National University
of computer and emerging sciences

CS-3001

"Computer Networks"

"PROJECT REPORT"

PROJECT TITLE:

"Virtual Private Network(VPN)"

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Introduction:

VPN, which is built using the Python programming language. The project involves creating a client-server model that allows users to establish a private connection over the internet using Windscribe as the VPN server. To make the user interface more user-friendly, I have used Python's tkinter library to create graphical user interfaces (GUI) for the client to interact with. With this project users can protect their online activities and enjoy a more secure browsing experience.

Features:

- **Interactive user interface**
- **Encrypted Connection**
- **Fast & Efficient**
- **IP Spoofing**
- **Secure**
- **Bypass Geo-restrictions**
- **Anonymity**

What is Different in my Project:

The VPN project has several unique features that set it apart from other VPNs in the market. One distinguishing factor is the use of Python and tkinter for the client and server interfaces, which could make the project more accessible to a wider range of users. Additionally, the integration with Windscribe as the VPN server could appeal to users who already use Windscribe's VPN service. The project's fast and efficient connectivity, IP spoofing, reliable geo-restriction bypassing, anonymity, and strong encrypted connection further differentiate it from other VPN projects. These features provide users with a high level of security and privacy, making your VPN project a compelling choice for those seeking a secure online experience. Overall, project's combination of accessibility, security, and privacy make it a standout in the competitive VPN market.

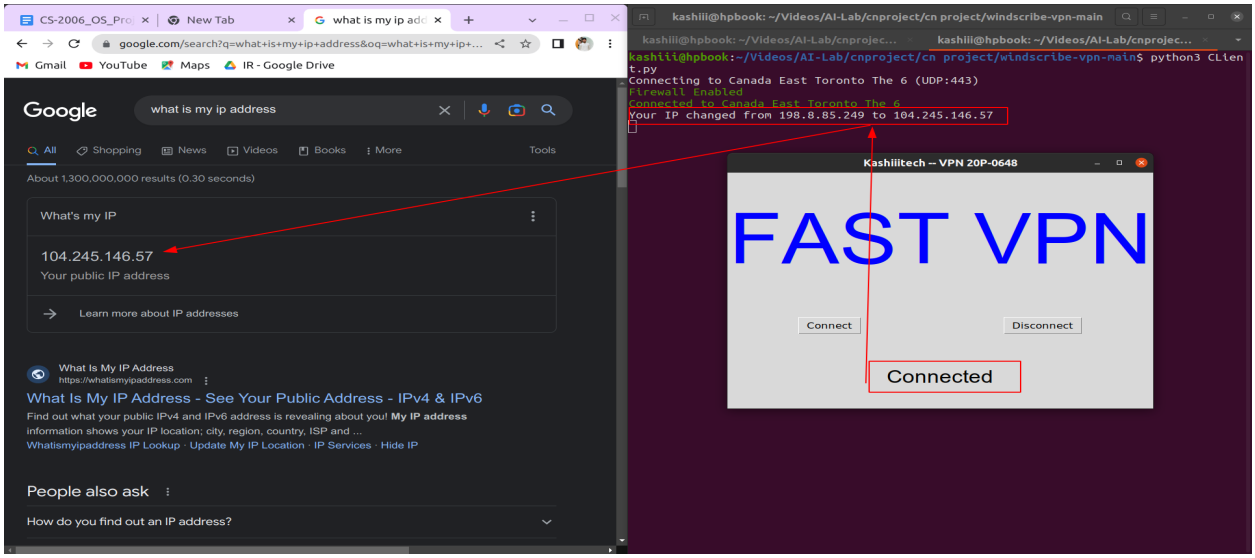
Tools & Libraries:

- Ubuntu
- Python
- tkinter
- Socket programming
- crypting
- Windscribe
- Vpn

Screenshots:

```
import socket
import ssl
from Crypto.Cipher import AES
import threading
import re

HOST = '127.0.0.1'
PORT = 9999
BUF_SIZE = 4096
blocklist = ["www.google.com", "www.youtube.com", "https://web.whatsapp.com/"]

BS = 16
def pad(s): return bytes(s + (BS - len(s) %
                              BS) * chr(BS - len(s) % BS), 'utf-8')


def unpad(s): return s[0:-ord(s[-1:])]


def do_encrypt(plaintext):
    obj = AES.new('This is a key123'.encode("utf-8"),
                  AES.MODE_CFB, 'This is an IV456'.encode("utf-8"))
    plaintext = pad(plaintext)
    ciphertext = obj.encrypt(plaintext)
    return ciphertext


def do_decrypt(ciphertext):
    obj2 = AES.new('This is a key123'.encode("utf-8"),
                   AES.MODE_CFB, 'This is an IV456'.encode("utf-8"))
    plaintext = unpad(obj2.decrypt(ciphertext))
    return plaintext.decode('utf-8')


def https(request, webserver, client_sock):
    context = ssl.SSLContext(ssl.PROTOCOL_TLSv1_2)
    server_sock = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    server_sock = context.wrap_socket(
        server_sock, server_hostname=webserver, do_handshake_on_connect=False)
    server_sock.connect((webserver, 443))
    server_sock.send(f"GET / HTTP/1.1\r\nHost: {webserver}\r\n\r\n ".encode())
```

```
import tkinter as tk
import vpn

def main():
    def connect():
        status_label.config(text="Connected")
        vpn.Click(True)

    def disconnect():
        status_label.config(text="Disconnected")
        vpn.Click(False)

    root = tk.Tk()
    root.title("Kashiiitech -- VPN 20P-0648")

    # Create widgets
    title_label = tk.Label(root, text="FAST VPN", font=("Arial", 80),
fg="blue")
    connect_button = tk.Button(root, text="Connect", command=connect)
    disconnect_button = tk.Button(root, text="Disconnect", command=disconnect)
    status_label = tk.Label(root, text="", font=("Arial", 20), pady=20)

    # Center widgets in window
    title_label.grid(row=0, column=0, columnspan=2, pady=50)
    connect_button.grid(row=1, column=0, padx=10, pady=20)
    disconnect_button.grid(row=1, column=1, padx=10, pady=20)
    status_label.grid(row=2, column=0, columnspan=2, pady=20)

    # Center window on screen
    root.update_idletasks()
    w = root.winfo_width()
    h = root.winfo_height()
    x = (root.winfo_screenwidth() // 2) - (w // 2)
    y = (root.winfo_screenheight() // 2) - (h // 2)
    root.geometry(f"{w}x{h}+{x}+{y}")

    root.mainloop()

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



Conclusion:

Finally, ThisVPN project has several unique features that could help it stand out from other VPNs in the market. By offering fast and efficient connectivity, IP spoofing, reliable geo-restriction bypassing, anonymity, and a strong encrypted connection, This can offer users a high level of security and privacy. Additionally, the use of Python and tkinter could make the project more accessible to developers and users alike. Overall, with its combination of robust security features and user-friendly interface, VPN project has the potential to be a compelling choice for users looking for a secure and private online experience.