

SPEECH AID : EMPOWERING CHILDREN WITH SPEECH IMPAIRMENTS THROUGH SIGN LANGUAGE TRANSLATION

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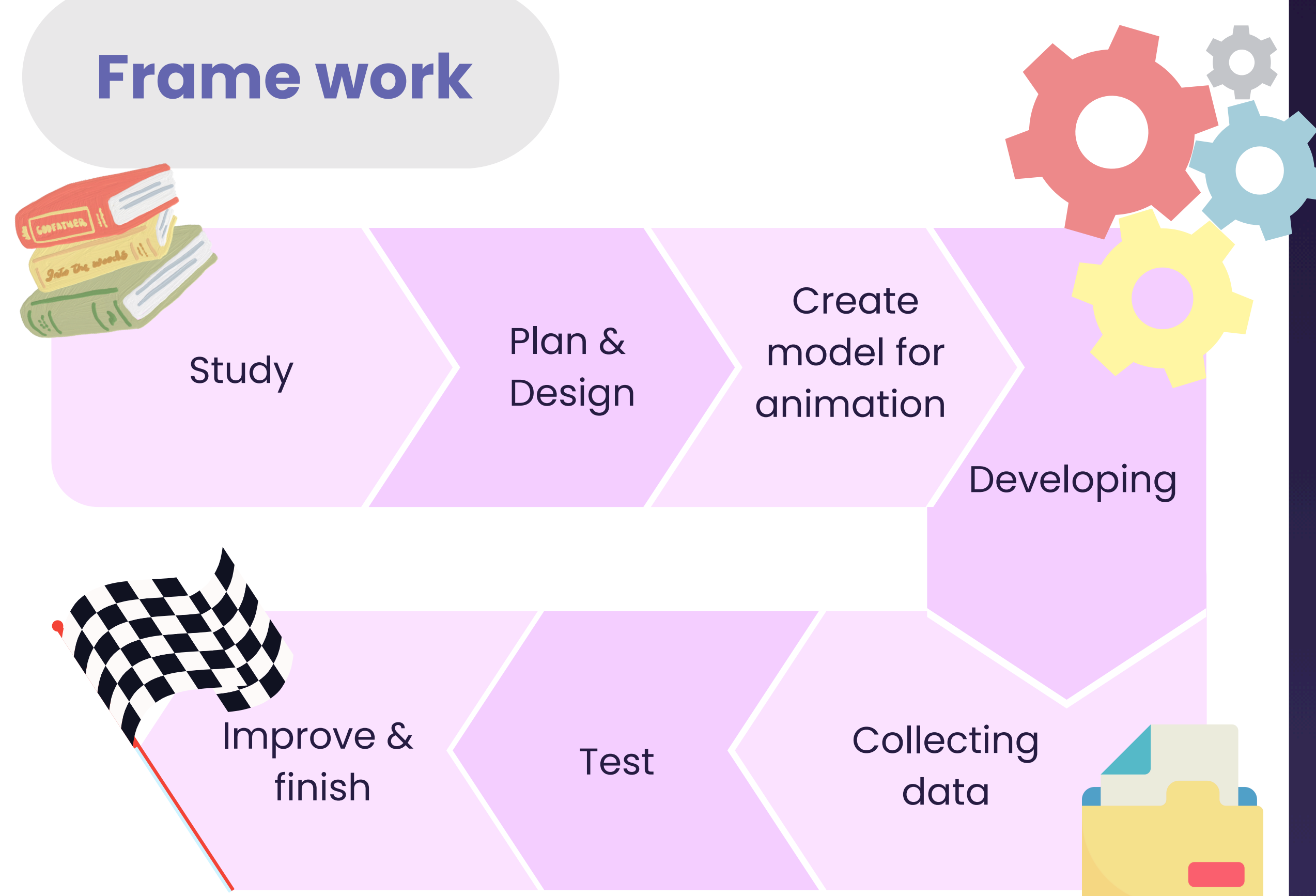
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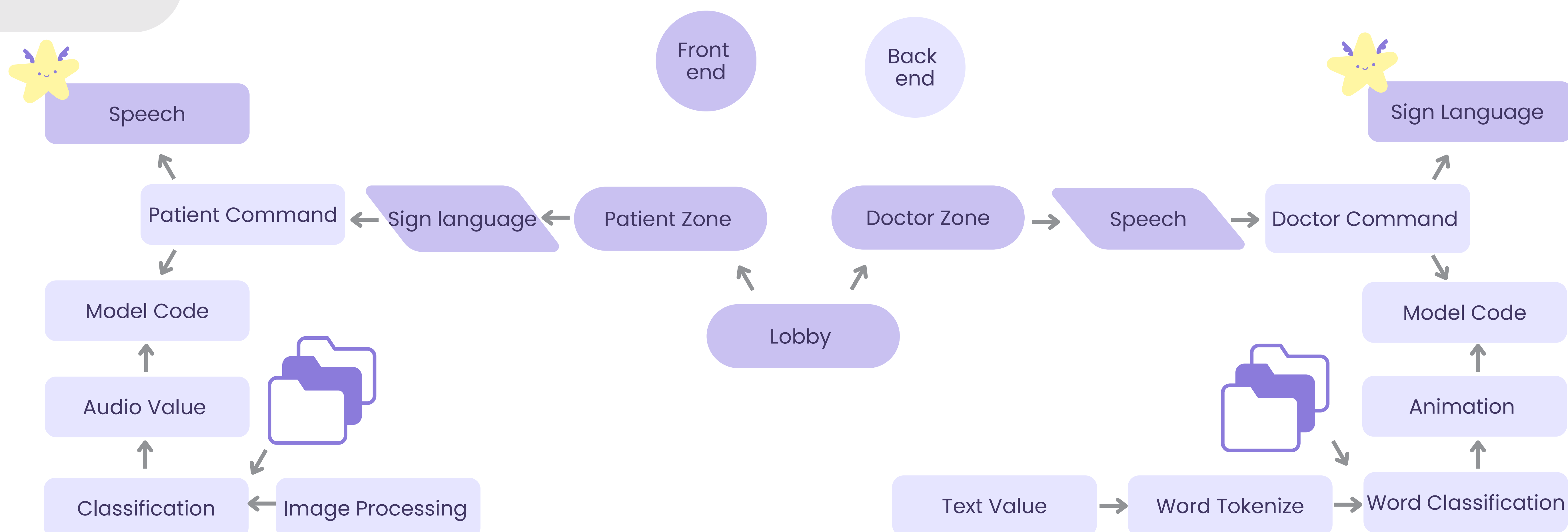
Introduction

A sign language translation program that converts speech to sign language and vice versa is vital for improving communication for children with hearing impairments, particularly in health care, where privacy is key. Many hearing - impaired individuals face barriers in accessing medical care and education due to communication challenges. This program enables direct communication with doctors , reducing the need for interpreters and protecting patient confidentiality. By facilitating effective communication , it promotes equal access to care and education , ensuring privacy and independence for the hearing - impaired community.

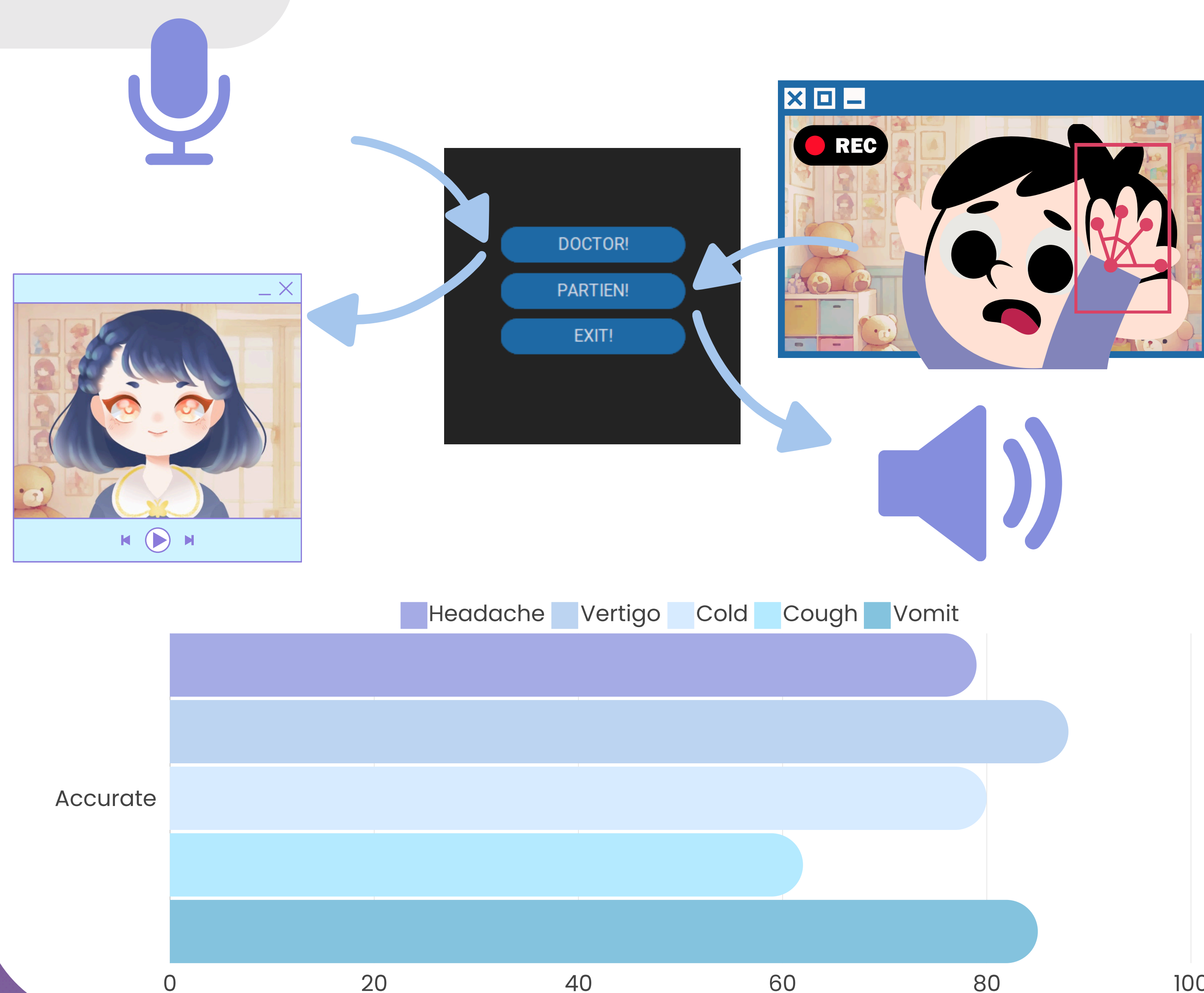
Frame work



Mechanism



Result



Conclusion

The model demonstrates strong performance in sign language translation for symptom classification, with a Recall of 84.32% indicating effective identification of true positive cases. A Precision of 85.01% suggests accurate positive predictions, and an F1 Score of 84.67% reflects balanced performance between precision and recall. These metrics imply that the model accurately translates signs into spoken language, helping convey symptoms of children with speech impairments to medical personnel effectively. The overall performance falls within a commendable range, making it well-suited for initial symptom classification in a healthcare setting.

References

Dimah Al-Fraihat , Yousef Sharrab , Faisal Alzyoud , Ayman Qahmash , Monther Tarawneh , and Adi Maaita (2023) Speech Recognition Utilizing Deep Learning: A Systematic Review of the Latest Developments <https://doi.org/10.22967/HGIS.2024.14.015>