

TECH OFFER

Assistive Communication Device for People With Speech Disabilities



KEY INFORMATION

TECHNOLOGY CATEGORY:

Sustainability - Sustainable Living

Healthcare - Telehealth, Medical Software & Imaging

TECHNOLOGY READINESS LEVEL (TRL): **TRL6**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO175449**

OVERVIEW

Speech and voice disorders can significantly affect a person's ability to communicate and engage with others, especially during childhood development. While special education schools provide valuable support within their premises, there remains a critical need for tools that empower individuals to communicate more confidently in everyday environments.

This assistive communication technology bridges that gap. It combines both hardware and software to help users, primarily children under 12, though suitable for anyone who requires speech assistance to express themselves more clearly. Importantly, the device is not meant to replace natural speech but to supplement it, providing users with an additional way to articulate words or phrases that may be difficult to pronounce. In doing so, it supports inclusive communication and helps individuals build confidence in social interactions.

This technology can be deployed in collaboration with special education institutions, medical device manufacturers, and software developers focusing on speech therapy and assistive technologies.

TECHNOLOGY FEATURES & SPECIFICATIONS

The solution comprises both hardware and software components integrated into a mobile application compatible with most smartphones. For children under 12, the system is paired with a small, lightweight device sourced from a non-conventional mobile phone maker to ensure portability and ease of use.

A unique feature of the system is its “focus lock” mode: once the application is activated, it cannot be exited without caregiver intervention, preventing distraction and ensuring the child remains engaged with the communication task. Parents or caregivers can remotely upload new words or phrases, allowing the vocabulary database to grow in tandem with the user’s progress and learning needs.

POTENTIAL APPLICATIONS

The solution has already been implemented at a special-needs school in Singapore. It holds strong potential for broader use across early childhood care, special education, and speech therapy centers both locally and globally. By listing the app on mainstream mobile app stores, it can reach families and caregivers worldwide seeking cost-effective, user-friendly communication support tools.

UNIQUE VALUE PROPOSITION

Many current communication apps fail to sustain engagement because children can easily exit the application and become distracted by other phone functions. This solution eliminates that challenge through its “lock-in” mode, which keeps users focused on communication activities. Additionally, the system is designed to work on most existing mobile devices, reducing hardware costs.

Caregivers benefit from the ability to customize vocabulary remotely, ensuring the tool evolves with each child’s development. The combination of affordability, flexibility, and sustained engagement makes this solution a practical and inclusive advancement over existing options in the market.