

Executive Summary



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1. Title of the Project: Development of Instrumental Measures for Oral Skill in Any Language
2. Date of Start of the Project: October 1, 2020
3. Aims and Objectives: To research and develop a system that reliably predicts human expert judgements of oral skill in constrained speaking contexts, realized as a complete software implementation involving both device and cloud server components for assessment/monitoring as well as language training functions. The system would be flexible enough to be easily customized to new content and even a new language and usable by diverse groups of language learners across age groups, native tongues and skill levels.
4. Significant achievements (not more than 500 words to include List of patents, publications, prototype, deployment etc)

Patents and Publications:

Patent filed: Indian patent examination report received and our response is due in December 2021.

Patent Application No. 201921041761 titled 'SYSTEM FOR AUTOMATIC ASSESSMENT OF FLUENCY IN SPOKEN LANGUAGE AND A METHOD THEREOF'.

Publications:

- (i) Kamini Sabu and Preeti Rao " Prosodic Event Detection in Children's Read Speech", Published in Computer Speech and Language, Feb 2021, doi: <https://doi.org/10.1016/j.csl.2021.101200>.
- (ii) Kamini Sabu and Preeti Rao " Automatic prediction of confidence level from children's oral reading recordings", Proceedings of Interspeech, October 2020, Shanghai, China.

Protoytp e and Deployment:

1. Interaction with Pratham Education Foundation for Hindi ASER literacy test automation. Our auto assessment codes for para and story have been installed on the Pratham cloud infra. Front-end app has been developed by Pratham team. The submitted audio is processed and scoring parameters are returned for validation by the facilitator. Depending on the pandemic restrictions ending and schools re-opening, a pilot is planned for 1000 children based on an MoU signed with Pratham for limited exploitation of the IP developed so far at IITB.
2. Interaction with WPP CSR Foundation India for developing an oral reading assessment product for their skilling program in English communication. There is a special emphasis on evaluation of reading fluency with emphasis on expression (prosody). We are co-developing a facilitator-centric app ('Happy Lingo') as part of the product ecosystem.

5. Concluding remarks

The project is progressing well in a direction that aligns with the needs of the so-far identified beneficiaries. The focus is now completely on developing Hindi and English language reading assessment tools. We are hoping to replicate the methodology with a third language. Both data collection and pilot testing are dependent on the pandemic restrictions lifting and schools re-opening. The support from the Fellowship has been enabling is greatly appreciated.