Introduction

Facts
- Reading is the most essential skill for success in school.
- 20% of all elementary children experience difficulty learning to read.
- 80% of children with learning disabilities experience problems in learning to read.
- Urban setting has a large student to teacher ratio making individualized instruction challenging.

Problem
- Developing real time ASR systems for children presents unique challenges:
  - Most ASR systems are trained with adult speakers.
  - Children's vocal tracks differ significantly from adults.
  - Children's speech includes malformed phonemes and other speech challenges.
  - HCI requirements for children and beginning readers differ from adult requirements.

Research Aims
- What utility will repeated reading strategies, consisting of CR passages delivered through interactive computer software have on the development of an effective ORF curriculum for 1st and 2nd graders?
- To what extent will target students demonstrate improvement in reading growth rate in ORG using this intervention?
- Decoding failure states through meaningful presentation of instrumentation data: Case study in presentation of instrumentation data to expedite understanding of complex software state transitions.
- Affect of introduction on student attitude and utilization of instructional software.

System Architecture

Software

Initial Features
- Add/Edit/Delete stories with phonetic markup.
- Read story through TTS.
- Real-time ASR to assist the student in reading the story.
- Track insertions, deletions and reading errors as the child reads.
- Highlight the words as the child reads the story.
- Automatically conduct timed readings of the student.
- Record student student's results from each attempt.

Initial Features

References

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