

# **FINAL PROJECT**

## **“PHONE NUMBER TRACKER USING PYTHON”**

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## **PROJECT TITLE:**

“Phone Number Tracker Using Python”

## **OBJECTIVE:**

Track phone number details like location, carrier, and timezone to verify validity, ensuring secure and spam-free communication for users.

## **WHY PYTHON?**

- Reduce development time
- Reduce code length
- Easy to learn and use as developers
- Easy to understand codes

## **REAL LIFE APPLICATION:**

In real life, the phone number tracker project can help users identify unknown callers, avoid potential spam calls, and verify the legitimacy of international numbers. This practical application enhances communication security and provides valuable information about incoming calls.

### **1. Identifying Caller Information:**

The project can be used to identify information about a caller, such as their location and carrier, helping users recognize and verify incoming calls.

### **2. Avoid Unwanted Calls:**

You can use it to check if a strange number calling you is from a known company or if others have marked it as a spam call. This way, you can avoid picking up calls you don't want.

### **3. Verifying International Numbers:**

For users dealing with international contacts, the project aids in verifying the validity of phone numbers, ensuring they are correctly formatted and belong to valid carriers.

### **4. Enhancing Security:**

Businesses and individuals can use the phone number tracker to enhance security measures by validating phone numbers during account registrations or transactions, reducing the risk of fake or unauthorized entries.

### **5. Providing Location-Based Services:**

Location information obtained from the project can be beneficial for applications offering location-based services, such as delivery tracking or location-based promotions, where knowing the user's location is essential.

## PROJECT'S CODES

```
import tkinter as tk
from tkinter import messagebox
import phonenumbers
from phonenumbers import carrier, geocoder, timezone

def get_phone_info():
    mobileNo = entry.get()
    try:
        parsed_number = phonenumbers.parse(mobileNo)
        info_str = ""
        info_str += f"Is number valid: {phonenumbers.is_valid_number(parsed_number)}\n"
        info_str += f"Time Zone: {timezone.time_zones_for_number(parsed_number)}\n"
        info_str += f"Carrier Name: {carrier.name_for_number(parsed_number, 'en')}\n"
        info_str += f"Location: {geocoder.description_for_number(parsed_number, 'en')}\n"
        messagebox.showinfo("Phone Number Information", info_str)
    except phonenumbers.phonenumberutil.NumberParseException:
        messagebox.showerror("Error", "Invalid phone number format. Please try again.")

# Create main window
root = tk.Tk()
root.title("Phone Number Information Tool")

# Create labels and entry
label = tk.Label(root, text="Enter mobile number with country code:")
label.pack(pady=5)
entry = tk.Entry(root, width=30)
entry.pack(pady=5)

# Create button
button = tk.Button(root, text="Get Information", command=get_phone_info)
button.pack(pady=5)

# Run the main event loop
root.mainloop()
```

## **CODES IN DETAIL:**

### **How this code works:**

#### **1. Import tkinter library as tk:**

This line imports the **tkinter** library and assigns it the alias **tk**, commonly used for **tkinter**.

#### **2. From tkinter import messagebox:**

This line imports the **messagebox** module from the **tkinter** library.

#### **3. Import phonenumbers:**

This line imports the **phonenumbers** library, used for parsing, formatting, and validating international phone numbers.

#### **4. From phonenumbers import carrier, geocoder, timezone:**

This line imports specific modules (**carrier**, **geocoder**, **timezone**) from the **phonenumbers** library.

#### **5. Define the function get\_phone\_info():**

This function retrieves information about a phone number using the **phonenumbers** library.

#### **6. Retrieve the entered phone number from the entry widget:**

Gets the phone number entered by the user from the **entry** widget and stores it in the variable **mobileNo**.

**7. Try to parse the phone number using phonenumbers:**

Attempts to parse the entered phone number using the **phonenumbers** library.

**8. Build the information string using parsed number:**

Constructs a string with various pieces of information about the phone number.

**9. Display the information using a messagebox:**

Shows a messagebox with the gathered information about the phone number.

**10. Except block for handling invalid phone number format:**

Catches and handles an exception if the phone number has an invalid format.

**11. Create the main window using tkinter:**

Creates the main window for the graphical user interface (GUI) using **tkinter**.

**12. Set the title for the main window:**

Sets the title of the main window to "Phone Number Information Tool."

**13. Create labels and an entry widget:**

Creates a label and an entry widget for the user to enter a mobile number.

**14. Create a button for getting information:**

Creates a button that triggers the **get\_phone\_info** function to retrieve and display information when clicked.

**15. Run the main event loop:**

Starts the main event loop of the GUI, allowing user interaction and keeping the application running until the user closes the window.

## **REVIEW ABOUT CLASS AND BANO QABIL**

Studying at Bano Qabil Institute has been a wonderful experience. The institute provides excellent computer and AI classes in a supportive environment. The teaching tools are modern and effective, and our teacher at Bano Qabil Institute is not only cooperative but also makes learning Python enjoyable. We are grateful for the education received at Bano Qabil Institute.