# SPEECH PROSODY EVALUATOR FOR SCHOOL STUDENTS IN INDIA

# NEED

1. **Difficult to give student specific attention**

   1. Lack of teachers 2. Creates embarrassment 3. Abrupt and only a few min/student 4. Not enjoyable

2. **Classroom exams test written English only**

   No quantitative evaluation of reading and speaking fluency in India

3. **Tools e.g. Project Listen teach reading skills but have problems in Indian domain (Bali, ICON 2013), and otherwise (Duong, Mostow, Sitaram, TSLP 2011)**

   1. Meant for native English speakers 2. Compare child's narration with adult's narration of the same sentence – geographical variations 3. Some other features not accounted for
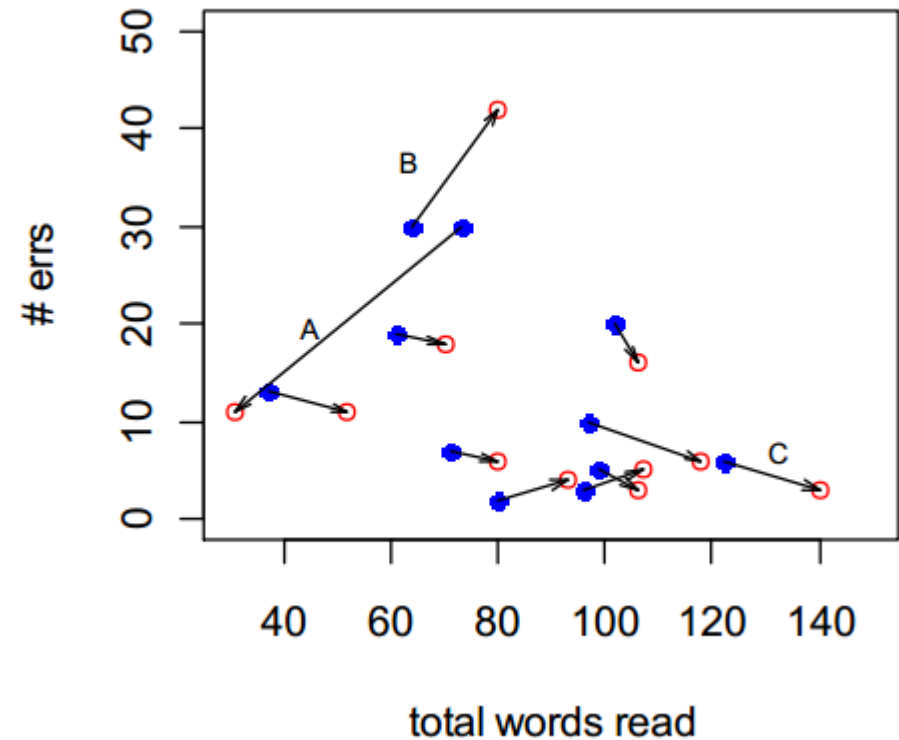
# PERF – PROSODIC EVALUATION FOR READING FLUENCY

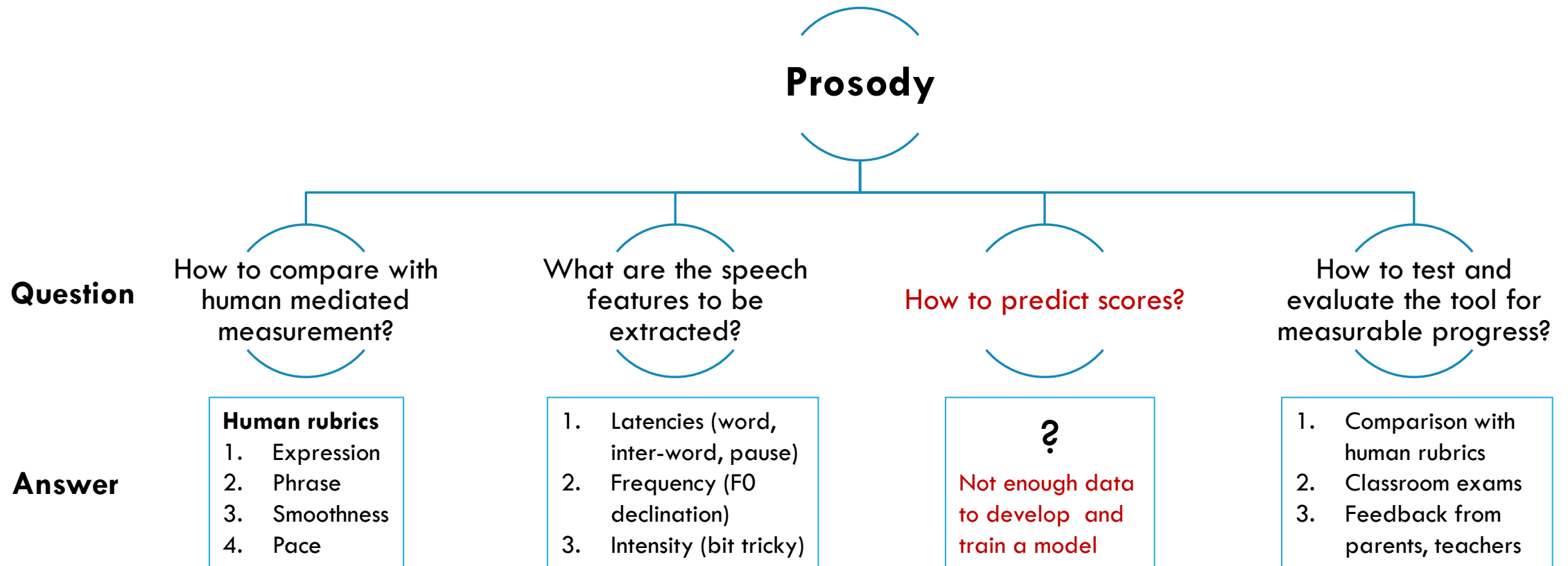<u>Desktop application</u> to <u>evaluate</u>:

1. Fluency (How well are you speaking?)

2. Prosody (Are you making correct rhythm, tempo, punctuations?)

3. Comprehension (Have you understood the meaning of the passage?)

4. Gains (Was there any notable improvement in 1,2,3 over time?)
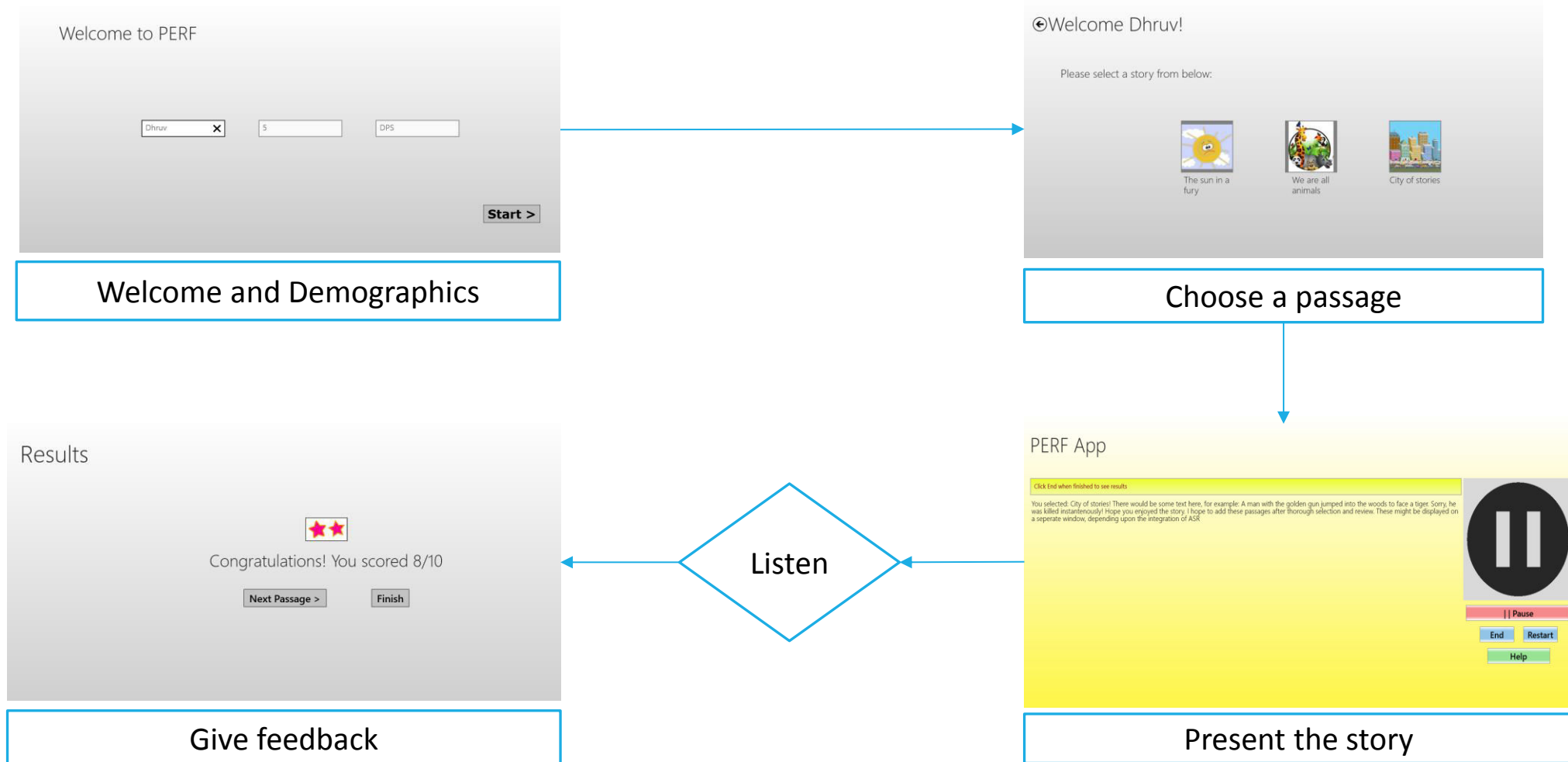
# OUR APPROACH

- Fluency
  - Variation of CBM - Plot a graph as shown

- Prosody
  - Most important, discussed in detail in next slide

- Comprehension (later)
  - MCQ
  - Calculated from fluency and prosody

- Gains
  - Not our current focus

# OUR APPROACH – PROSODY MEASUREMENT

**Prosody**

**Question**

How to compare with human mediated measurement?

What are the speech features to be extracted?

How to predict scores?

How to test and evaluate the tool for measurable progress?

**Answer**

**Human rubrics**
1. Expression
2. Phrase
3. Smoothness
4. Pace

1. Latencies (word, inter-word, pause)
2. Frequency (F0 declination)
3. Intensity (bit tricky)

**?**

Not enough data to develop and train a model

1. Comparison with human rubrics
2. Classroom exams
3. Feedback from parents, teachers

# APPLICATION INTERFACE FLOW CHART



Welcome and Demographics



Choose a passage



Present the story

Listen



Give feedback

# THANK YOU