

# Automatic Question Generation System for Hindi Learning (AQGS)

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**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 Automatic Question Generation System which generates new questions & options every time.

As Hindi is a universal language used in all the centralized primary schools in India, client choose to develop a resource for Hindi learning. With our knowledge in availability of online Hindi resources, we decided to use Hindi Wordnet and Hindi Shabdmitra as a base for the question generation.

- **Admin Dashboard:**

- This dashboard will help the Admin/Teacher/Examiner add/create new tests whenever a quiz is scheduled. This also enables them to add the students along with all their details and make accounts for them to log in while answering a test. Dashboard has a compact view which shows all the tests taken, test taken by different students & their corresponding answers.

- **Evaluation Module:**

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

- **Quiz Module:**

- Most important is the user interface shown to the students. 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 Hindi Wordnet & Hindi Shabdmitra resource available for Hindi & distractors in MCQ questions were created based on different factors. This itself decided the difficulty level of quiz.
- Students could answer the questions one by one and 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.

### **Results:**

- Almost all the centralized schools from India have used the applications & answered the quizzes.