E-BLIND EXAM PORTAL

Sonali Sarambale[1], Snehal Thakur[2], Mansi Kusale[3], Ankush Hutke[4]

[123]UG student, Dept of Electronics and Telecommunication, Mumbai University, Maharashtra, India
[4]Assistant Professor, Dept of Electronics and Telecommunication, Mumbai University, Maharashtra, India

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Abstract: This Online Examination System is a software system which allows any industry or institute to organize, administer, and manage exams in an online environment. It's feasible be taken out via the Internet/Intranet and the Local Area Network Environments on the network Some of the problems that emerge during the procedure are the delays in manual examination methods can be attributed to a variety of factors, filtering of outcomes, processing of results, and filing of results are various difficulties we are facing while keeping a track of records. There's a high possibility you'll lose your records. Moreover, finding records is tough. It's also a complex method that requires a lot of time and effort to acquire. One of the most important aspects of online education is online testing. System of education It is efficient, quick, and saves time as a significant number of material resources. Visually challenged persons face numerous obstacles and challenges in their daily lives, one of which is preparing for exams. Now, as we all know, the situation with COVID-19 has created a lot of uncertainty. Examinations are conducted online, which presents a significant challenge and complexity for visually challenged people, limiting their ability to fully exploit the services. To address this issue, we want to establish an E-blind examination portal that will use a text to speech synthesizer to interpret the text on the screen, webpage, document, or text input in a text box. By evaluating and processing the text with Speech Synthesis, the text will be transformed into a speech. Visually impaired people can hear vast amounts of text more quickly using speech or voice.

Keywords: Speech Synthesizer, Speech Recognition, E-blind, Database, Online exam

1. INTRODUCTION

In order to stop the recurrence of covid-19, both the federal and state governments have implemented tight restrictions and lockdowns across the country. Gatherings of 25 people are allowed under the new limits, although office attendance is limited to 15%. Students have access to lectures and examinations over the internet. We must strictly follow these instructions to protect our own and others' safety. However, because exams are conducted online, it is more difficult for visually challenged pupils to take the exams. Today, Online Examination System is considered a fast developing examination method because of its accuracy and speed [1]. There are a number of reasons for the delays in manual examination methods. Filtering results,

processing results, and filing results are all creating challenges. Maintaining track of records is difficult. There's a good chance you'll misplace your records. The protection of the It's also a tricky task that takes a lot of time and work. Online testing is one of the most essential aspects of online education. It is fast, rapid, and time-saving, as well as saving a massive portion of material resources. There are many online examination systems on the market: A Web-Based Examination and Evaluation System for Computer Education. The user can write exam without going to the exam center, Also the website will provide a good [2].

The "E-blind Exam Portal'' is an MCQ-based assessment system. It provides a user-friendly atmosphere for both test organizers and students taking exams. More so, there is a reasonable level of security and integrity on the conduct of examination [3]. The implementation of the system efficiently provides teachers and students an interaction platform and improves the management level as well[4].The primary objective of the E-blind Exam Portal is to offer all of the functionality that an Examination System needs while also providing "interfaces that don't scare its users!".COVID19 pandemic has taught everybody the importance of adaptability, flexibility, efficiency and also multitasking [5]. The "E-blind Exam Portal'' is a technology proposed in this study to assist visually impaired pupils. Using the text-to-speech synthesizer, the system will be able to read text on the screen, a web page, a document, or text input in a text box. By evaluating and processing the text with Speaker Recognition, the text will be turned into a speech. Visually impaired people can hear a large amount of words more easily using speech or voice. The user can see their results after completing the paper [6],[7]. As a result, the application will aid in the creation of an atmosphere in which all students have equal access to competitive exams. Saving time is one of the perks in having an Online Examination System [8].This will help to improve the current educational system for blind people who want to work. Promising effects have acquired the use of this approach, which displays huge development over the present techniques [9]. We will add subjective type questions in this project [10].Thus, traditional classroom-Learning has the disadvantage that it's of limited use to only those students who are able to attend the lectures.

1.1 PROBLEM STATEMENT

In current system, the blind people who want to take the examination require a writer. The writer writes the

answers which the blind dictates them. The traditional way for conducting examination for the blind people requires scribe/writer. These candidates face difficulties in using the scribes for examinations. It is hard for them to dictate the answers to the scribes. Because, the scribes might be of lower qualification hence they cannot interpret their words and write them down as they are.

2. EXISTING SYSTEM

In today's society, blind users can access information through a variety of interfaces. One frequent way that blind people have been designed to utilize is voice recognition, which is a device that records speech. Where the information has already been recorded in a specific format, blind persons should be able to hear the recorded content in that recording system so that they may easily understand the content and learn in their favorable way, as well as engage with the system by providing voice input. These basic methods have been explored by blind persons to demonstrate their abilities on a variety of platforms using a variety of equipment.

For example, there is functionality on the iPhone that allows blind individuals to interact with the device. If users press any button or use the display option on the iPhone, it is meant to reply as quickly as possible by providing speech output. As a result, blind persons may utilize all of the phone's features (for example, they can navigate, chat, send text messages, listen to music, watch videos, etc.).

2.1 DISADVANTAGES OF THE CURRENT SYSTEM

- The current systems are quite time-consuming.
- Manually evaluating the exam is difficult.
- Because it is done manually, result processing after exam summing takes longer.
- Minimal accuracy.

3. PROPOSED SYSTEM

There has never been a decent application for supplying blind persons with online exams. Taking into consideration the aforementioned disadvantages, we will develop a full-fledged window programmed that will allow blind members to participate in online examinations in the same way that non-blind people do. (All outputs are in voice here.) Automatic grading, exam archiving, and exam administration are all supported by the Exam Management System. The most common questions are course correspondences, and they should be simply appraised and evaluated online by comparing them to the proper answers. Yes/no questions, multiple-choice/single-answer questions, multiple-choice/multiple-answer questions, matching

questions, numeric questions, and essay questions are all common types of questions. This system is based on open source software.

3.1 DESCRIPTION OF THE MODULE

A.   Register

The registration module is the very first module. Before taking an exam, the visually challenged or blind individual can register in this module. The required details must be filled out by a third party or a coordinator who has been assigned. The examinee will be given a registration id once all of the requirements have been filled out correctly. This registration id can be used by the examinee to log in and take the exam.
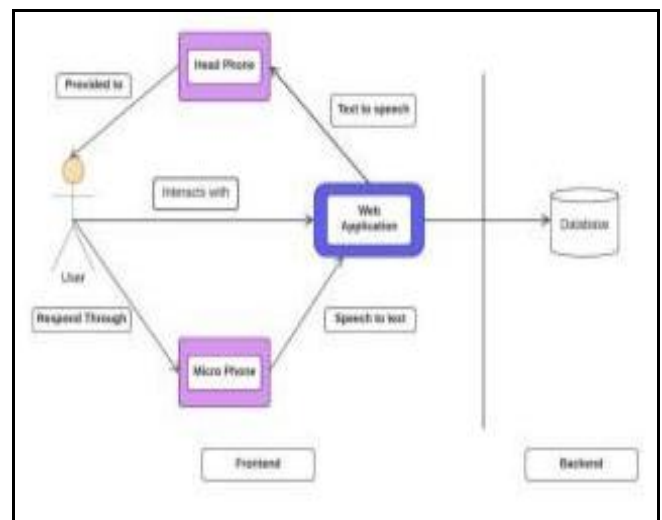

Fig 3.1: Basic Architecture

B.   Login

The login module is the second module. The examinee can access this module by providing his or her registration id and password. If the candidate's user id and password match, he or she will be able to login; otherwise, the individual will not be redirected to the exam window.

C.   Login As An Administrator

The administrator in this module has a secure id and password and can control the entire examination. Admins can also maintain the examinee database, which is a database of registered students, by upgrading the question database, deleting questions, and updating questions. There is sufficient security in place for accessing the question and examinee database, i.e. proper authentication.

D.   Exam

This module contains the popup that appears after the examinee has successfully logged in. The question on the

screen is read out loud so that the visually challenged examinee can hear it and respond appropriately. The examinee will provide the answer by vocally selecting the correct option. After that, the given response is marked, and the answer can be verbally submitted.

3.2 OBJECTIVE OF PROPOSED SYSTEM

- Feasibility from a financial perspective
- Flexibility of time
- Reasonable from a technical standpoint
- Eco-friendly system
- Safe and Secure data
- It can be completely controlled by the admin
- The technology will validate objective replies against the database automatically
- To provide self-registration services for students

4. IMPLEMENTATION

System architecture, often known as a system model, is a conceptual model that defines a system's structure, behavior, as well as other aspects. It can include system components, along with their outwardly evident features and interconnections.

1.   A web-based application:

The institute who wishes to hold an examination will complete an online application. During the registration process, the administrator of the registering institute will fill in basic information about the institute.

2.   Databases:

There is a database inside this project. That will keep all student and admin records.

3.   Login:

To access the examinations, the system requires the user to enter the relevant credentials.

4.   Instructions Page:

After successful login, a desktop screen will display an instruction page, which will contain all of the instructions which will be used while taking the exam.

5.   Exam Page:

The system will prompt the user with the question that is displayed on the screen.

The user can hear the query due to a microphone that is plugged into the system.

6.   Questions and Option:

The system has the option to update the options selected as many times as they desire.

7.   Result:

The result will be calculated by comparing the original answer and displayed on the screen.

8.   Logout:

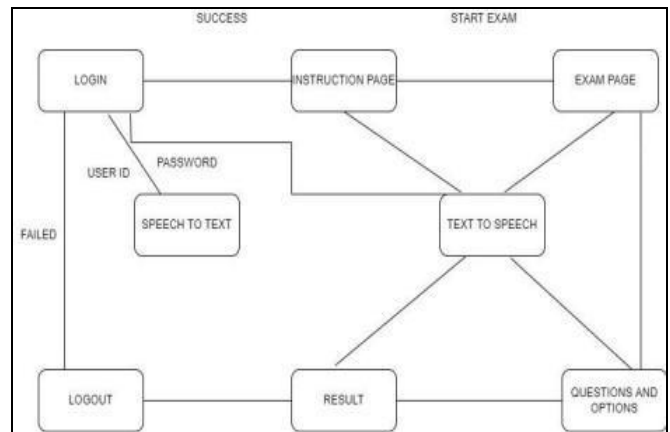After submitting the exam, the user account will be logged out from the examination portal immediately.

Fig 4.1: System Architecture

5. METHODOLOGY

5.1 Speech synthesis

Speech synthesis can be described as converting text to speech. A computer system used for this purpose is called a speech computer, speech synthesizer, or text-to-speech (TTS) system. Speech synthesis is organizes sentences by concatenate in gpre recorded words saved in a database. JavaScript Speech Synthesis Interface is the main controller interface for the speech synthesis service which controls the synthesis or creation of speech using the text provided. SpeechSynthesisUtterance Interface is the interface in which we actually create the speech or utterance using the text provided. Web speech API enables web apps to handle voice data. They're composed of API is for speech recognition and speech synthesis. With the WebSpeechAPI, we can recognize speech using JavaScript. It is super easy to recognize speech in a browser using JavaScript and then getting the text from the speech to use as user input.
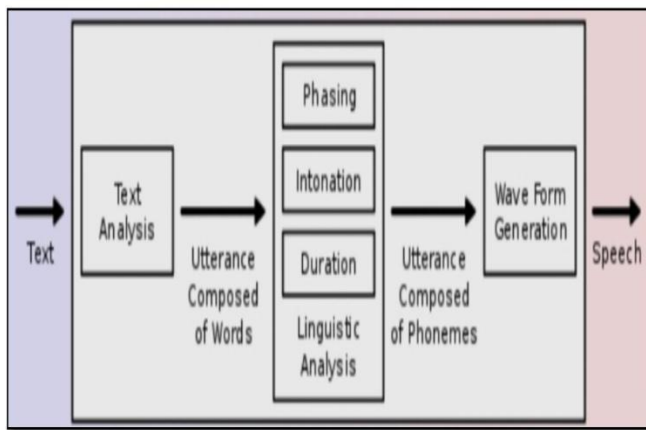
Fig 5.1: Diagram of Speech Synthesis

5.2 Speech recognition

Speech recognition, also known as automatic speech recognition (ASR), computer speech recognition, or speech-to-text, is a capability which enables a program to process human speech into a written format. While it's commonly confused with voice recognition, speech recognition focuses on the translation of speech from a verbal format to a text one whereas voice recognition just seeks to identify an individual user's voice. Speech recognition, the ability of devices to respond to spoken commands. Speech recognition enables hands-free control of various devices and equipment (a particular boon to many disabled persons), provides input to automatic translation, and creates print-ready dictation.
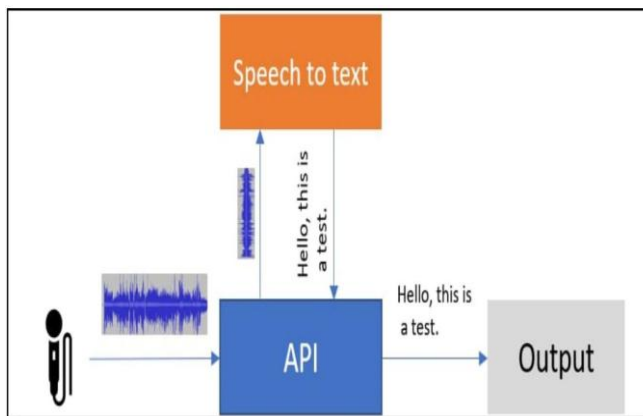

Fig 5.2: Diagram of Speech Recognition

6. SCOPE OF THE PROJECT

This project provides a method and a method for bringing about a change within the world of education by making things easier for visually impaired persons to take tests in the same way that other students do.

Future work could include improvement technique Speech-To-Text converters. This can be used in packages that are downloaded from the internet.

The project's scope can be expanded by adding a feature that makes it easier to communicate. For the purpose of user login, a fingerprint sensor is used.

The project's scope can be expanded to include a service that allows for the usage of a fingerprint sensor for the authentication process.

The examination can be accessed by logging in at Furthermore; malpractices can be minimized to the absolute minimum, leading to increased security.

7. CONCLUSION

This initiative would be very valuable for all blind persons and physically challenged people to be able to readily admire their talent through an online assessment. Students' skills and knowledge will be improved by the addition of this initiative. It also reduces the need for paper and saves time. We will produce a comprehensive application with an interactive interface for disable people as part of our project. Examinees can simply administer the exam by using simple voice commands. As a result, physically challenged people can take exams like any other person without difficulties. They have been able to attend numerous tests in the future as a result of this, and we will attempt to improve as much as possible in the future based on the input we have received. This program aims to provide total usability, supportability, portability, and practicality for users to take an online examination like a normal individual. A visually impaired individual can participate in any competitive examinations conducted by organizations using an internet facility by utilizing this program. As a consequence, the percentage of visually impaired people who participate in competitive examinations may increase.

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