**Project Title:**

**Indian Railways Announcement Software System**

**A.aim of the project:**

we can create as much as we want i.e. 100,1000, lakshs of announcement for railways within some click.

**B.what is the project all about?.**

This project to demonstrate how we can generate the Railways Station Announcement by maintaining a database of required information regarding the trains in an excel sheet.By using this system we automatically generate audio file regarding announcement for railways through just Maintain a database in excel sheet of various information regarding the train no., name, source destination, platform no. on which train is arriving and so on.

**C.Prerequisite:**

* The prerequisite of this project is the basic knowledge of python.
* For creating railway announcement software, we will be using a bunch of modules like**pyaudio**, **pydub**, and **gTTS** to process audio and get the announcing status of thousands of trains.
* By using **PyAudio module**, we can easily use Python to play and record audio on a variety of platforms
* **Pydub**is a simple and well-designed Python module for audio manipulation and
* **gTTS** (which stands for Google Text-to-Speech) is a Python library and CLI tool to interface with**Google Translate text-to-speech API**

**D. Technology Used:**

Python3 ,

Python module like

pyaudio

pydub ,

gTTS - Python library,etc

**E. ToolsUsed**:

I am using Virtual Studio Code IDE for this project.

Folder at which all files are placed-mp3 player of pc

Pychram ,

web browser,

CLI to interface withGoogle Translate text-to-speech API,etc

**F.Advantages the project:**

* save human efforts
* Save ur time
* Save humam efforts to sepak it manually also
* We can carte n number of entry’within click.
* We can make announcem of the whole day just whithin few seconds by just adding data to excel sheet

**G.conclusion/output of project:**

We can use this railways announcement system,on railway station, because it is easy to use and time saving as well as effort saving process also

**Code understanding:**

The whole program coding is Based on the Python

we use here some Python module

here we install first some Python module such as

* pyaudio -By using **PyAudio module**, we can easily use Python to play and record audio on a variety of platforms
* Pydub -**Pydub**is a simple and well-designed Python module for audio manipulation
* Pandas-Pandas is an open-source library that **allows to you perform data manipulation and analysis** in Python. Pandas Python library offers data manipulation and data operations for numerical tables and time series. Pandas provide an easy way to create, manipulate, and wrangle the data.
* GTTS -**gTTS** (which stands for Google Text-to-Speech) is a Python library and CLI tool( cli package is a **framework for making simple, correct command line applications**) to interface with**Google Translate text-to-speech API**.

we can install these module by using pip command

Here in this whole program-in main file of py

We declare 4 types of method/function

1.def textToSpeech(text, filename):

Take text and file name

Gives us/ splits out mp3 file which we want

2. def mergeAudios(audios):

This function returns pydubs audio segment

3. def generateSkeleton():makes the small part railway.mp3

And stiches the all small mp3part(odd 1 3 5 7 9 mp3 part + even 2 4 6 8 10 mp3 part) to make whole mp3 of announcement of train which is coming.

4.defgenerateAnnouncement(filename):

only take our excel file read it to gnerate and export the whole announcement of the train

Maim functions:

if \_\_name\_\_ == "\_\_main\_\_":

**Working of program:**

1.In Main

First Generating skeleton function runs

2.In Generate skeleton

Genration of 1357911mp3 occurred and save it

Then

3.Announcement generate runs

It Read excel file

By using texttospeech-Make2468mp3file

Now

4.By using merge function- runs

Initially the audio segment is empty

But after that by

combined+=AudioSegment.from\_mp3(audio)

now- 1to11 mp3 are merged

And

5.we export the whole announcement of train in mp3 format.