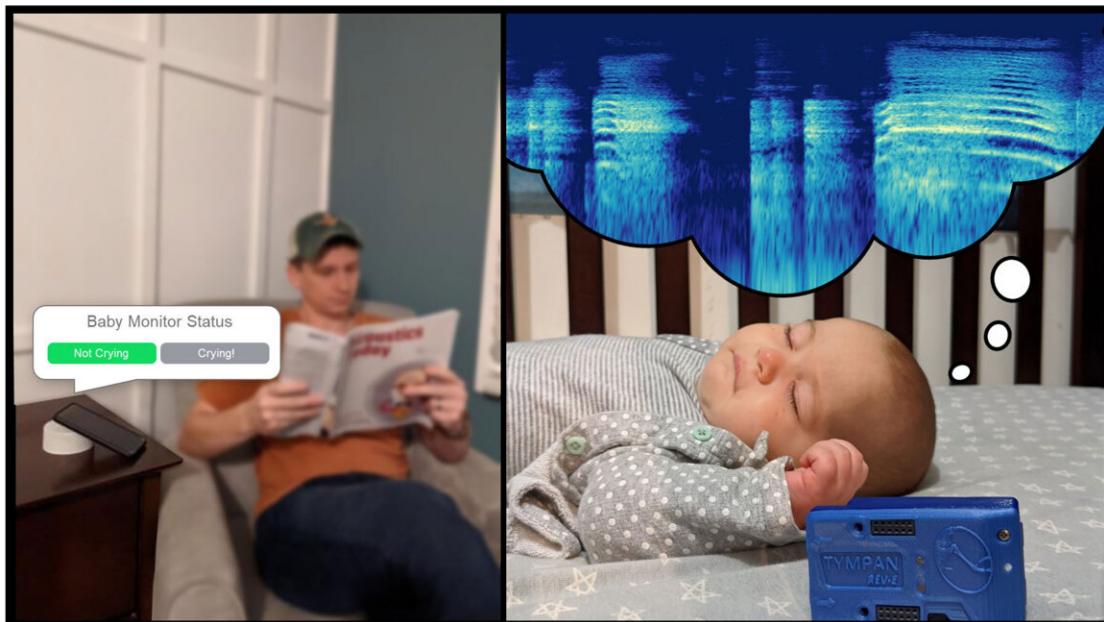


Filtering unwanted sounds from baby monitors

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Researchers at Johns Hopkins APL team aim to create an ideal baby monitor that alerts parents when their baby needs attention but does not transmit or amplify sound from other sources. Credit: Shane Lani and T.J. Flynn

New parents often keep a constant ear on their children, listening for any signs of distress as their baby sleeps. Baby monitors make that possible, but they can also inundate parents with annoying background audio.

In his presentation, "Open-Source Baby Monitor," T.J. Flynn, of Johns Hopkins Applied Physics Laboratory, will discuss his team's effort to develop and test a smart baby monitor. The talk, Thursday, Dec. 2, is part of the 181st Meeting of the Acoustical Society of America, taking place Nov. 29-Dec. 3 at the Hyatt Regency Seattle.

Flynn, Shane Lani, and their team aim to create an ideal baby monitor that alerts [parents](#) when their baby needs attention but does not transmit or amplify sound from other sources. The project uses open-source audio processing hardware, originally intended for hearing aids, to filter out unwanted noises. These extra sounds might lead parents to turn down their baby monitor volume and potentially miss infant cries.

"Three of the study authors, including myself, are parents to new [babies](#)," said Lani, a researcher from Johns Hopkins APL. "While not directly applicable to every home, my house is situated next to a large state road and in the [flight path](#) for landing planes depending on the wind conditions. Due to these factors, loud motorcycles tearing down the highway and low flying planes have historically been a big culprit in setting off the monitor."

The researchers found baby cries have a fundamental frequency in the range of 400 to 600 hertz, with plenty of harmonics that extend up to 10 kilohertz. They plan to keep the whole frequency range in mind as they explore signal processing options.

Their device is of comparable size to commercial baby monitors, and they are currently testing its performance.

More information: acousticalsociety.org/asa-meetings/

Provided by Acoustical Society of America

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