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Mukesh Patel School of Technology Management & Engineering

COURSE: Introduction to Python Programming

"Mindfully - Journaling, virtualized."

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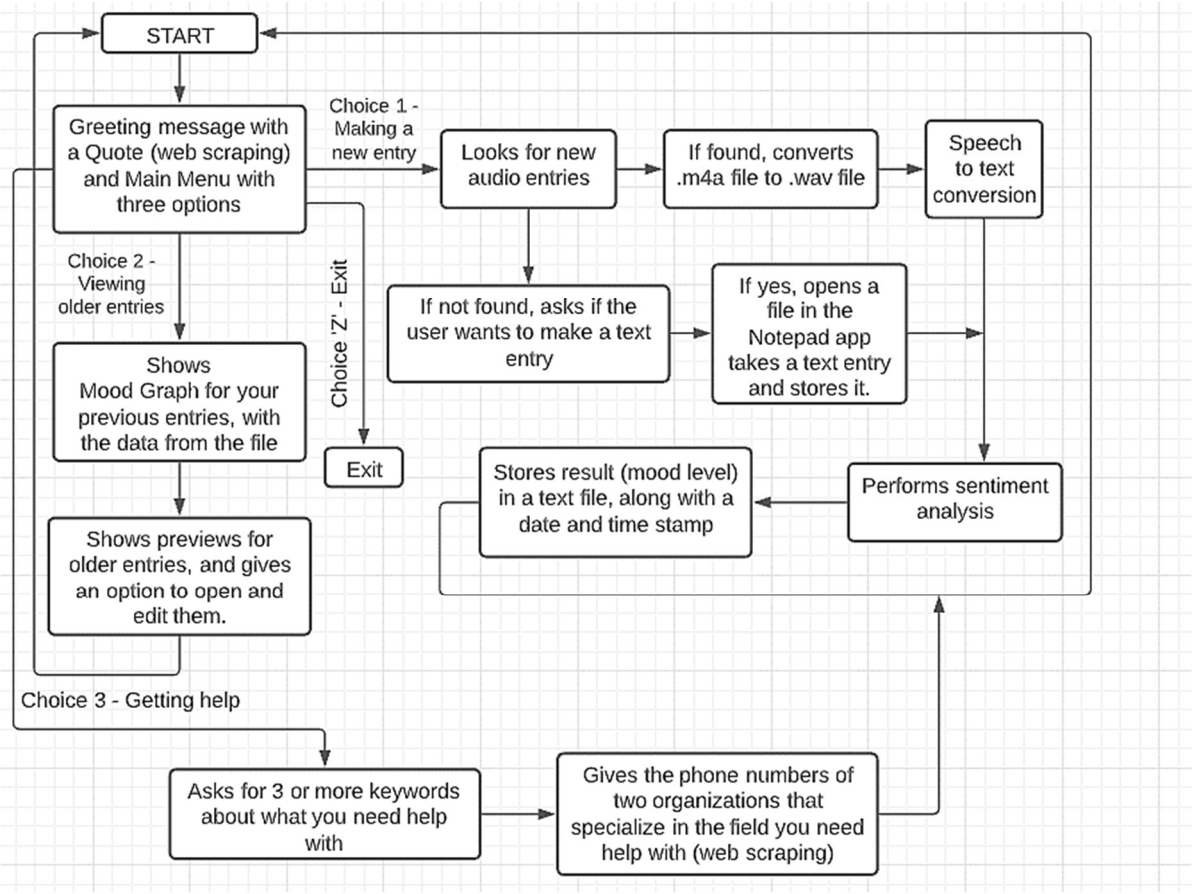
Software/ IDE/ Interactive notebook: ANACONDA (Spyder - Python 3.7)

Flow of the program:



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Code:

mindfully.py

```
from datetime import *
import speech_recognition as sr
import nltk
from nltk.sentiment.vader import SentimentIntensityAnalyzer
import csv
import matplotlib.pyplot as plt
import os
import sys
import quotes as q
import m4aTowav as mw
import gettingHelp as gH

def writeToTextFile(y, d, mth, hr, minu):

    f = open("forGraph.txt" , mode="a" , encoding="utf-8")
    y = round(y*100 , 3)
    if minu=='0':
        minu = list(minu)
        minu.append('0')
        minu = ''.join(minu)

    stamp = d + mth + "@" + hr + minu
    f.write(str(y)+","+stamp+"\n")

    f.close()
    print ("Recorded in a text file!\nExcellent work with the journalling!")

def speechrecog(AF):

    r = sr.Recognizer()
    with sr.AudioFile(AF) as src:
       audio = r.record(src)

    print("Converting your beautiful voice note to text...")
    global S
    S = r.recognize_google(audio)
    global Day, Month, Hour, Minute
    Day =  str(datetime.now().day)
    Month = str(datetime.now().month)
    Hour = str(datetime.now().hour)
    Minute = str(datetime.now().minute)

    try:
        location = "C:\\Users\\l0aru\\Desktop\\Mindfully\\myDiaryTEXTS\\"
        file = location + "E_for_" + Day + "-" + Month + "_at" + Hour + "-" + Minute
        f = open(file + ".txt", "w")
        f.write(S)
        f.close()
        return "Done!"
    except sr.UnknownValueError:
        return "I didn't quite understand what you said?"
    except sr.RequestError:
        return "Cannot process requests now, try again later!"

def sentimentAnalysis(data):
    Day =  str(datetime.now().day)
    Month = str(datetime.now().month)
    Hour = str(datetime.now().hour)
    Minute = str(datetime.now().minute)
   # nltk.downloader.download('vader_lexicon')
    sia = SentimentIntensityAnalyzer()
```

```
    ss = sia.polarity_scores(data);
    # print("------------------------------------------------------------------")
    # print("SENTENCE:" , data)
    # print("------------------------------------------------------------------")

    # print(ss['compound'])

    writeToTextFile(ss['compound'] , Day , Month , Hour , Minute)

def plotGraph():

    compounds = []
    when = []


    with open('forGraph.txt', mode='r') as csvFile:
        csvReader = csv.DictReader(csvFile)
        n = 0
        for row in csvReader:
            compounds.append(row["compound"])
            when.append(row["stamp"])
            n += 1


    print(f'Here\'s your mood analysis for your last {n-1} entries...')

    compounds = [float(x) for x in compounds]
    when = [x[(x.index('@')+1):] for x in when]

    fig = plt.figure()
    fig.patch.set_facecolor('#222222')
    ax = fig.add_subplot(111)
    ax.patch.set_facecolor('#222222')
    plt.axis('off')
    plt.plot(when, compounds,"orange", linewidth=4.20)
    plt.show()

def greeting():

    Hour = int(datetime.now().hour)

    if Hour<5 or Hour>=23:
        return "You should be sleeping"
    elif Hour>=5 and Hour<12:
        return "Happy morning"
    elif Hour>=12 and Hour<16:
        return "Good afternoon"
    else:
        return "Good evening"

def datetimePrettify(k):
    date = k[6:k.index('-')]
    tempDate = date
    date = list(date)
    if (date[0]=='1' and len(date)==2): add = "th"
    elif date[-1]=='1': add = "st"
    elif date[-1]=='2': add = "nd"
    elif date[-1]=='3': add = "rd"
    else : add = "th"

    month = k[k.index('-')+1:k.index('_at')]
```

```
    if month == '1': month = "January"
    elif month == '2': month = "February"
    elif month == '3': month = "March"
    elif month == '4': month = "April"
    elif month == '5': month = "May"
    elif month == '6': month = "June"
    elif month == '7': month = "July"
    elif month == '8': month = "August"
    elif month == '9': month = "September"
    elif month == '10': month = "October"
    elif month == '11': month = "November"
    elif month == '12': month = "December"

    k = k[k.index('_at')+3:k.index('.')]

    hour = k[:k.index("-")]
    minu = k[k.index("-")+1:]
    if (len(minu) == 1):
        temp = "0"+ minu[0]
        minu = temp


    if (int(hour)>12):
        time = str(int(hour)-12)+ ":" + minu +" PM"
    else:
        time = hour + ":" + minu +" AM"


    return 'On ' + tempDate + add + " " + month + ', at ' + time

def previewPlus():

    print("\nHere are your older entries - \n")
    location = "C:\\Users\\10aru\\Desktop\\Mindfully\\myDiaryTEXTS\\"
    i = 1
    for (dirpath, dirnames, filenames) in os.walk(location):
        for k in filenames:
            title = datetimePrettify(k)
            whichFile = location + k
            f = open(whichFile, "r")
            text = list(f.read())
            temp = text
            text = text[:60]
            print(str(i) + ") " + title + "\n" + ''.join(text) + "...\n")
            i+=1

    ch1 = (input("Want to see the files? Y/N > ")).upper()
    if ch1 == 'Y':
        ch = int(input("Enter the entry number of the entry you want to visit > "))
        if (ch <= i):
            os.startfile(location+filenames[ch-1])
        else:
            print("Invalid Input!")
    elif ch1 == 'N':
        pass
    else:
        print("Invalid Input!")

def newTextEntry():

    Day =  str(datetime.now().day)
```

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```
    Month = str(datetime.now().month)
    Hour = str(datetime.now().hour)
    Minute = str(datetime.now().minute)


    location = "C:\\Users\\l0aru\\Desktop\\Mindfully\\myDiaryTEXTS\\"
    file = location + "E_for_" + Day + "-" + Month + "_at" + Hour + "-" + Minute + ".txt"
    f = open(file,"w")
    os.startfile(file)
    f.close()

    ch = input("Enter D when done > ").upper()

    if ch=='D':
        f2 = open(file,"r")
        data = f2.read()
        sentimentAnalysis(data)
        f2.close()

def main():
    print("\tWhat do you want to do now?\n\tl. Make a new entry\n\t2. Go to older entries\
    print("or - Enter Z to exit Mindfully")
    ch = input("ENTER 1/2/3/Z > ")
    if ch=='1':
        fileName = mw.changeOneFile()
        if fileName != 0:
            print(speechrecog(fileName))
            sentimentAnalysis(S)
            print("\n\n")
        else:
            ch = input("Want to make a text entry? Y/N > ").upper()
            if ch=='Y':
                newTextEntry()
            else:
                print("You've been living Mindfully for so long now, don't give up :'(")
        main()


    elif ch=='2':
        plotGraph()
        previewPlus()
        main()

    elif ch=='3':
        gH.main()
        main()

    elif ch=='z' or ch=='Z':
        print("Bye-bye, see you soon!")
        sys.exit()

    else:
        print("Invalid Input!")
        main()


if __name__ == "__main__":
    greetThis = greeting()
    print(greetThis+", Arushi - Welcome to Mindfully!")

    print(q.todaysQuote())


    main()
```

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m4atowav.py

```
import os

from pydub import AudioSegment

initial = ['.m4a']


def changeOneFile():

    fromWhere = "C:\\Users\\l0aru\\Desktop\\\Mindfully\\myDiaryAUDIO"
    filename = ''
    for (dirpath, dirnames, filenames) in os.walk(fromWhere):
        for k in filenames:
            if '.m4a' in k:
                print("Found a new entry!")
                filename = k
                break

    if filename == '':
        print("No new audio entries found! Don't cut back on your journalling :'(")
        return 0

    else:

        filepath = dirpath + '/' + filename
        (path, file_extension) = os.path.splitext(filepath)
        file_extension_final = file_extension.replace('.', '')
        try:
            track = AudioSegment.from_file(filepath,file_extension_final)
            wav_filename = filename.replace(file_extension_final, 'wav')
            wav_path = dirpath + '/' + wav_filename

            track.export(wav_path, format='wav')
            os.remove(filepath)

            return wav_path

        except:
            print("ERROR CONVERTING " + str(filepath))
```

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quotes.py

```
import requests
from bs4 import BeautifulSoup as bS
import random as r

def main():
    url = input("Enter the URL - ")
    #url = "https://www.keepinspiring.me/quotes-about-happiness/"

    headerS = {"User-Agent":"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (
    page = requests.get(url, headers = headerS)
    soup = bS(page.content , 'html.parser')

    quotes = []
    for i in soup.find_all(class_="author-quotes"):
        quotes.append(i.get_text())
    f = open("happyQuotes.txt" ,"w" , encoding="utf-8")
    for quote in quotes:
        f.write(quote+"\n")
    f.close()


def todaysQuote():
    q = []
    n = 0
    f = open("happyQuotes.txt" , "r" , encoding="utf-8")
    for i in range(126):
        thisOne = f.readline()
        if len(thisOne)>150:
            continue
        else:
            q.append(thisOne)
            n+=1

    theChosenOne = q[r.randint(0,n)]

    return theChosenOne

if __name__ == "__main__":
    main()
else:
    todaysQuote()
```

(continued…)

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gettinghelp.py

```
import csv
import requests
from bs4 import BeautifulSoup as bS


def main():

    keyw = input("Enter 3 or more words about what you need help with (separate using , or

    if ',' in keyw:
        keyw = keyw.split(',')
    else: keyw = keyw.split(' ')

    if len(keyw)<3:
        print("Insufficient inputs, please enter 3 OR MORE keywords :) ")
        main()

    url = "https://www.thelivelovelaughfoundation.org/find-help/helplines"

    headerS = {"User-Agent":"Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (
    page = requests.get(url, headers = headerS)
    soup = bS(page.content , 'html.parser')


    description = soup.find_all(class_="fullDesc")

    freq = {}
    orgNo = 0
    tempMain = {}

    for thisOrg in list(description):
        j = str(thisOrg.get_text)
        j = j.upper()
        j = j.replace(',','')
        j = j.replace('.','')
        j = j.replace('-','')
        j = j.split(' ')

        for word in keyw:
            f = 0
            for checkHere in j:
                if word==checkHere:
                    f+=1
            freq[word]=f


        temp = freq.values()
        totalFreq = sum(temp)

        tempMain[orgNo] = totalFreq


        orgNo+=1


    thisOrder = {k: v for k, v in sorted(tempMain.items(), key = lambda item: item[1])}
    myNGOs = [0]*2

    t = list(thisOrder.keys())

    myNGOs[0] = t[-1]
    myNGOs[1] = t[-2]
```

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```
with open('C:\\Users\\10aru\\Desktop\\Mindfully\\numbers.csv',encoding='latin-1') as f:
    numbers = list(csv.reader(f))

print("\nHere's the help you needed - ")
print(f'1 -  {numbers[myNGOs[0]][0].strip()}')
print(f'2 -  {numbers[myNGOs[1]][0].strip()}')
```

Applications:

Numerous studies from around the world have inferred that depression, stress, and anxiety can be kept in check with regular journaling. But in this fast-paced, substantially online world, who has the time or money to spend time on pen and paper journaling?

Here is where our program - Mindfully, comes in. With options for entering voice notes, as well as typed records as your journal entry, Mindfully keeps the time you need to spend journaling to a minimal, as recording voice notes and typing, are both faster, more efficient ways of making records. This way, journaling can also be done when you're traveling, or are somewhere with no immediate pen-paper access.

Moreover, Mindfully gives you a mood analysis graph based on your entries, which help you be more aware of your strong, confusing emotions.

Lastly, Mindfully also provides you with the helpline numbers of numerous organizations, based on the keywords that you have entered. This way, if you're in need of immediate help for your mental-health, you don't have to go anywhere else!

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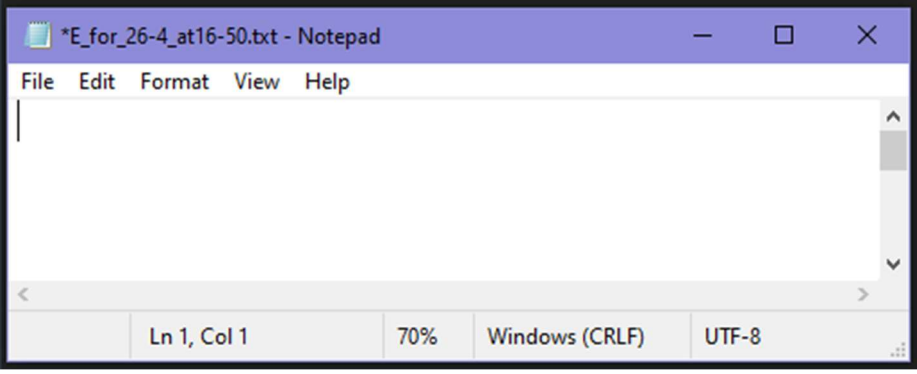
Simulation results:

```
Good evening, Arushi - Welcome to Mindfully!
"To be without some of the things you want is an indispensable part of happiness." - Bertrand
Russell

    What do you want to do now?
    1. Make a new entry
    2. Go to older entries
    3. Get help
or - Enter Z to exit Mindfully

ENTER 1/2/3/Z > 1
Found a new entry!
Converting your beautiful voice note to text...
Done!
Recorded in a text file!
Excellent work with the journalling!
```

```
Good evening, Arushi - Welcome to Mindfully!
"Happiness is not a goal; it is a by-product." - Eleanor Roosevelt

    What do you want to do now?
    1. Make a new entry
    2. Go to older entries
    3. Get help
or - Enter Z to exit Mindfully

ENTER 1/2/3/Z > 1
No new audio entries found! Don't cut back on your journalling :'(

Want to make a text entry? Y/N > y
```




```
Enter D when done > d
Recorded in a text file!
Excellent work with the journalling!
```

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```
Good evening, Arushi - Welcome to Mindfully!
"Cheerfulness is what greases the axles of the world. Don't go through life creaking." - H.W.
Byles

    What do you want to do now?
    1. Make a new entry
    2. Go to older entries
    3. Get help
or - Enter Z to exit Mindfully

ENTER 1/2/3/Z > 2
Here's your mood analysis for your last 3 entries...
```

```
Here are your older entries -

1) On 26th April, at 4:20 PM
today I am going to my college which is in Delhi I will be m...

2) On 26th April, at 4:29 PM
today is going to be a great day I already know it it's my b...
```

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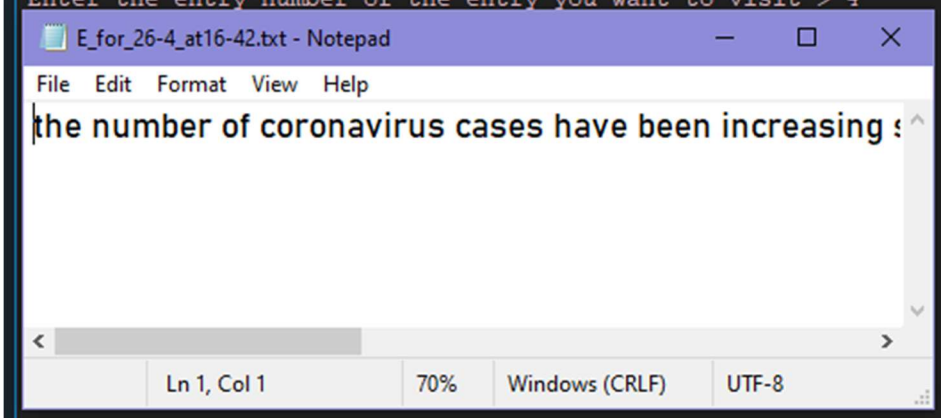
```
3) On 26th April, at 4:32 PM
I am sad today we got our exam results back and I have score...

4) On 26th April, at 4:42 PM
the number of coronavirus cases have been increasing substan...


Want to see the files? Y/N > y

Enter the entry number of the entry you want to visit > 4
```




```
Good evening, Arushi - Welcome to Mindfully!
"Happiness is not being pained in body or troubled in mind." - Thomas Jefferson

    What do you want to do now?
    1. Make a new entry
    2. Go to older entries
    3. Get help
or - Enter Z to exit Mindfully

ENTER 1/2/3/Z > 3

Enter 3 or more words about what you need help with (separate using , or spaces > depression
mental health

Here's the help you needed -
1 -  +91-8322252525
2 -  91-8686139139
```

```
    What do you want to do now?
    1. Make a new entry
    2. Go to older entries
    3. Get help
or - Enter Z to exit Mindfully

ENTER 1/2/3/Z > z
Bye-bye, see you soon!
```

Conclusion:

By the means of this project, my team members and I were able to understand and implement the basics of numerous extremely useful python libraries such as speech_recognition, nltk.sentiment.vader, csv, matplotlib.pyplot, pydub, os, requests, BeautifulSoup, etc..
Using the documentations available for said libraries, and then being able to adapt them to our requirements really simulated our minds, and challenged our creative thinking, as well as coding skills.