**SOFTWARE REQUIREMENT SPECIFICATION DOCUMENT**

Contents

[Introduction 1](#_Toc152153609)

[**1.1.** **Purpose** 2](#_Toc152153610)

[**1.2.** **Intended audience** 2](#_Toc152153611)

[**1.3.** **Scope** 2](#_Toc152153612)

[**1.4.** **Glossary:** 2](#_Toc152153613)

[Overall Description 2](#_Toc152153614)

[**2.1** **Product perspective:** 2](#_Toc152153615)

[**2.2** **Product functions:** 3](#_Toc152153616)

[**2.4. General constraints:** 3](#_Toc152153617)

[**2.5. Assumptions and dependencies:** 3](#_Toc152153618)

[Specific Requirements 3](#_Toc152153619)

[**3.1.** **Functional requirements:** 3](#_Toc152153620)

[**3.1.1 Performance Requirements.** 4](#_Toc152153621)

[**3.2 Non Functional Requirements** 4](#_Toc152153622)

[System Features 4](#_Toc152153623)

[**4.1. Hardware Requirements** 4](#_Toc152153624)

[**4.2. Software Requirements** 5](#_Toc152153625)

[Testing Requirements 5](#_Toc152153626)

[**5.1. Integration Testing:-** 5](#_Toc152153627)

[**5.2. Performance and Load Testing:-** 5](#_Toc152153628)

[References 5](#_Toc152153629)

# 

# Introduction

## 

With automatic speech recognition, the goal is to simply input any continuous audio speech and output the text equivalent. We want our Speech Recognition system to be speaker-independent and have high accuracy. The objective is to propose a system that takes speech as input and converts into a required text (like documents, mails etc.)

## **Purpose**

The purpose of this document is to capture the speech of different languages and covert into text document, word document, email

## **Intended audience**

The intended audience for Speech-Based Automated Note-Taking System includes individuals who are students, journalists, professional attending meetings, conference interviews. The system targets anyone who seeking to optimize their workflow by automating the note-taking process and time saving.

## **Scope**

Develop an advanced speech recognition system capable of accurately transcribing spoken words into text. Create an efficient mechanism to organize the transcribed and processed text into well-structured documents based on predefined templates or user-defined formatting rules. Aim to provide real-time transcription and document creation to enhance productivity and efficiency in dynamic settings**.**

## **Glossary:**

**Speech Recognition System:** The technology that enables a machine or system to identify the spoken language and converted into text.

**Automated Note-Taking System:** A system or software designed to automatically transcribe spoken words into written text.

# Overall Description

## **Product perspective:**

The system's primary function is to seamlessly convert spoken words into written text using sophisticated speech recognition technology and machine learning algorithms. It should accurately transcribe various accents, languages, and speech patterns.

## **Product functions:**

Speech Based Automated Note-Taking System will have the following functions.

Allow user to select preferred language.

Allow users to spoke different languages.

Record the speech and convert into written text.

Provide clear and download options.

## **2.4. General constraints:**

The system must be able to handle different types of languages and various accents.

The system must be able to run on a standard computer system.

The system able to result minimum accurate results for the input data.

## **2.5. Assumptions and dependencies:**

The following assumptions and dependencies apply to the speech based automated note-taking system:

The system will be developed using HTML, CSS, JavaScript.

The system will need a microphone permission to record spoken language.

The system will require a reliable internet connection for image uploads and analysis.

# Specific Requirements

All the Functional Requirements and Non Functional Requirements are explained here.

## **Functional requirements:**

**Input Data:** The system shall accept different kinds of language as input. The input shall be speech.

**Speech Recognition System:** The system shall use spoken words and JavaScript to interact with the Web Speech API, enabling speech recognition functionality within a web application.

**Classification Output:** The system shall output the spoken words into written text.

### **3.1.1 Performance Requirements.**

**Reliability:** The system shall be able to handle different types of languages and produce consistent results.

**Portable:** It should be easily transferable to other platforms if needed.

**User friendliness:** The system is easy to learn and understand. A native user can also use the system effectively, without any difficulties.

## **3.2 Non Functional Requirements**

**Time:** This project should be completed within the stimulated time period.

**Cost:** the cost involved in marketing the project should be less.

**Accuracy:** The system shall have an accuracy of at least 80%

**Availability:** The system should be available at all times, a customer friendly system which is in access of people around the world should work 24 hours. It means 24 x 7 availability.

**Supportability:** The code and supporting modules of the system will be well documented and easy to understand.

**Security:** The system should be designed with appropriate security and privacy features to protect user data and prevent unauthorized access.

# System Features

## **4.1. Hardware Requirements**

**Laptop or PC with:**

I3 processor system or higher

4 GB RAM or higher

100 GB ROM or higher

## **4.2. Software Requirements**

HTML

CSS

JavaScript

# Testing Requirements

## **5.1. Integration Testing:-**

Our system will be designed by modules, the different sections of application will developed individually and integrated at last stage of development. So here we need integration testing because during the integration and system testing phase, modules are integrated in a planned manner.

## **5.2. Performance and Load Testing:-**

Large number of users may use this application so we expect high traffic for our server, so we have to maintain our server regularly. Because if we don’t maintain patience may face severe problems during using our system.

# References

* T. Kawahara, N. Katsumaru, Y. Akita, and S. Mori, “Classroom Notetaking System for Hearing Impaired Students using Automatic Speech Recognition Adapted to Lectures.” in Proc. of INTERSPEECH2010, pp. 626–629, 2010.
* (APSIPA ASC 2010), pp. 490–493, 2010. [5] S. Natori, H. Nishizaki, and Y. Sekiguchi, “Japanese spoken term detection using syllable transition network derived from multiple speech recognizers’ outputs,” in Proc. of INTERSPEECH2010, pp. 681–684, 2010.