Course Name: Artificial Intelligence

Course Code: INT404

Topic: Voice Based Intelligent Virtual Assistance for Windows

Group: 12
Section: K18TM

Faculty Name: Dr. Dhanpratap Singh

GitHub Link: https://github.com/Ankush123456-code/AI-VirtualAssistant

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Introduction

Who doesn't want to have the luxury to own an assistant who always listens for your call, anticipates your every need, and takes action when necessary? That luxury is now available thanks to artificial intelligence-based voice assistants.

Voice assistants come in somewhat small packages and can perform a variety of actions after hearing your command. They can turn on lights, answer questions, play music, place online orders and do all kinds of AI-based stuff. Voice assistants are not to be confused with virtual assistants, which are people who work remotely and can, therefore, handle all kinds of tasks. Rather, voice assistants are technology based. As voice assistants become more robust, their utility in both the personal and business realms will grow as well.

What is a Voice Assistant?

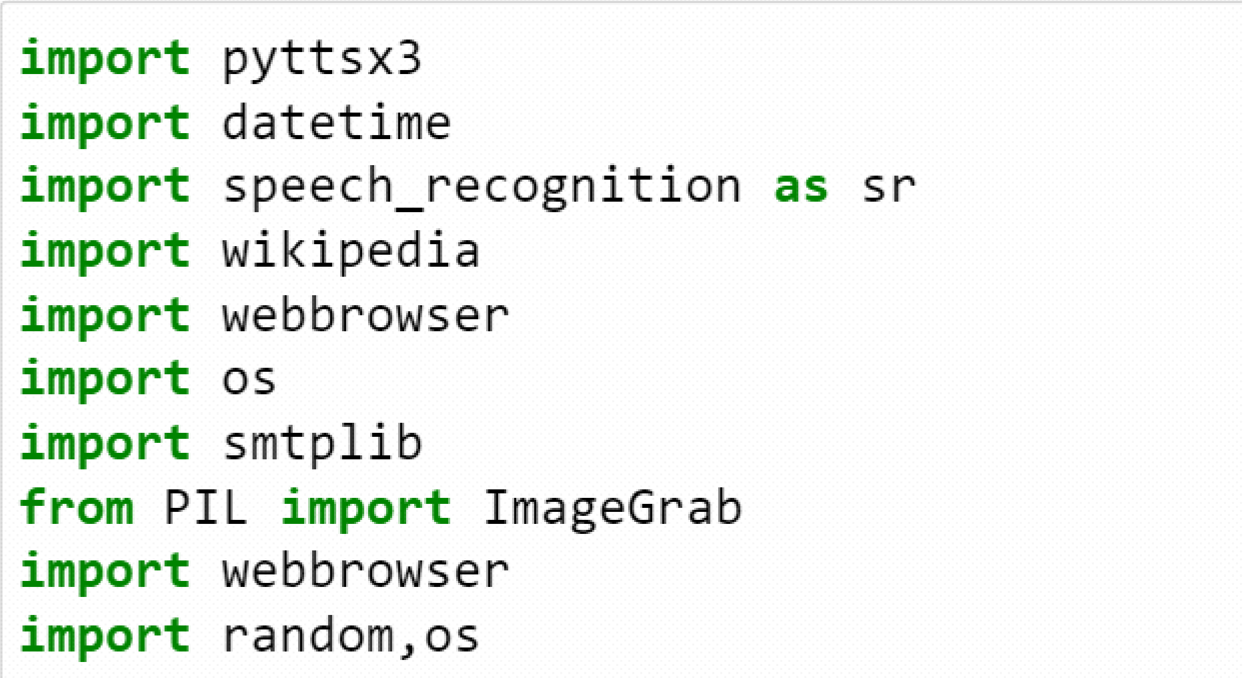
A **voice assistant** or **intelligent personal assistant** is a software agent that can perform tasks or services for an individual based on verbal commands i.e. by interpreting human speech and respond via synthesized voices. Users can ask their assistants' questions, control home automation devices, and media playback via voice, and manage other basic tasks such as email, to-do lists, open or close any application etc. with verbal commands.

Having said that, how cool it would be to build a simple voice-based desktop/laptop assistant that has the capability to: -
1. Open the subreddit in the browser.
2. Open any website in the browser.
3. Send an email to your contacts.
4. Launch any system application.
5. Tells you the current weather and temperature of almost any city
6. Tells you the current time.
7. Greetings
8. Play you a song on VLC media player (of course you need to have VLC media player installed in your laptop/desktop)
9. Change desktop wallpaper.
10. Tells you latest news feeds.
11. Tells you about almost anything you ask.

Dependencies and requirements:

System requirements: Python 2.7

PYTHON LIBRARIES:



```
import pyttsx3
import datetime
import speech_recognition as sr
import wikipedia
import webbrowser
import os
import smtplib
from PIL import ImageGrab
import webbrowser
import random,os
```

- **Pyttsx3:** It is a text-to-speech conversion library in Python. Unlike alternative libraries, it works offline, and is compatible with both Python 2 and 3.
- **Datetime:** Encapsulation of date/time values.

- **SpeechRecoginition**: Speech Recognition is an important feature in several applications used such as home automation, artificial intelligence, etc. This article aims to provide an introduction on how to make use of the SpeechRecognition library of Python. This is useful as it can be used on microcontrollers such as Raspberri Pis with the help of an external microphone.

- **Wikipedia: Wikipedia** is a Python library that makes it easy to access and parse data from Wikipedia. Search Wikipedia, get article summaries, get data like links and images from a page, and more. Wikipedia wraps the MediaWiki API so you can focus on using Wikipedia data, not getting it.

- **Webbrowser:** The **webbrowser module** provides a high-level interface to allow displaying Web-based documents to users. Under most circumstances, simply calling the **open() function** from this module will open url using the **default browser** . You have to import the module and use open() function.

- **PIL : Python Imaging Library** (abbreviated as **PIL**) (in newer versions known as Pillow) is a free library for the Python programming language that adds support for opening, manipulating, and saving many different image file formats.

  Pillow offers several standard procedures for image manipulation. These include:
- per-pixel manipulations,

- masking and transparency handling,

- image filtering, such as blurring, contouring, smoothing, or edge finding,

- image enhancing, such as sharpening, adjusting brightness, contrast or color,

- adding text to images and much more.

- **smtplib**: Simple Mail Transfer Protocol (SMTP) is a protocol, which handles sending e-mail and routing e-mail between mail servers.

  Python provides **smtplib** module, which defines an SMTP client session object that can be used to send mail to any Internet machine with an SMTP or ESMTP listener daemon.
- **Os:** The OS module in python provides functions for interacting with the operating system. OS, comes under Python's standard utility modules. This module provides a portable way of using operating system dependent functionality. The *os* and *os.path* modules include many functions to interact with the file system.

Conclusion: What the future holds

Throughout the history of computing, user interfaces have become progressively natural to use. The screen and keyboard were one step in this direction. The mouse and graphical user interface were another. Touch screens are the most recent development. The next step will most likely consist of a mix of augmented reality, gestures and voice commands. After

all, it is often easier to ask a question or have a conversation than it is to type something or enter multiple details in an online form.
The more a person interacts with voice-activated devices, the more trends, and patterns the system identifies based on the information it receives. Then, this data can be utilized to determine user preferences and tastes, which is a long-term selling point for making a home smarter. Google and Amazon are looking to integrate voice-enabled artificial intelligence capable of analyzing and responding to human emotion.

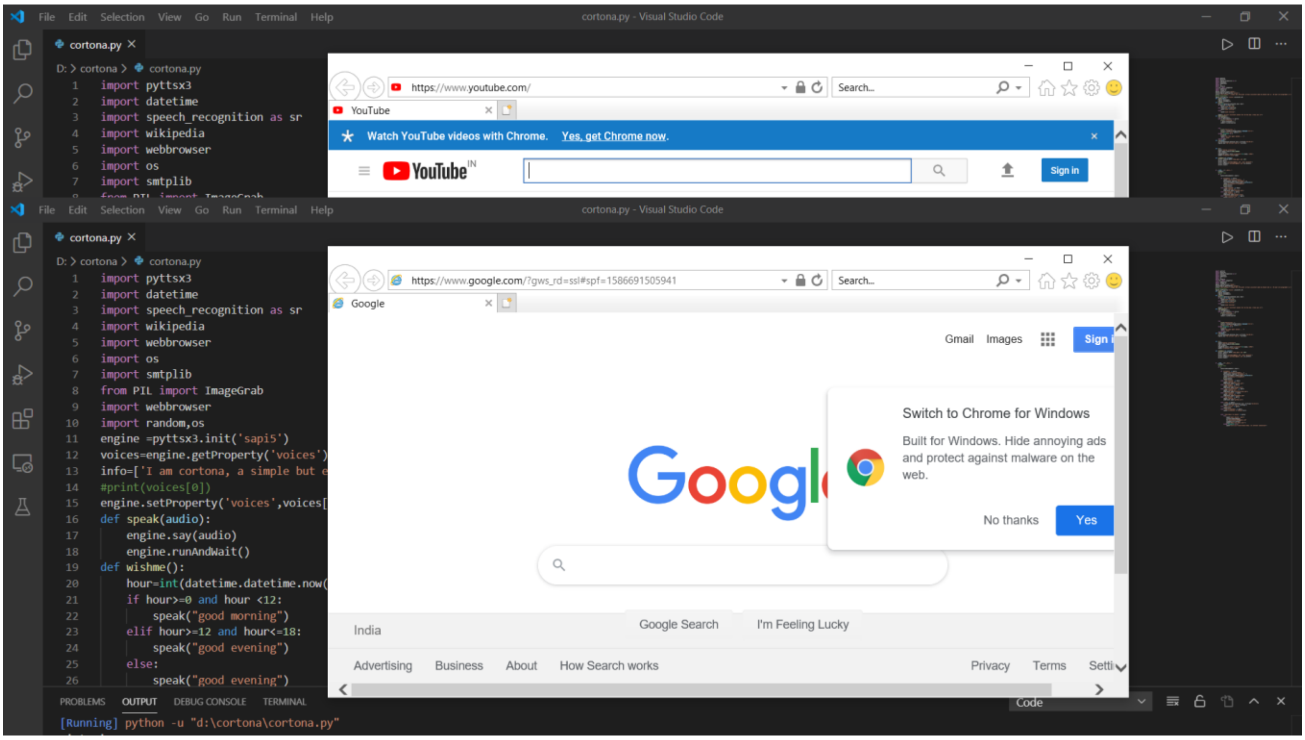
Code of project

```
import
pyttsx3
          import datetime
          import speech_recognition as sr
          import wikipedia
          import webbrowser
          import os
          import smtplib
          from PIL import ImageGrab
          import webbrowser
          import random,os
          engine =pyttsx3.init('sapi5')
          voices=engine.getProperty('voices')
          info=['I am cortona, a simple but efficient virtual assistant made by Ankush who is
          20 year old programmer in the epidemic of covid 19 of 2020']
          #print(voices[0])
          engine.setProperty('voices',voices[0].id)
          def speak(audio):
              engine.say(audio)
              engine.runAndWait()
          def wishme():
              hour=int(datetime.datetime.now().hour)
              if hour>=0 and hour <12:
                  speak("good morning")
              elif hour>=12 and hour<=18:
                  speak("good evening")
              else:
                  speak("good evening")

              speak("i am your assistant please tell me how may i help you sir")
          def takecommand():
              r=sr.Recognizer()
```

```
    with sr.Microphone() as source:
        print("Listening....")
        r.pause_threshold = 1
        audio=r.listen(source)



    try:
        print('Reconizing..')
        query=r.recognize_google(audio,language='en-in')
        print(f"user said: {query}\n")
    except Exception as e:
        print(e)
        speak("say that again please.....")
        return "none"
    return query
def time(data):
    current=datetime.datetime.now().strftime("%H:%M:%S")
    engine.say("The current time is "+current)



def ss():
    speak("taking screenshot")
    name=random.randint(1000,300000)
    time.sleep(5)
    ImageGrab.grab().save("screenshot"+str(name),"JPEG")
    speak("screenshot saved"+name)

def sendEmail(to,content):
    server =smtplib.SMTP('smtp.gmail.com',587)
    server.ehlo()
    server.login('youremail@gmail.com','your password')
    server.sendmail('youremail@gmail.com',to,content)
    server.close()



if __name__ =="__main__":
    wishme()
    #while True:
    if 1:
        query=takecommand().lower()

        if 'wikipedia' in query:
            speak('searching wikipedia...')
            query=query.replace('wikipedia',"")
            result=wikipedia.summary(query,sentences=2)
            speak("According to wikipedia")
            print(result)
            speak(result)
        elif 'open youtube' in query:
            speak('opening sir...')
            webbrowser.open("youtube.com")
        elif 'open google' in query:
            speak('opening sir...')
            webbrowser.open("google.com")
        elif 'open stackoverflow' in query:
            speak('opening sir...')
            webbrowser.open("stackoverflow.com")
        elif 'open facebook' in query:
            speak('opening sir...')
            webbrowser.open("facebook.com")
        elif 'open github' in query:
            speak('opening sir...')
            webbrowser.open('github.com')

        elif 'time' in query:
            strTime=datetime.datetime.now().strftime("%H:%M:%S")
            speak(f"sir the time is {strTime}")
        elif 'who are you' in query:
            speak(info)
        elif 'take Screenshot' in query:
            speak("screenshot is taking"+ss())


        elif 'send email to ankush' in query:
            try:
                speak("what should i say?")
                content=takecommand()
                to="ankushkumar1840@gmail.com"
                sendEmail(to,content)
                speak("Email has been sent!")
            except Exception as e:
                speak("sorry my friend Ankush bhai. no internet connection")
```

Some output of our virtual assistant

Open google chrome if you say



https://www.youtube.com/

Watch YouTube videos with Chrome. Yes, get Chrome now.

https://www.google.com/?gws_rd=ssl#spf=1586691505941

Switch to Chrome for Windows

Built for Windows. Hide annoying ads and protect against malware on the web.

No thanks Yes

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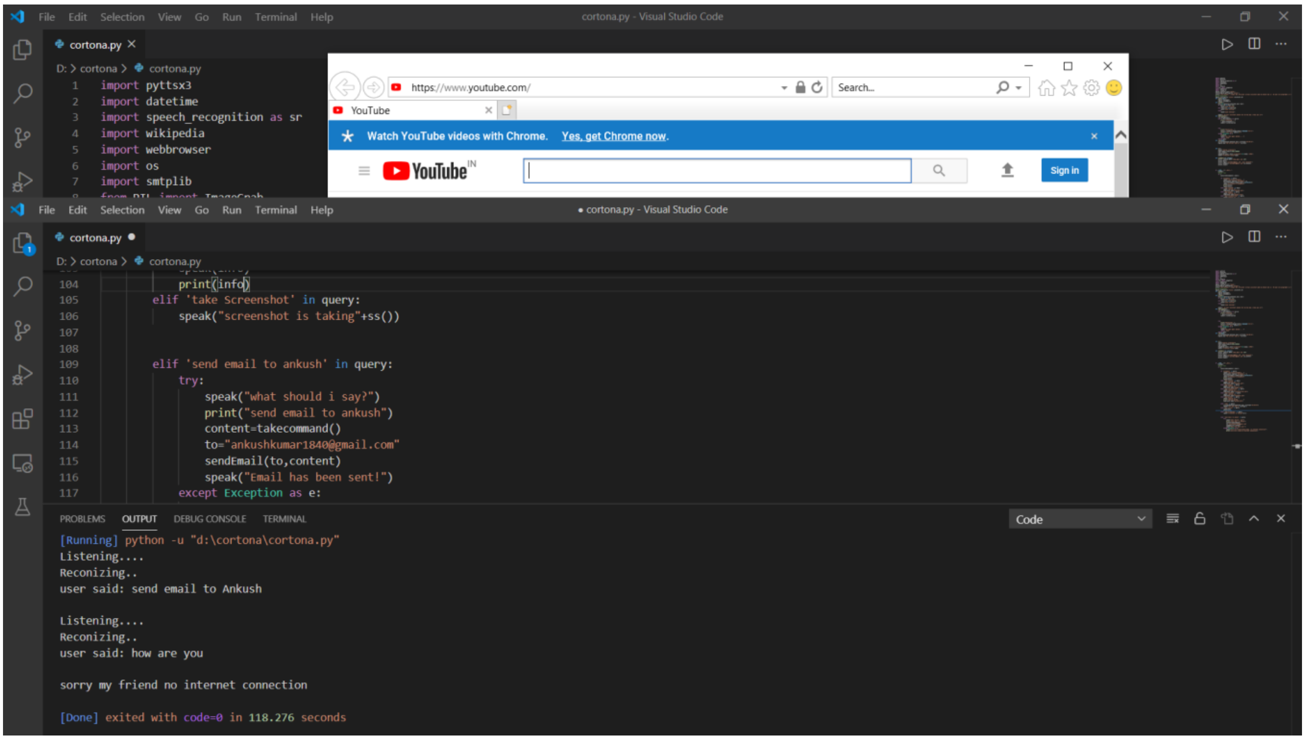
    engine.say(audio)
    engine.runAndWait()
def wishme():
    hour=int(datetime.datetime.now(
    if hour>=0 and hour <12:
        speak("good morning")
    elif hour>=12 and hour<=18:
        speak("good evening")
    else:
        speak("good evening")
```

```
[Running] python -u "d:\cortona\cortona.py"
```

If no internet connenction it say no internet connection



```
            print(info)
        elif 'take Screenshot' in query:
            speak("screenshot is taking"+ss())


        elif 'send email to ankush' in query:
            try:
                speak("what should i say?")
                print("send email to ankush")
                content=takecommand()
                to="ankushkumar1840@gmail.com"
                sendEmail(to,content)
                speak("Email has been sent!")
            except Exception as e:
```

```
[Running] python -u "d:\cortona\cortona.py"
Listening....
Reconizing..
user said: send email to Ankush

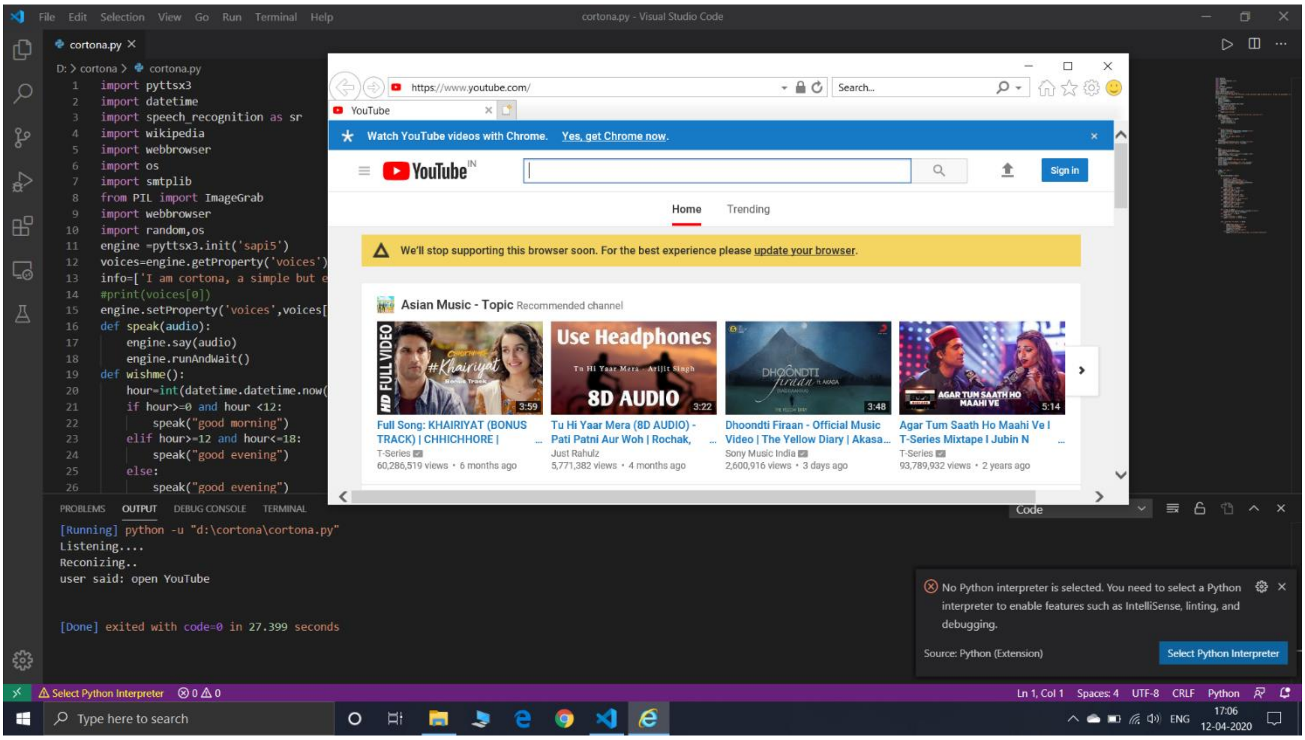
Listening....
Reconizing..
user said: how are you

sorry my friend no internet connection

[Done] exited with code=0 in 118.276 seconds
```

File Edit Selection View Go Run Terminal Help
cortona.py - Visual Studio Code
cortona.py
D: > cortona > cortona.py
https://www.youtube.com/
YouTube
Watch YouTube videos with Chrome. Yes, get Chrome now.
Sign in
PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
Code

Open youtube if you say



cortona.py - Visual Studio Code

D: > cortona > cortona.py

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    if hour>=0 and hour <12:
        speak("good morning")
    elif hour>=12 and hour<=18:
        speak("good evening")
    else:
        speak("good evening")
```

```
[Running] python -u "d:\cortona\cortona.py"
Listening....
Reconizing..
user said: open YouTube

[Done] exited with code=0 in 27.399 seconds
```

https://www.youtube.com/

Watch YouTube videos with Chrome. Yes, get Chrome now.

We'll stop supporting this browser soon. For the best experience please update your browser.

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No Python interpreter is selected. You need to select a Python interpreter to enable features such as IntelliSense, linting, and debugging.

Source: Python (Extension)

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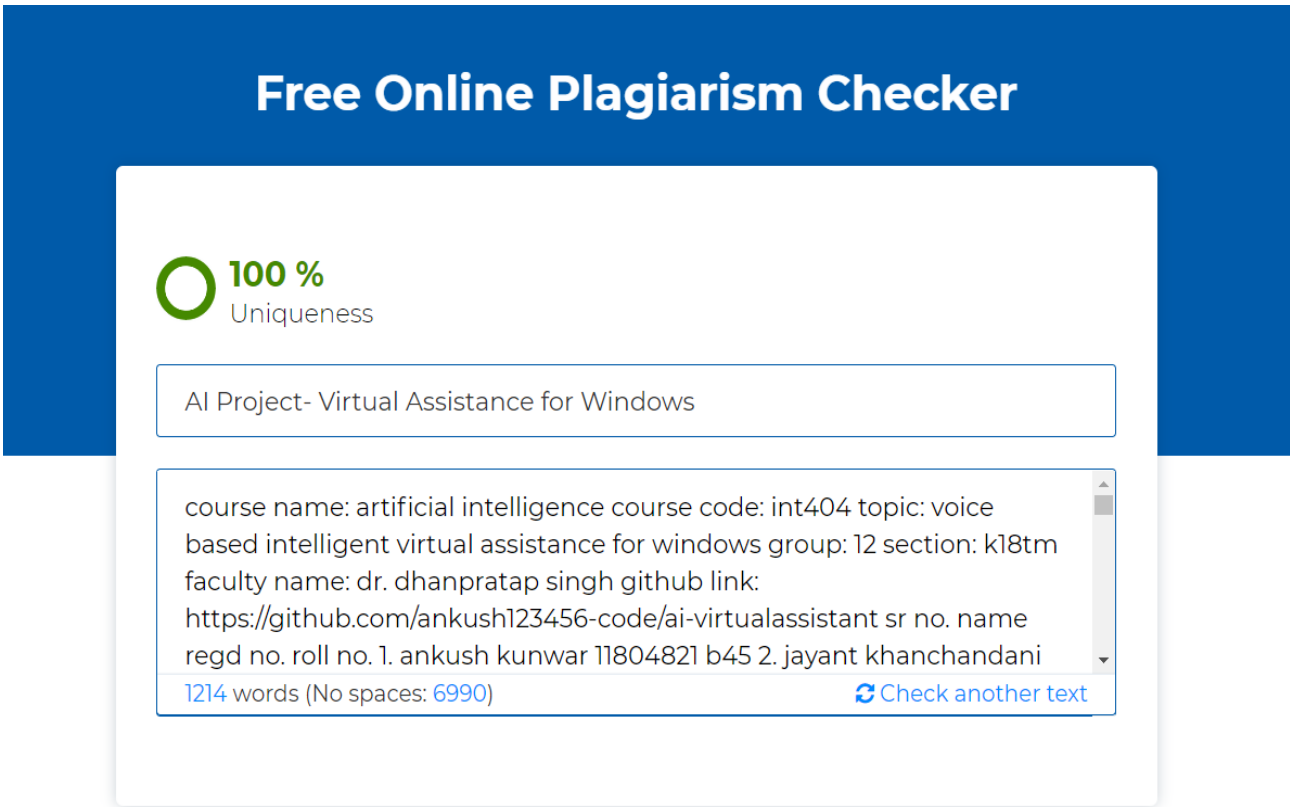

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AI Project- Virtual Assistance for Windows

course name: artificial intelligence course code: int404 topic: voice based intelligent virtual assistance for windows group: 12 section: k18tm faculty name: dr. dhanpratap singh github link: https://github.com/ankush123456-code/ai-virtualassistant sr no. name regd no. roll no. 1. ankush kunwar 11804821 b45 2. jayant khanchandani

1214 words (No spaces: 6990)