Open-Source Audio Platform

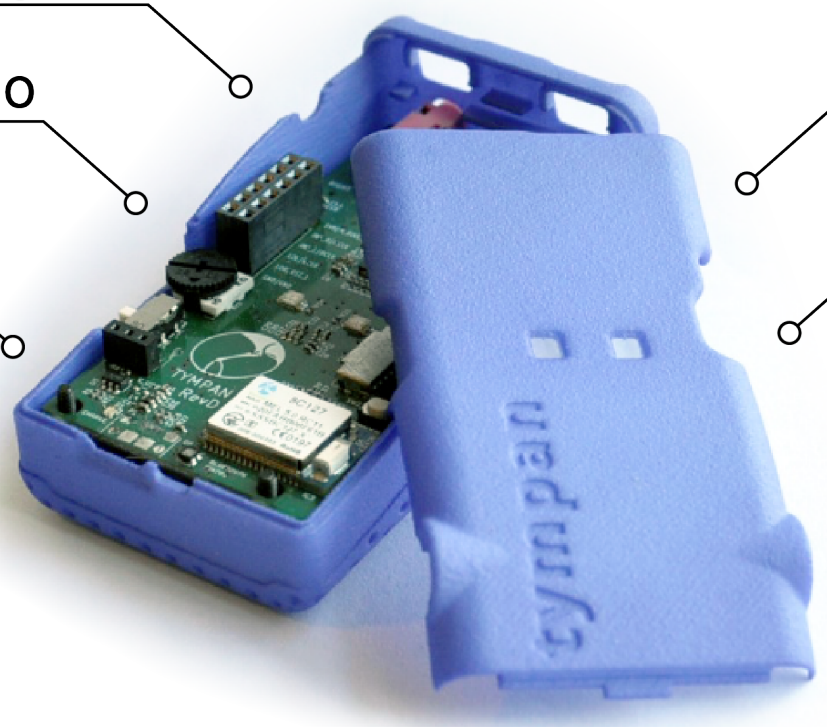
Easy to Program

High-Quality Audio

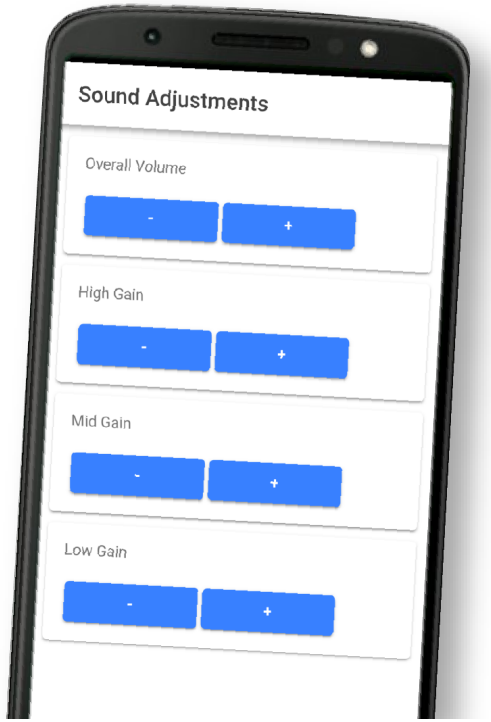
Portable

Real-Time Processing

Flexible Phone App



Tympan



Open Source Audio Processing Platforms

- US Government - NIH/NIDCD Initiative
- Open source tools to:
  - Standardize implementations across groups
  - Sustain research to extract user benefit from algorithms
  - Speed use of new commercial semiconductor hardware
  - Lower barriers for development of new audio processing algorithms.
- Embedded Hardware & Software built for Audio Processing
- Several groups were funded
  - 3 RO1's (algorithm focus) and 3 SBIRs (hardware focus)

http://www.nidcd.nih.gov/funding/programs/Pages/Open-Speech-Signal-Processing-Platform-Workshop.aspx

Tympan Platform

- The Tympan was developed through a collaboration between:
  - Creare LLC
  - Boys Town Medical Research Center
  - University of Nebraska, Lincoln
  - tympan.org
- tympan.org was created as a result of a Phase I SBIR for this project
- tympan.org is independent of Creare but received funding from the grant to help with commercialization

What's Next?

- We will continue to support the forum and encourage everyone to share questions or special results on the forum

- Consider subscribing to NIDCD's list serve:

NIDCD-OPENSPEECH-ANNOUNCEMENTS-L@LIST.NIH.GOV

- Consider submitting grants using the tympan – we're happy to provide support

- Creare will continue to seek grant support for the continued development of tympan

Acknowledgements

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Today’s presentations

4aPP1: Speech envelope enhancement to improve cocktail-party listening

4aPP2: Influence of number of hearing aid compression channels on spatial release from masking

4aPP3: Measuring Hearing Aid Compression Algorithm Preference with the Tympan

4aPP4: Directionality characteristics of the Tympan open-source hearing aid and earpieces

4aPP5: Immersive multitalker remote microphone system

4aPP6: A general-purpose pipeline to interface the Tympan hardware with an external computer

4aPP7: Smart earphone development platform

4aPP8: Open-Source Baby Monitor

4aPP9: Open Source Audio Platform Ultrasound Dosimeter

4aPP10: Spatial Acoustic Processing with a Laser Distance Sensor using a Tympan Device

Tympan