

# Vowels of the People Association | AI & Evidence based FLN Assessments

## About the Organization - Vowels of People Association

VOPA builds tech-led, scalable solutions in education and mental health to nurture responsible, empowered citizens. | About Founder: Prafulla Shashikant AV Intro Flagship ecosystems include: -V-School (free digital learning for Grades 1–10): Free Education Ecosystem for Students, Parents, Teachers, Headmasters and District Administrations. Total users till date-30 Lakh including Marathi, Urdu and Semi-English medium students. -NIPUN Maharashtra (in partnership with SCERT Maharashtra): Driving Statewide Education & Governance Transformation to enhance FLN for 38 Lakh students' proficiency in Foundational Literacy & Numeracy through evidence led AI-ORF assessments & personalized improvement plans. -MYCA (My Mental Health Companion App) is a free digital ecosystem in Marathi language developed by VOPA to promote mental health awareness and support underserved communities. It offers culturally relevant content, AI-based self-help tools, emergency helplines, and interactive features like gamification and multilingual chatbots to make mental health resources accessible and engaging.

## Problem Statement (use case specific)

The recent PARAKH and VSK FLN assessment data suggests that the percentage of students proficient at reading is supposed to be 74% and 69% in Maharashtra. But our evidence backed assessment reports reveal it's below 40%. This means, around 60% children (23 Lakh in Maharashtra alone) in early-grades struggle to acquire basic reading, writing, and arithmetic skills, which are essential for all future learning. Current assessment practices often create a misleading picture of student learning outcomes. Many tools rely on rote-based, unreliable or superficial evaluations, which inflate performance scores without measuring true comprehension or application skills also wasting millions of person hours. This false visibility masks learning gaps, delaying timely interventions and perpetuating systemic inefficiencies. Teachers and administrators make decisions based on inaccurate data, while policymakers assume progress that does not exist and build wrong strategies.

## AI Solution Description

- AI-powered 'NIPUN Maharashtra' App enables oral reading assessment and evidence supported numeracy assessments.
- AI-writing assessment tool is in pre-production state.
- Joyful real-time results, noise reduction, chunking, alphabet to sentence assessment, low cost, child speech recognition, CPU compatibility are our USP.
- Parents and supervisors track AI assessment evidence and gain adaptive tools mapped to child's proficiency level; it creates check and balance too.
- Teachers, HMs and admins have their own dashboards for actionable insights;
- Teachers receive personalized reports & improvement plan for every child -Nested supervision enables added reliability and accountability

## Tools and techniques Used

- Open-source Marathi Indic AI models are refined and finetuned further to build Automatic Speech Recognition (ASR) tool which powers speech-to-text evaluation for oral assessments, enriching localized learning experiences.
- FastAPI (Python) as the backend framework, MongoDB, with Redis for caching.
- Noise detection through noise-detection library
- Audio streaming for low latency via web socket mechanism with audio chunking, enhancing efficacy in low bandwidth situations

## Key Features of tech solution

- API Integration with UDISE+, SARAL and SHALARTH portals
- Adaptive evidence led AI-Oral Reading Fluency tool for incremental Flow in reading
- Dynamic assessment tools and evidence type control -Evidence collection for other assessments
- Automatic report generation, measuring-Words Per Minute, Correct Words, Incorrect Words, Words not read etc.
- Audio streaming to show live assessment
- Practice AI-ORF tool in parents' login for personalized remedial learning
- Separate dashboards to all users with required data and graphs

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## Impact (Qualitative and Quantitative)

- The major impact of Aldriven FLN assessment resulted in policy level shift, the Edu Dept had earlier decided to move ahead from FLN towards higher learning outcomes as the older data suggested good achievement in FLN, but when the dept realized that the real picture is different and far worse, they have changed the focus to FLN again impacting the focus on teacher training dept budget allocation, dept priority, monitoring etc. The collective cost of these changes is in hundreds of crores.
- Our AI based assessment mobilized ~6000 education supervisor officers resulting in 66000 school visits, they collectively assessed 16 lakh students out of 38 lakh, surpassing the requirement of just 4 lakh students decided as sample size. This scale established that the assessment can be joyful and time saving too.
- The results show that only 39% students can read with required accuracy as compared to 69% earlier claimed by same assessment by VSK chatbot. Hence the dept has stopped using VSK chatbot for FLN assessment saving further cost and time.
- The social welfare dept, the tribal education dept in Maharashtra has also initiated discussion about replicating our tech in their schools at state level.
- While building this, dept also witnessed other outcomes like streamlining of important data points about teachers, headmasters, officers, and parents in the database.
- Verified contact information, school allotments, etc. Was achieved like never before.
- Analysis and trends generated regarding spoken words, e.g. which words are most difficult, most easy, for each class and geography etc.
- Impact on environment: The project has saved millions by avoiding papers used for assessment; time and fuel saved by no requirement of specialized training.
- Downloads: 1,87,000+ | Positive feedback by 1300/1400 teachers and officers

## Plan for roll – out and sustainability

- Pilot conducted in multiple districts that served as proof of concept.
- Three-year MOU with the Education dept brought ownership by govt and ensured execution by leveraging their own human resources
- The Govt dept provided their cloud resources to reduce our server-side costs

- The project is rolled out through govt circular making it mandatory for all schools
- The dept is also seeking official support from India AI for sustainability
- The same tech is demanded by other departments including NCERT too, the discussion and exploration is in progress.
- Collaboration with CEGIS Foundation and Room to Read opens new opportunities.

## Additional documents

- [Solution concept video](#)
- [Impact videos from pilot district](#)
- [Video feedback by Satyam Gandhi \(IAS\)](#)

