AI-based Noorani Qaida for Kids

Project Domain / Category

Android Application

Abstract / Introduction

Speech recognition technology allows computers to take spoken audio, interpret it, and generate text from it. Speech recognition and speech-to-text programs have a number of applications for users with and without disabilities. New technological advancements have fueled innovation in many well-known customer service industry applications.

We've all used voice recognition technologies in our daily lives, often without even realizing it: automated phone menus and directories, voice-activated dialing on our cell phones, and integrated voice commands on smartphones, to name a few. It can be used in the education sector to get better learning outcomes.

We are proposing an AI-based noorani qaida for kids to learn the basics of recitation of the Holy Quran. The system will be used to detect mistakes of the student and give them time to correct them. Parents can monitor students' progress.

This app will take the user's speech as input and check whether he is reciting it correctly or not. The system will keep track of the user's performance.

AI based speech recognition and NLP will be used to implement this application. The system will be able to save the expert's speech, and when the student records his or her voice for learning, the system will compare the two speeches and provide feedback.

Functional Requirements:

1. Users must be able to sign up for the system.
2. The user must be able to access the system.
3. The system shall apply all the validations to the data provided at the time of registration.
4. The system must be able to provide the text of the Noorani Qaida.
5. The system must be able to record the user's audio using speech recognition techniques.
6. Using natural language processing techniques, the system must be able to recognize the user's speech.
7. The system must feed data from the instructor. It shall be trained on a 3-step AI technique, i.e., training, validation, and testing.
8. The system shall be able to follow and analyses the audio, break it into parts, digitize it into a computer-readable format; and use an algorithm to match it to the most suitable text representation.
9. The system must be capable of highlighting the text that the user is speaking.
10. The system should be able to highlight the error in various colors.
11. The system must be able to track the user's progress.
12. The system must be able to provide progress based on comparison.
13. The system must be able to provide feedback based on the student's voice audio.

Tools:

Android Studio or any technology of your choice.