

Self-Learning Tool to Learn English Language

Business Domain: Education system in India is drastically changing its way towards digitalization. Various tools are being developed to enhance the learning experience of students. For this project the business domain targeted is students from class I to class V from centralized schools of India.

Client Name: MIT-Boston in collaboration with IIT-Bombay



Problem Definition:

- Currently, many schools from rural India are lacking the modern facilities like availability of teaching tools, advance technical methods of learning etc.

- Quality of education in such schools from rural areas is low & they lack the exposure to technology which they deserve.
- Primary education should be made more interactive & interesting so as to match the age of students and keep them engaged and curious about the new things they learn. Looking at the kid's interest in technology, having a computer based solution is best option.

Problem Statement:

- Pre-designed Quizzes are sometimes boring & repeated questions makes students to by-heart the questions & corresponding answers which leads to zero gain of knowledge & learning.

Proposed Solution:

As per the client's needs and as mentioned in the problem statement, we have proposed and developed following Self-learning tool for English language which generates new questions & options every time. This app has an additional functionality where it guides students how to remember the answer to a question. It is primarily developed by focussing adaptation of children's mind.

With our knowledge in availability of online English resources, we decided to use English Wordnet as a base for the question generation which is the richest linguistic resource available in English.

- **Admin Dashboard:**
 - Dashboard has a compact view which shows all the tests taken, test taken by different users & their corresponding answers.
 - This helps in creating user profiles and maintaining the quizzes taken by them.

- **Evaluation Module:**

- This section systematically stores & displays the test results answered by users & give them an overall score.
- This helps in analysing the difficulty level of test based on user's perception.

- **Learning Tool Module:**

- Most important is the user interface shown to the users. This interface was carefully designed by keeping in mind the understanding level of primary students & their age.
- All the questions were generated by using the English Wordnet resource available for English & distractors in MCQ questions were created based on different factors. This itself decided the difficulty level of quiz.
- Users could answer the questions one by one. At the same time the questions answered wrongly were stored and system helped users to understand the mistake & learn how to remember the answers correctly. Finally, results are displayed at the end of the quiz. Quiz was basically designed to handle basic questions so as to teach students the understanding of vocabulary & grammar. Further it can be used to handle any kind of MCQ questions based on the quiz.

Technology Used:

- Python, Angular 4, Codeigniter PHP, HTML, CSS, Bootstrap, MySQL Database.