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Audio Augmentation Wearable to Enhance Attention and Mindfulness

Stanford researchers have developed an innovative wearable device that enhances mindfulness training by augmenting the user's real-time auditory environment.

Mindfulness training has become a widely adopted method for improving mental well-being. While tools like guided meditation apps can be effective, many users struggle to stay engaged with verbal cues, especially in dynamic or distracting environments. This often results in reduced training effectiveness and high dropout rates.

The wearable system addresses this challenge by augmenting familiar sounds produced in everyday interactions and redirecting attention to the present moment through real-time audio feedback. By integrating sensory augmentation into mindfulness practice, this technology fosters deeper focus and engagement in real-world settings. This empowers mindfulness trainings beyond seated meditation and into experiences interwoven with everyday activities, such as mindful eating, walking, and cooking.

The device introduces a new paradigm for mental health tools, appealing to wellness-oriented consumers, mental health professionals, and digital therapeutics platforms seeking more effective, embodied mindfulness solutions.

Beyond mindfulness, the device's audio augmentation capability also opens up potential applications for supporting individuals with hearing loss, assisting fine motor tasks, and enhancing general entertainment experiences, such as increasing immersion in virtual and augmented reality environments.



Stage of Development
Prototype

Applications

- Audio-augmented mindfulness and meditation training
- Wellness wearables for consumer mental health
- Digital therapeutic tool for attention training
- Benefits beyond mindfulness:
    - For individuals with hearing loss
    - For general entertainment experiences

Advantages

- Enhances focus through ambient sound amplification
- Enables mindfulness in real-world settings
- Wearable, non-invasive, and easy to adopt

Publications

- Yujie Tao, Jingjin Li, Libby Ye, Andrew Zhang, Jeremy N. Bailenson, and Sean Follmer. 2025. Audio Augmentation of Manual Interactions to Support Mindfulness. *Proc. ACM Interact. Mob. Wearable Ubiquitous Technol.* 9, 4, Article 214 (December 2025), 27 pages. https://doi.org/10.1145/3770706
- Myers, Andrew. Audio-augmented wearable aims to improve mindfulness. *Stanford Report*, 2025.

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