

Design of a Communication Device to Express Emotion for Children with Speech Impairment Disabilities



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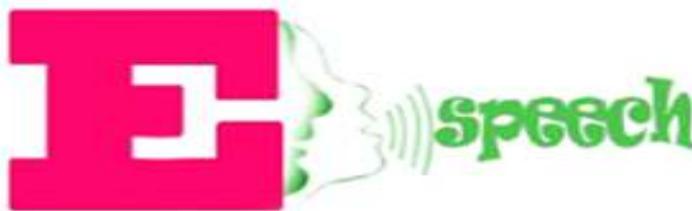
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Abstract:

Society is looking forward to children education and welfare since children are upcoming citizens of the nation and the development of each country is directly depending on their growth. Communication plays a major role in all areas of human interactions in their life. Children with speech impairment disability are a major challenge to the country's growth and this project is focusing on this field.

Verbal communication has its important role in the communication scenario. The speech impairment children need to communicate in an effective way instead of verbal communication using a device and this form the basic aim of the project.

Data collection has been a major aspect which has been carried out by adopting methodologies such as literature review, market study and product study. Ethnography and personal interview has been an interactive method to get their needs and aspirations and to understand current situation of the users. Quality Functional Deployment (QFD) has been generated according to the customer needs and Product Design Specification (PDS) has been generated based upon data analysis. Design inspiration, mood board, life style board and mind mapping led to generation of doodles and creating of many concepts. Concepts have been finalized by weighted ranking and modified the final model according to the manufacturing possibility. "ESPEECH" is the proposed name for the product and the logo is also designed which means that emotions of children passed by speech to the receiver. Detail design has been done with dimensions for manufacturing and it was rendered by using 3d software before manufacturing to understand the real environment of the product. A full scale working model with some variation in its design to compromise with manufacturing possibility has been made and validated with users for feedback considering aspects like ergonomics, usability, aesthetics and manufacturing parameters and the results were found satisfactory.



Name and logo



Working model



Rendered model