

Concept Note: Speech Recognition for Reading

Context:

- Many young students around the world have difficulty reading and lack the confidence to read out loud
- This leads to other literacy issues when they get older
- Many students don't get as many opportunities to improve their reading - not everyone has a personalized reading tutor who can provide them with real-time feedback
- "The inability of 4 out of 10 children to master reading, one of the core foundational skills, is alarming, since it predicts their ability to gain other foundational, transferable, digital and job-specific skills later on in life.....UNICEF-supported household-level assessments from 26 countries suggest that those children are 50 percent less likely to acquire foundational reading skills compared to their peers in school" ([Source](#))

Opportunity:

- Leverage AI and Speech Recognition technology to provide personalized feedback on a student's reading abilities
- The student enters the platform and reads specific text
- The platform measures the pronunciation accuracy of each word that the student said and provides an overall reading score
- For any words that the student's pronunciation is below a specific "match" threshold, the platform asks the student to repeat the word

Goals:

- Involve children, parents, teachers throughout the process (ask them - what are the challenges? Would the concept of personalized feedback help? What can we focus on?)
- Develop an open-source, digital proof of concept
- Conduct pilot implementation with 1-2 CO/education ministries
- Partner with open-source communities from the get-go (e.g. Mozilla Common Voice, Stanford AI Centre)

Key Collaboration Partners:

- UNICEF OOI: POC Support, Open-source Advice
- DOC Director's Office: Comms Support
- UNICEF Education: Literacy, Education SMEs
- Child Protection Unit: Children's Right, Privacy
- ICTD

Impact/Value:

- Improved reading outcomes

- Improved other literacy outcomes
- Improved self-confidence

Notes around Technical Implementation:

- ?

Potential partners:

- Mozilla Common Voice: <https://commonvoice.mozilla.org/en> (data sets)
- Stanford Institute for Human-Centered AI: <https://hai.stanford.edu/> (development)
- Readlee: <https://www.readlee.com/> (product support - could they have an open-source offering?)
- Google Chromebooks/MS Devices

Timeframe:

- 4 months

Resources:

- Product Manager
- Designer
- Developer
- Data Scientist
- Communications
- Education SME
- Infrastructure

Ownership of Work:

- Design
- Development
- Project Management
- Raising Funds
- Marketing

Next Steps:

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Annex

Any additional documents / screenshots / etc. that may be relevant to the collaboration

- Private company that is solving the same problem (Amreen knows the co-founders):
<https://www.readlee.com/>

Notes:

10/28:

- Good idea, worth pursuing
- **Speak to someone within UNICEF Education (likely at a country-level), get their feedback (How would they approach it? Would this be of interest?)**
- Getting buy-in to run with this for a few months