Dayananda Sagar College of Engineering

Department of Electronics and Communication Engineering

Shavige Malleshwara Hills, Kumaraswamy Layout, Bengaluru – 560 078.

(An Autonomous Institute affiliated to VTU, Approved by AICTE & ISO 9001:2008 Certified)

Accredited by National Assessment and Accreditation Council (NAAC) with 'A' grade

Assignment

Program: B.E.
Course: Programming in Python
Course Code: 18EC5DEBPP

Branch: ECE
Semester: 5
Date:

A Report on

AUDIOBOOK

Submitted by

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Faculty In-charge

Prof. Shashi Raj K

Signature of Faculty In-charge

OVERVIEW

An audiobook (or a talking book) is a recording of a book or other work being read out loud. Audiobooks have traditionally been used with second-language learners, learning-disabled students, and struggling readers or nonreaders. In many cases, audiobooks have proven successful in helping these students to access literature and enjoy books.

In this pandemic everything has been changed. In student point of view almost everyone has an electronics gadget like smartphones and laptops but reading for a long time on gadgets leads to visual eye site problems. So, by the use of audiobook, we can reduce the stress on eye. The main advantages are quick learning, effective and very convenient also, like you can use it anywhere and finally you can save the time.

But the first thing is most of the audiobooks are not free, you have to pay extra money for that. Second thing is we may not get proper audiobook for our study in most of the cases like if we have some document's and that only we need in the form of audiobook.

So, we came up with a solution by using Python programming knowledge. Our programming platform is PyCharm. By using these we can create our own audiobook at free of cost.

Features of Main project code:

- Offline access
- Intake data from the user
- Male and female voice
- MP3 format document creation

Features of Possible test case project code:

- GUI based user input for easy access.
- Multiple document support.
- Direct Access

ALGORITHM

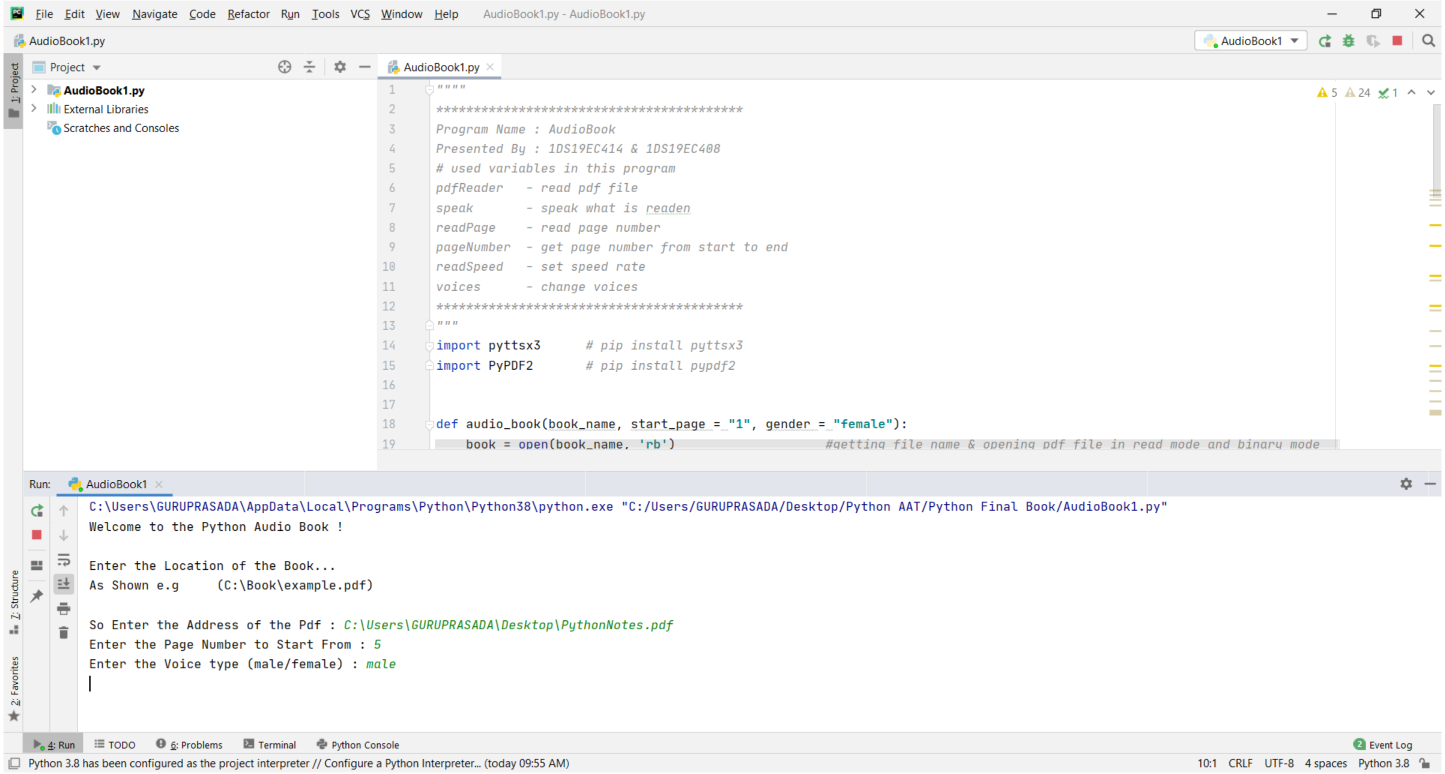
1. Import required libraries: pyttsx3 & PyPdf2.
2. Define audiobook parameters: Filename, read, count.
3. Extract text & process: Speech speed rate, get single page according to loop.
4. Voice configuration: Define genders, assign audio format.
5. Getting data from the user: File location, page number, voice and saving file in MP3 format.

PROGRAM

```
"""
****************************************
Program Name: AudioBook
Presented By: 1DS19EC414 & 1DS19EC408
# used variables in this program
pdfReader   - read pdf file
speak       - speak what is readen
readPage    - read page number
pageNumber - get page number from start to end
readSpeed   - set speed rate
voices      - change voices
****************************************
"""
import pyttsx3                                          # pip install pyttsx3
import PyPDF2                                           # pip install pypdf2
def audio_book(book_name, start_page = "1", gender = "female"):
 book = open(book_name, 'rb')                   #getting file name & opening pdf file in read mode and binary mode
 pdfReader = PyPDF2.PdfFileReader(book)                 #reading pdf file
 pages = pdfReader.numPages                             #counting number of pages
 engine = pyttsx3.init()                                # starting engine
 for num in range(start_page, pages):                   # loop through start_page to the end of the book
 page = pdfReader.getPage(num)                          # Get single page according to the loop
 text = page.extractText()                              # Extracting text from each page
 rate = engine.getProperty('rate')                      # Getting text_speech rate property
 engine.setProperty('rate', rate-35)                          # Decreasing text_rate/min bcz it was too fast
if gender == "male" or gender[0] == "m":     # Getting is gender male or not and setting the voice according to it
 voices = engine.getProperty('voices')
 engine.setProperty('voice', voices[0].id)                    # voice[0] means "male"
 engine.save_to_file(text , 'Page_no_' + str(num) + '.mp3')   # Saving that file in mp3 format
 engine.say(text)
 engine.runAndWait()
  else:
 voices = engine.getProperty('voices')
 engine.setProperty('voice', voices[1].id)                    # voice[1]    means "female"
 engine.save_to_file(text , 'Page_no_' + str(num) + '.mp3')   # Saving that file in mp3 format
 engine.say(text)
  engine.runAndWait()

 if __name__ == "__main__":
 print("Welcome to the Python Audio Book !")
    try:
 book_name = input("\nEnter the Location of the Book...\nAs Shown e.g\t (C:\\Book\\example.pdf)\n\nSo Enter
the Address of the Pdf : ")
start_page = int(input("Enter the Page Number to Start From : "))
gender = input("Enter the Voice type (male/female) : ").lower()
 if start_page >=1:audio_book(book_name, start_page, gender)
 else:print("Enter Valid Page Number Please.")                    # Getting data from the user
 except(IndexError):
 print("Please, Enter the Voice type want.\n ")
 except(ValueError):
 print("Please, Enter the Page Number to Start From.\n ")
 except(FileNotFoundError):
 print("Please, Enter the Valid Path for the File.\n")
```

RESULT

Design and simulation of Audiobook using PyCharm is successfully done.



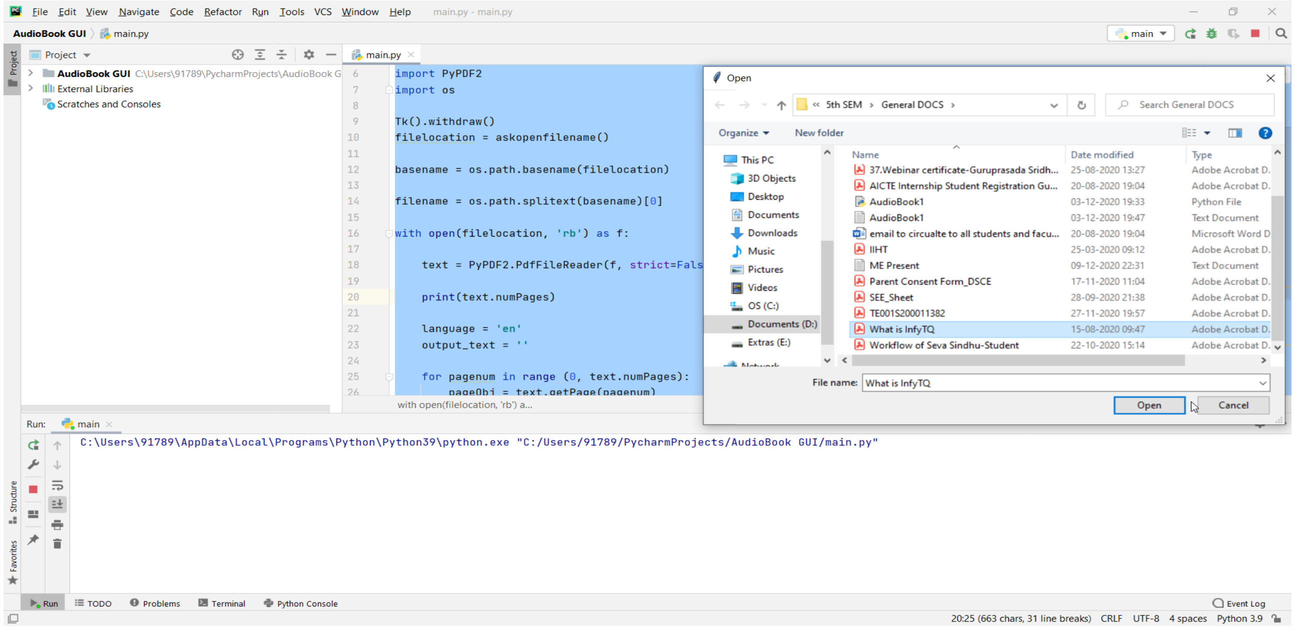
```
"""
*****************************************
Program Name : AudioBook
Presented By : 1DS19EC414 & 1DS19EC408
# used variables in this program
pdfReader    - read pdf file
speak        - speak what is readen
readPage     - read page number
pageNumber   - get page number from start to end
readSpeed    - set speed rate
voices       - change voices
*****************************************
"""
import pyttsx3      # pip install pyttsx3
import PyPDF2       # pip install pypdf2


def audio_book(book_name, start_page = "1", gender = "female"):
    book = open(book_name, 'rb')                   #getting file name & opening pdf file in read mode and binary mode
```

```
C:\Users\GURUPRASADA\AppData\Local\Programs\Python\Python38\python.exe "C:/Users/GURUPRASADA/Desktop/Python AAT/Python Final Book/AudioBook1.py"
Welcome to the Python Audio Book !

Enter the Location of the Book...
As Shown e.g     (C:\Book\example.pdf)

So Enter the Address of the Pdf : C:\Users\GURUPRASADA\Desktop\PythonNotes.pdf
Enter the Page Number to Start From : 5
Enter the Voice type (male/female) : male
```

Python 3.8 has been configured as the project interpreter // Configure a Python Interpreter... (today 09:55 AM)

POSSIBLE TEST CASES:

- GUI based user input



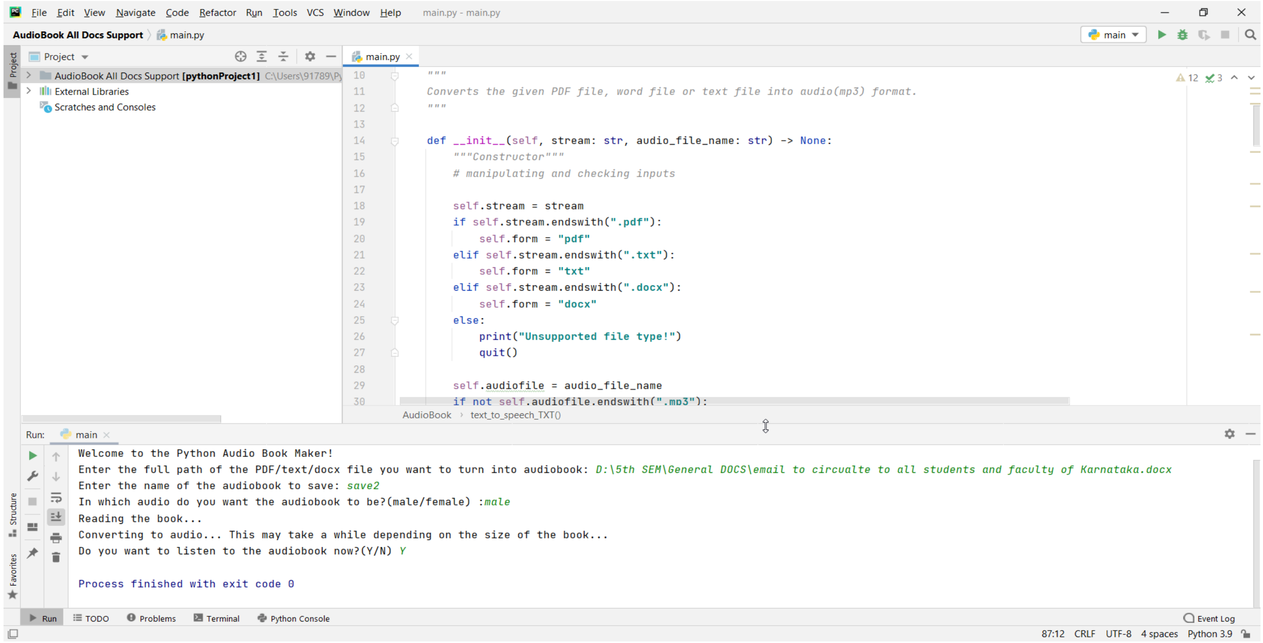
```
import PyPDF2
import os

Tk().withdraw()
filelocation = askopenfilename()

basename = os.path.basename(filelocation)

filename = os.path.splitext(basename)[0]

with open(filelocation, 'rb') as f:

    text = PyPDF2.PdfFileReader(f, strict=Fals

    print(text.numPages)

    language = 'en'
    output_text = ''

    for pagenum in range (0, text.numPages):
        pageObj = text.getPage(pagenum)
```

```
C:\Users\91789\AppData\Local\Programs\Python\Python39\python.exe "C:/Users/91789/PycharmProjects/AudioBook GUI/main.py"
```

Name	Date modified	Type
37.Webinar certificate-Guruprasada Sridh...	25-08-2020 13:27	Adobe Acrobat D.
AICTE Internship Student Registration Gu...	20-08-2020 19:04	Adobe Acrobat D.
AudioBook1	03-12-2020 19:33	Python File
AudioBook1	03-12-2020 19:47	Text Document
email to circualte to all students and facu...	20-08-2020 19:04	Microsoft Word D
IIHT	25-03-2020 09:12	Adobe Acrobat D.
ME Present	09-12-2020 22:31	Text Document
Parent Consent Form_DSCE	17-11-2020 11:04	Adobe Acrobat D.
SEE_Sheet	28-09-2020 21:38	Adobe Acrobat D.
TE001S200011382	27-11-2020 19:57	Adobe Acrobat D.
What is InfyTQ	15-08-2020 09:47	Adobe Acrobat D.
Workflow of Seva Sindhu-Student	22-10-2020 15:14	Adobe Acrobat D.

File name: What is InfyTQ

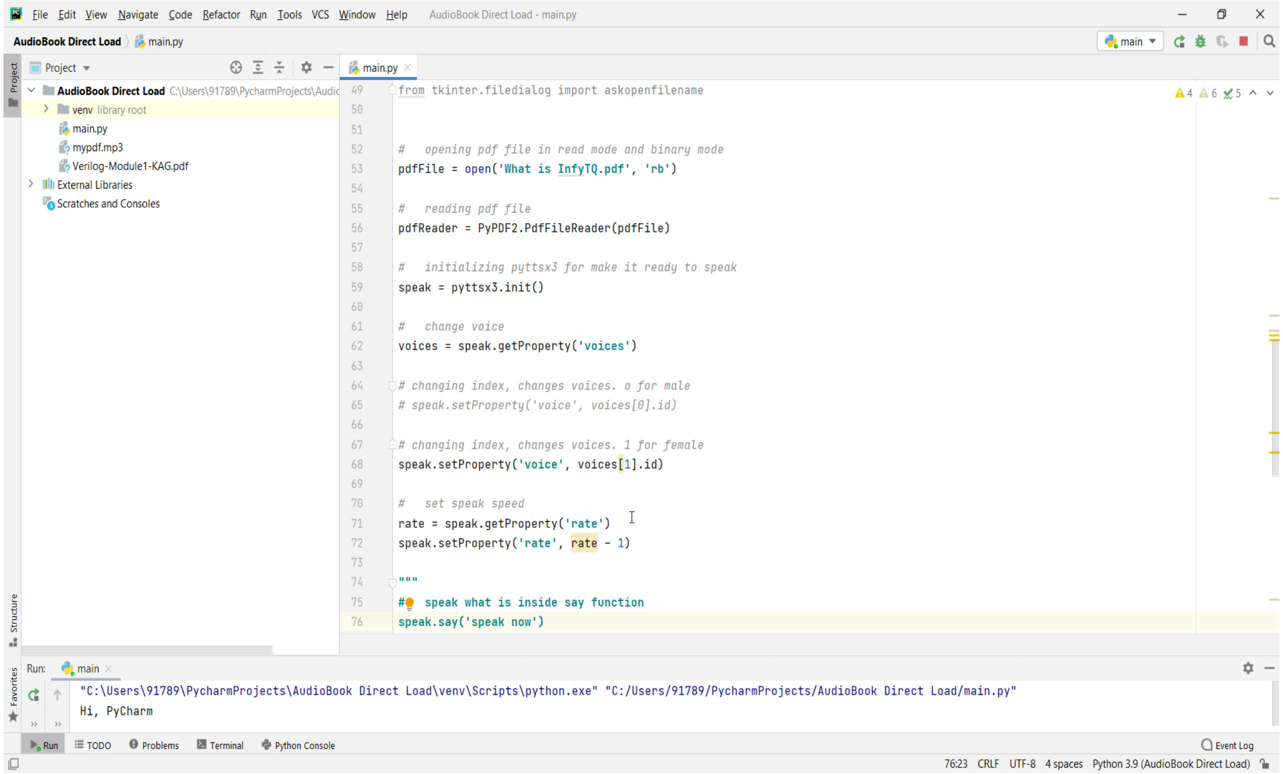
- ## Multiple document support


File Edit View Navigate Code Refactor Run Tools VCS Window Help main.py - main.py
AudioBook All Docs Support 〉 main.py
main
Project
AudioBook All Docs Support [pythonProject1] C:\Users\91789\Py
External Libraries
Scratches and Consoles
main.py
AudioBook › text_to_speech_TXT()
Run: main
Run TODO Problems Terminal Python Console
Event Log
87:12 CRLF UTF-8 4 spaces Python 3.9

```python
    """
    Converts the given PDF file, word file or text file into audio(mp3) format.
    """

    def __init__(self, stream: str, audio_file_name: str) -> None:
        """Constructor"""
        # manipulating and checking inputs

        self.stream = stream
        if self.stream.endswith(".pdf"):
            self.form = "pdf"
        elif self.stream.endswith(".txt"):
            self.form = "txt"
        elif self.stream.endswith(".docx"):
            self.form = "docx"
        else:
            print("Unsupported file type!")
            quit()

        self.audiofile = audio_file_name
        if not self.audiofile.endswith(".mp3"):
```

```
Welcome to the Python Audio Book Maker!
Enter the full path of the PDF/text/docx file you want to turn into audiobook: D:\5th SEM\General DOCS\email to circualte to all students and faculty of Karnataka.docx
Enter the name of the audiobook to save: save2
In which audio do you want the audiobook to be?(male/female) :male
Reading the book...
Converting to audio... This may take a while depending on the size of the book...
Do you want to listen to the audiobook now?(Y/N) Y

Process finished with exit code 0
```

- ## Direct Access


File Edit View Navigate Code Refactor Run Tools VCS Window Help AudioBook Direct Load - main.py
AudioBook Direct Load 〉 main.py
main
Project
AudioBook Direct Load C:\Users\91789\PycharmProjects\Audic
venv library root
main.py
mypdf.mp3
Verilog-Module1-KAG.pdf
External Libraries
Scratches and Consoles
main.py
Run: main
Run TODO Problems Terminal Python Console
Event Log
76:23 CRLF UTF-8 4 spaces Python 3.9 (AudioBook Direct Load)

```python
from tkinter.filedialog import askopenfilename


#   opening pdf file in read mode and binary mode
pdfFile = open('What is InfyTQ.pdf', 'rb')

#   reading pdf file
pdfReader = PyPDF2.PdfFileReader(pdfFile)

#   initializing pyttsx3 for make it ready to speak
speak = pyttsx3.init()

#   change voice
voices = speak.getProperty('voices')

# changing index, changes voices. o for male
# speak.setProperty('voice', voices[0].id)

# changing index, changes voices. 1 for female
speak.setProperty('voice', voices[1].id)

#   set speak speed
rate = speak.getProperty('rate')
speak.setProperty('rate', rate - 1)

"""
#   speak what is inside say function
speak.say('speak now')
```

```
"C:\Users\91789\PycharmProjects\AudioBook Direct Load\venv\Scripts\python.exe" "C:/Users/91789/PycharmProjects/AudioBook Direct Load/main.py"
Hi, PyCharm
```

REFRENCE

[1] Deep learning With Python

[2] https://youtu.be/Flm2YHEFd5A

[3] www.audiobooks.com

[4] https://youtu.be/Flm2YHEFd5A

CONCLUSION

- we can see the usage of Audiobooks incrementing year by year globally because it can be used mainly in educational institutions and libraries.
- We are planned to build and launch an android application to create Audiobook so that user can create their own Audiobooks independently.