Low-Cost and Self-Fitting Hearing Aid Platform (#7876)

A low-cost, and self-fitting hearing aid that can survive harsh environmental condition

Inventors at Georgia Tech have developed a low-cost, open source, and self-fitting hearing aid device. The device can potentially be put together by the user (a do-it-yourself approach), which enables both the wide spread dissemination of the hearing aid as well as easy repair and maintenance, especially within the context of rural and resource-poor environments. The device uses common household electronic batteries, eliminating the need for expensive, specialized batteries that are not readily available everywhere. The self-fitting device also enables a minimally trained user to self-fit the hearing aid using a basic cellphone. Additionally, this invention is open source, which enables other researchers and scientists to participate in contributing software and hardware improvements.

Benefits/Advantages

- **Adaptable** - functional in a wide range of environments and water resistant
- **Functional** - open source hardware and software allows for collaboration
- **Ease of use for user** - can be fitted without a audiologist
- **Low-cost** - cost per hearing aid is $15, uses household electronic batteries, and easily repaired

Potential Commercial Applications

- Audiologists
- Audiology

Background/Context for This Invention

Hearing loss is one of the leading causes of disability in elderly people, both in developing and developed nations. Although hearing aids have been demonstrated to increase quality of life, their uptake and retention remains surprisingly low. A significant obstacle in hearing aid ownership is their cost. Hearing aids are very expensive, costing upwards of $5,000 per pair and beyond the reach of most elderly patients. Furthermore, in developing countries, current hearing aids breakdown easily due to harsh environmental conditions, require specialized and expensive batteries, and require professional audiologists and specialized equipment for fitting. There is a need for more affordable hearing aids that can last in harsher environmental conditions.

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For more information about this technology, please visit:
https://industry.gatech.edu/technology/low-cost-and-self-fitting-hearing-aid-platform