Mini Project Synopsis
On
“TransSummarize: Leveraging NLP for Transcription and Summarization”

SUBMITTED BY

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SESSION: 2023 - 2024

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Aim of the Project

The project for TransSummarize aims to help in taking information from a conversation or an original audio data.

It will reduce the time and effort of manual documentation.

Sometimes, the main points from a communication in the same language tends to be missed due to accent according to the person.

This project will combine speech recognition and text summarization features.

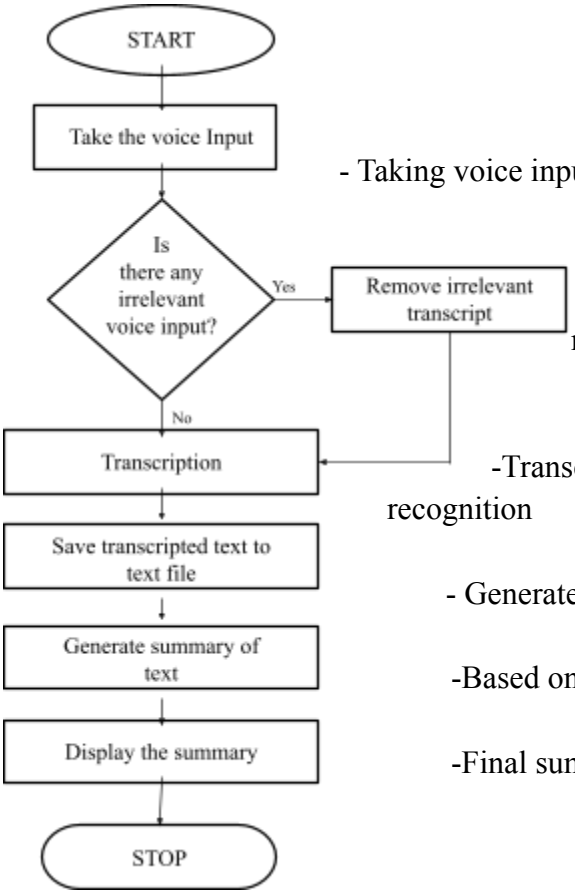
In small scenarios like class, this feature will be helpful as it can provide summarizing lectures into a document without losing vital information.

Problem definition

From any conversation, when there is an event that we want to extract information out of, we have to manually do it by ourselves.
For this, there are separate applications for speech recognition as well as text summarization.
But for convenience, why not an application which does both?

At the comfort of our fingertips, we should be able to get important written information from a conversation.

Solution Strategy



- Taking voice input from microphone using Pyaudio

- If irrelevant information generated, it will be removed

-Transcription is done by Speech to Text using Speech-recognition

- Generated transcription is saved in text file using python file-handling

-Based on a trained model, Summary is generated.

-Final summary is displayed.

Figure 1: Flowchart Of Solution Strategy

Workflow Diagram

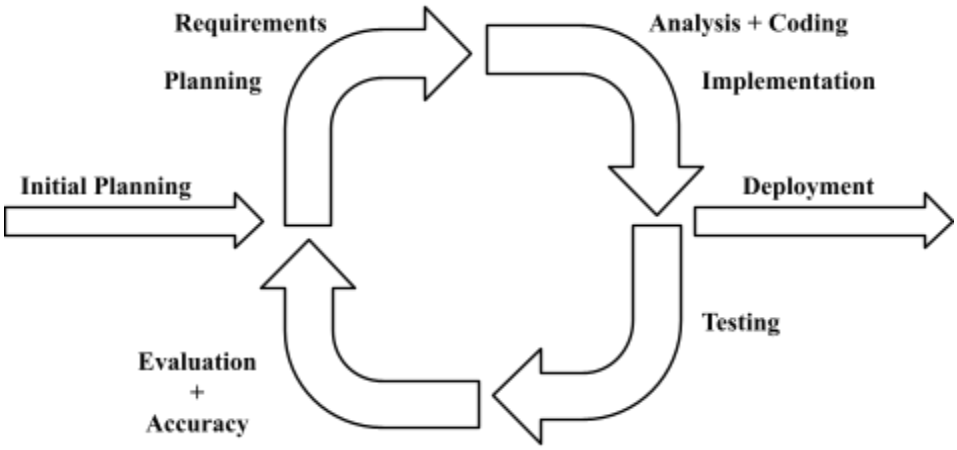


Figure 2: Iterative Model

Literature Review

Author Name , Journal Name, Vol., Year	**Title of the Paper**	**Inference**	**Research Gap**	**Relevance with the present work**
Shaikh Naziya S, R.R.Deshmukh IOSR Journal of Computer Engineering(IOSR-JCE), Volume 18 (July- Aug, 2016) [1]	Speech Recognition System - A Review	• Techniques in Speech Recognition Systems(SRS) • Various SRS modeling techniques are listed. • The different models have their pros and cons.	• Problems about noise, echoes, background noise and how to counter them are not mentioned.	• Vocabulary of HMM is very high - can be used for large amounts of data for speech recognition . • Machine learning techniques for speech recognition .
Nenkova A., & McKeown, K. Mining text data, 43-76.(2012) [2]	A survey of text summarization techniques	• Topic Representation extracts topics discussed in the input document. • Indicator representation scores the importance of each sentence which will come in the summary.	• Generation of summary for multiple documents • Complexity of human language	• Provides ideas about how text summarization works.

Requirements

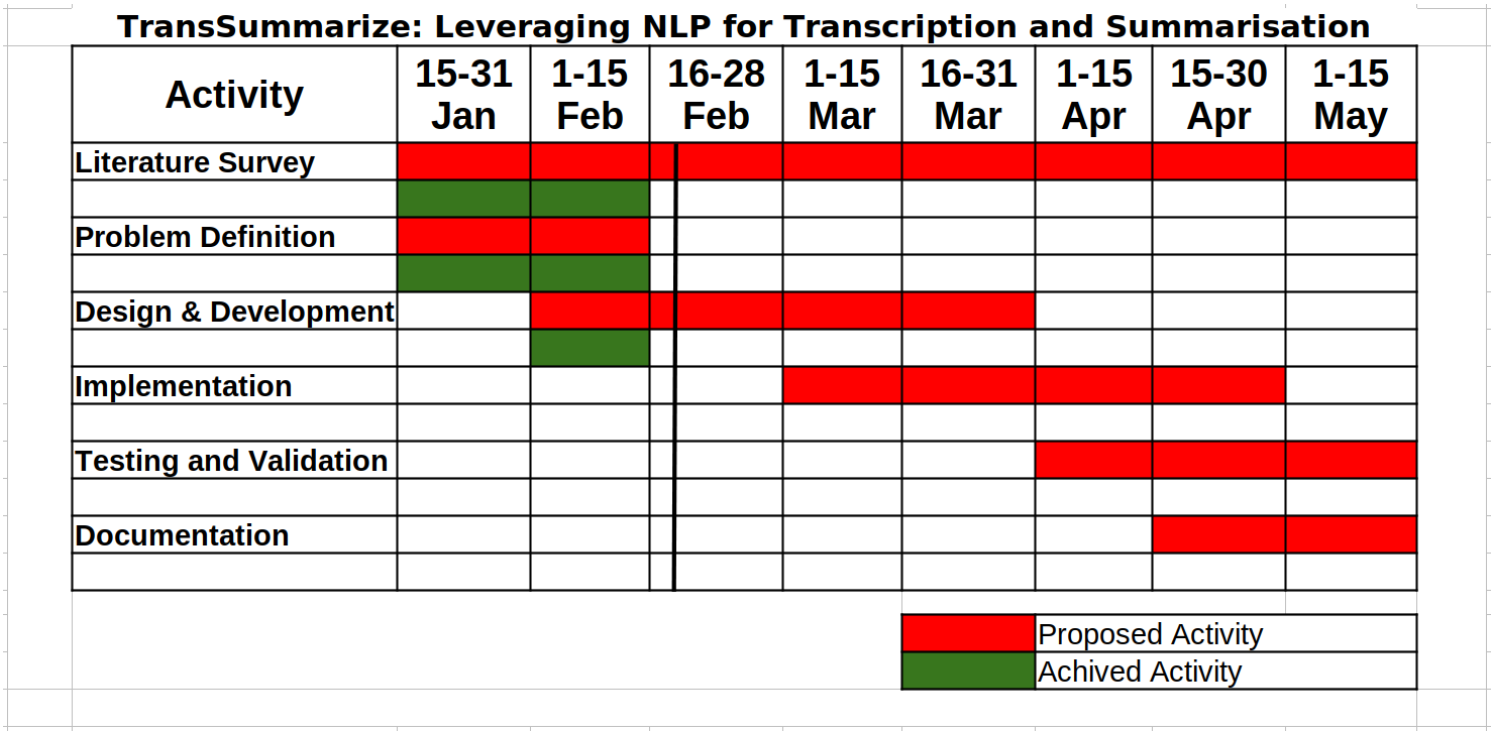
Hardware :

- Minimum RAM : 8 GB
- Hard Disk : 500 GB SSD
- Processor : Intel i5

Software :

- Programming Language : Python 3.1
- Packages : nltk, pyaudio, SpeechRecognition, spacy, etc
- Operating System : Windows 11 / Ubuntu 22.04.2 LTS

Gantt Chart


TransSummarize: Leveraging NLP for Transcription and Summarisation
Activity
15-31 Jan
1-15 Feb
16-28 Feb
1-15 Mar
16-31 Mar
1-15 Apr
15-30 Apr
1-15 May
Literature Survey
Problem Definition
Design & Development
Implementation
Testing and Validation
Documentation
Proposed Activity
Achived Activity

References

[1] Shaikh Naziya, S., & Deshmukh, R. R. (2016). Speech recognition system—a review. *IOSR J. Comput. Eng*, *18*(4), 3-8.

[2] Nenkova, A., & McKeown, K. (2012). A survey of text summarization techniques. *Mining text data*, 43-76.