VEDITOR – A Voice-based Text Editor

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**ABSTRACT**

The world without word documents is unimaginable. The creation of Microsoft Word Documents revolutionized the working pedagogies. With the technological revolutions impacting the billions of lives, it’s our responsibility to constantly update and upgrade our way of working. Speech-to-Text has been evolved to whet the appetite of global technology leaders. With the advancement of voice-based technologies, our mind got the voice saying to integrate speech recognition feature into word document. Speech-to-text and Automatic Speech Recognition (ASR) systems generally produce a word chain as output. Although it produces words correctly without any spelling mistakes, it lacks auto capitalization and punctuation marks. This makes readability and interpretability hard for humans when editing manually. Due to this, we have an idea of creating a web based text editor with automatic punctuation using python. It consists of two crucial features i.e., Voice and Text. We can type in the editor manually or dictate to a word-processing program to get text. We use python programs to punctuate sentences automatically. As a result, the sentences will become more comprehensible. This reduces the time and increases the efficiency of a Person, an Employee (or) a Techie.

***Keywords –*** *Speech-to-Text; Text Editor; Python*

1. **INTRODUCTION**

State-of-the-art automatic speech recognition (ASR) systems still produce raw word streams that, even with no recognition errors, are often difficult to read—not only for humans, but also for natural language processing tools, which usually expect formatted text as input. Issues that need to be addressed include formatting numbers, dates and places, removing disfluencies, inserting punctuation symbols, and correctly capitalizing all words.

1. **EXISTING SYSTEM**

There are ASR systems like Google Cloud Speech-to-Text API, Chrome Speech Recognition and various kinds of text editors which can produce the exact words that are dictated. However, in order to get the comprehensible sentences, we have to pronounce/dictate the punctuation marks along with the sentences wherever it is needed.

1. **PROPOSED SYSTEM**

In order to get more comprehensible sentences, we propose speech-to-text with automatic punctuation system. In which, there won’t be any requirement to pronounce the punctuation marks. It will detect and place them wherever they are needed. This makes the task of editing the document easier.

1. **MODULES DESCRIPTION**

**Resources**

The data sets were taken from various news articles of BBC. The news articles are related to business, entertainment, politics, sports and technical. There are around 400 articles on each one.

**Python Libraries**

Natural Language Toolkit (nltk):

It is a suite of libraries and programs for symbolic and statistical natural language processing for English written in the python programming language. It is used to process the news articles which are in English language.

Regular Expression (re):

It is used to discover the patterns in the English News Articles.

**API**

Google Cloud Speech:

It is used to convert the audio to text.

**Framework: FLASK**

Flask is a micro web framework. It is used to create an interface between the webpage and python programs.

1. **SOFTWARE REQUIREMENTS**

**Python Libraries :** nltk(Natural Language Toolkit), re (Regular Expression)

**API :** google-cloud-speech

**Framework :** FLASK

**Softwares :** Python 3.7

**Scripting Languages :** HTML, CSS

1. **REFERENCES**

<https://ieeeexplore.ieee.org/document/04960690>

Restoring punctuation and capitalization in transcribed speech