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## Gesture Control Vocalizer for Individuals with Speech Impairment

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**Abstract:** The "Gesture Control Vocalizer for Individuals with Speech Impairment" project pioneers assistive technology by utilizing flex sensors to translate intricate finger gestures into spoken language, offering a practical and independent means of communication for speech-impaired individuals. With a focus on enhancing quality of life, providing reliable communication in emergencies, and promoting inclusivity and empowerment, this project represents a significant stride towards a more inclusive and communicative society, embodying innovation, accessibility, and empathy. Through the integration of cutting-edge technology and a deep commitment to accessibility, the "Gesture Control Vocalizer for Individuals with Speech Impairment" project addresses the fundamental human right of communication for those facing speech challenges. By empowering individuals to express their thoughts, emotions, and needs effortlessly, the project not only reduces frustration and isolation but also ensures their participation in societal interactions. With its potential to revolutionize lives and foster inclusivity, this project stands as a beacon of progress towards a more equitable and communicative world, promising to make a profound impact on the lives of speech-impaired individuals and society at large.

Keywords: Assistive technology, speech impairment, gesture control, accessibility, inclusivity

## BIBLIOGRAPHY

- [1]. Clark, H. H., & Fox Tree, J. E. (2002). Using uh and um in spontaneous speaking. Cognition, 84(1), 73-111.
- [2]. Duffy, J. R. (2005). Motor speech disorders: substrates, differential diagnosis, and management. Elsevier Health Sciences.
- [3]. Higginbotham, D. J., & Shane, H. C. (2011). Communication disorders: An introduction for community-based rehabilitation workers, educators, and healthcare providers. A World of Resources in Communication Disorders.
- [4]. Hong, J. S., & Engelman, S. R. (2019). Assessment and treatment of articulation and phonological disorders in children: A dual-level text. Pearson.
- [5]. Hux, K., Bush, H., & Benigno, J. (2000). Literacy and augmentative and alternative communication (AAC). Topics in Language Disorders, 20(2), 14-29.
- [6]. Kent, R. D. (2015). The MIT Encyclopedia of Communication Disorders. MIT Press.
- [7]. Klippi, A., & Harnish, R. M. (1991). Foundations of augmentative and alternative communication. Singular Publishing Group.
- [8]. LaPointe, L. L. (2014). Evaluation and treatment of swallowing disorders. Plural Publishing.
- [9]. McNeil, M. R. (2015). Clinical management of sensorimotor speech disorders. Thieme.
- [10]. Paul, R. (2007). Language disorders from infancy through adolescence: Assessment & intervention. Mosby.
- [11]. Yorkston, K. M., Beukelman, D. R., & Strand, E. A. (2015). Management of motor speech disorders in children and adults. Pro-Ed.
- [12]. Zangari, C. (2013). Handbook of augmentative and alternative communication. Plural Publishing.
- [13]. Ziegler, W., Aichert, I., & Staiger, A. (2010). Patholinguistische Therapie bei Sprachentwicklungsstörungen (PLASS). Hogrefe.



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- [14]. Beukelman, D. R., & Mirenda, P. (2013). Augmentative and alternative communication: Supporting children and adults with complex communication needs. Brookes Publishing Company.
- [15]. Caruso, A. J., Strand, E. A., & Collier, M. M. (2004). Pediatric voice disorders. Thieme.
- [16]. Drummond, S. S. (2013). Assessment of communication disorders in children: Resources and protocols. Plural Publishing.
- [17]. Goberman, A. M., & Elmer, L. (2005). Acoustic analysis of clear versus conversational speech in individuals with Parkinson disease. Journal of Communication Disorders, 38(3), 215-230.
- [18]. Hegde, M. N. (2018). Assessment of communication disorders in children: Applications of psycholinguistics, phonology, and morphology. Plural Publishing.
- [19]. Kent, R. D., & Rosenbek, J. C. (2019). The speech sciences. Plural Publishing.
- [20]. Lasker, J. P., Stierwalt, J. A. G., & Johnson, K. (2013). Assessment of voice and resonance disorders: A clinical perspective. Plural Publishing

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