DASS SPRING 2022

Teaching Assistance tools for English Language Learning

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Overview

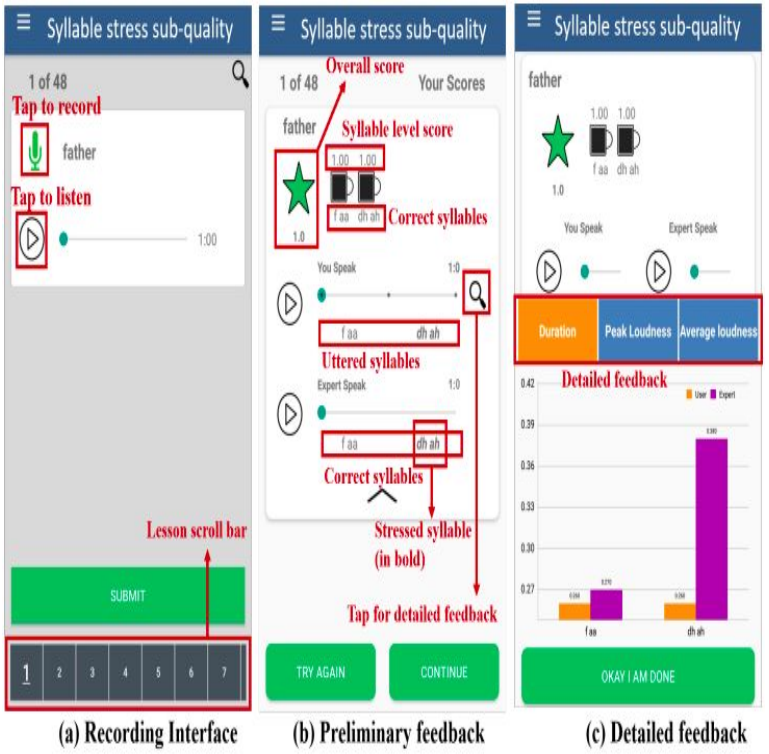
- Our Project aims to help teacher in classroom environment by providing them one-stop solution for conducting classes, taking evaluations and tracking performance of students.
- Focuses on Speaking Skills
- Will be also available to students for self-practice and improvement
- Final developed product will be a web app

Objectives

- To assist the teacher in evaluating students’ speech
- To ease and simplify the process of managing the records of students
- To enable the teacher in tracking the progress of the students over the period of time
- To help the students improve their speaking skills

voisTutor API

- The app will be built on top of the voisTutor API which is an advanced speech evaluating app
- The app provides detailed feedback on 4 parameters of speech.
- Syllable stress and fluency subquality are the most relevant feedback in a classroom setting
- The students will be graded based on these two parameters of their speech



High-Level Features

Common Login page for students, teachers and admin redirecting to respective dashboards on logging in

For Teachers:

- A dashboard for viewing personal information and classes assigned
- A class overview page to analyse the performance of the whole class
- A students reports page to view individual records of students
- A Teaching page to help conduct the class
- An Assessment page to evaluate individual students

High Level Features (Cont.)

For Students:

- A dashboard to view personal information, grades, self-evaluations etc.
- A practice page to practice her speaking skills and get feedback
- A test page to take self-evaluations and monitor progress

For Admin:

- A dashboard to view all teachers’ and students’ information
- Ability to create new accounts and manage existing ones

Teaching Process

1. Teacher selects a chapter from the list of available chapters.
2. All the sentences are displayed corresponding to that chapter.
3. She chooses the sentences to teach.
4. For every sentence, she calls a student and records his voice. Then, the app interacts with voisTutor API to fetch the result.
5. The result is displayed to the teacher which contains the analysis of the speech both word wise and syllable wise.
6. The teacher repeats this process until every student has spoken.
7. She keeps track of the current performance of the class which is displayed on screen and is updated after every student’s turn.

Class : 6 B

Plan The Lesson | Evaluate

Select Chapter: CH-3 (The Last Leaf)

View All Added Sentences | Start Evaluation

CH-3 : The Last Leaf

Sentence

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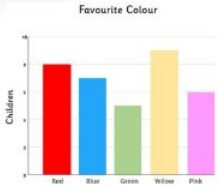
Class : 6 B

Plan The Lesson | Evaluate

CH-3 : The Last Leaf

Current Performance:
Syllable Stess: 75%
Fluency: 67%



Finish Evaluation

Sentence			No of Times Evaluated
Non velit incididunt elit excepteur consectetur cupidatat occaecat ea eiusmod non deserunt laborum deserunt minim ex. Irur	Record	Evaluate	5
Sunt laborum est incididunt in duis veniam et elit est eu et exercitation et. Officia commodo ut f	Record	Evaluate	2
Non velit incididunt elit excepteur consectetur cupidatat occaecat ea eiusmod non deserunt laborum deserunt minim ex. Irur	Record	Evaluate	
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RESULT

Name: Ayush Agrawal
Class: 6 A
Sentence: The quick brown fox jumped over the lazy dog

OverAll Score

90%

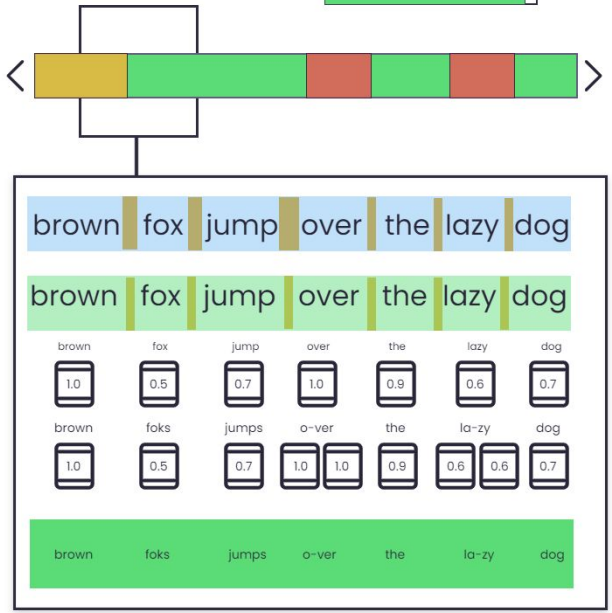
Fluency

86%

Syllable Stress

94%

Excellent !



Evaluation Process:

1. Teacher selects a chapter from the list of available chapters.
2. All the sentences are displayed corresponding to that chapter.
3. She chooses the sentences to take evaluation on.
4. She assigns each sentence to a student who will be graded on that sentence.
5. She calls the assigned students one by one and records their voice. Then, the app interacts with voisTutor API to fetch the result.
6. The result is displayed to the teacher which contains the analysis of the speech both word wise and syllable wise.
7. The app automatically upgrades the progress of the student in current chapter.
8. The teacher repeats this process until all students have been evaluated.
9. The individual records of students are updated to reflect the evaluations.

Development Timeline

- Sprint 1: Getting High Level Understanding of Project
- Sprint 2: Getting familiar with the tech stack and voisTutor API, making mockups for the proposed features and views, discussing user flows
- Sprint 3: Starting designing the frontend, backend and middleware, making it responsive, gathering sentences for the database
- Sprint 4: Continue developing the web pages and backend, adding recording functionality, understanding the calls needed to be made to the API
- Sprint 5: Fully integrating the API with the web app and completing the remaining pages with backend
- Sprint 6: Testing extensively, making minor changes to code, debugging, handling leftover exceptional cases
- Sprint 7: FInal Demonstration and deployment

Completed Tasks

- Created mockups for the webpages
- Added login functionality with JWT Authentication
- Created all frontend pages of Teacher
- Created backend for dashboard and sentences database
- Linked the Backend with frontend
- Studied the voisTutor API

Pending Tasks

- Implementing the voice recording feature
- Integrating the API with the app
- Making the teacher’s pages fully functional
- Building pages for students and admin and their related backends
- Deploying the app into production mode

Tech-Stack Used

- React JS and related libraries like Material UI, Bootstrap, SweetAlert etc. for building the frontend design and UX
- Express JS for establishing connection to MongoDB as database which will be used to store information of teachers, students, collection of sentences, reports and everything else.
- Node JS for serving API endpoints and making required changes to the database.

Thank You