OTP VERIFICATION SYSTEM

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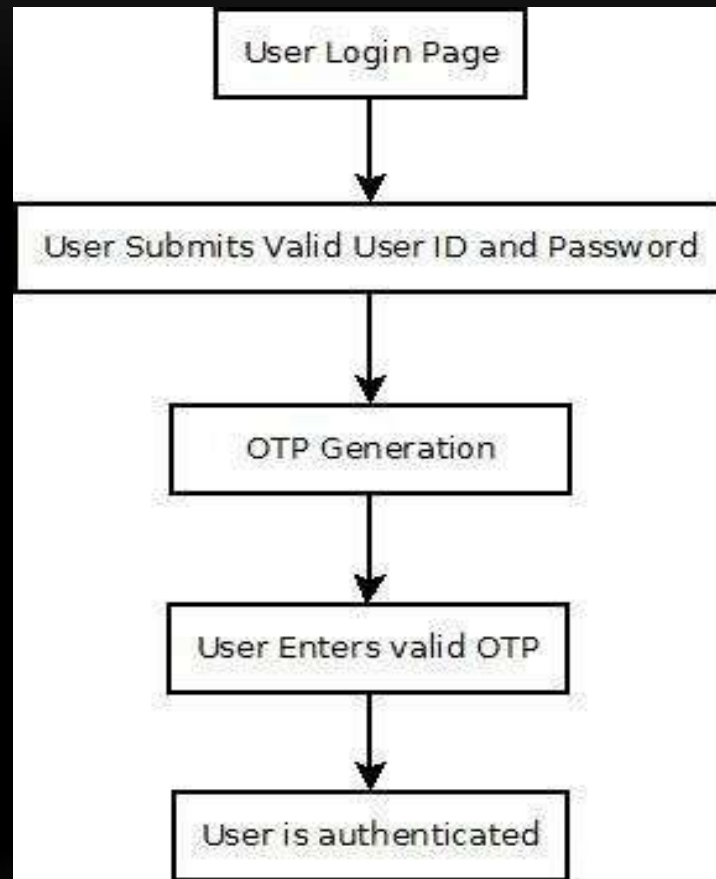| SL NO	TOPIC
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INTRODUCTION

- Security and privacy most important for an individual in software domain. So, we should access to only the authorized individual.authentication is necessary.That how otp helps. It is fixed length random number generated and sent to the individual verification the perosn enter for verification

- The purpose of this method involves:

- OTP generation

- Send otp to respective emails

- Otp validation (Maximum 3 attempts)

- Send verification gmails

- Problem statement: You are tasked with developing an OTP (One-Time Password) verification system in Python. The system should generate a 6-digit OTP and send it to the user's email address for verification. Upon receiving the OTP, the user should enter it into the system for validation. If the entered OTP matches the generated OTP, access should be granted; otherwise, access should be denied.

OBJECTIVE

- This project involves generating a 6-digit one-time password (OTP) and sending it via email to authenticate users. The OTP is generated randomly using Python libraries and sent to the provided email address. The user must then enter the OTP they receive to gain access.

PROJECT DIAGRAM

PROJECT REQUIREMENTS

- Implement a function to generate a 6-digit OTP randomly.

- Develop a function to simulate sending the OTP to the user's email address.

- Create a function to prompt the user to enter the OTP received in their email.

- Implement a function to verify if the entered OTP matches the generated OTP.

- Ensure proper error handling and user-friendly prompts throughout the system.

- Allow the user to retry OTP entry in case of incorrect input

HARDWARE AND SOFTWARE REQUIREMENTS

HARDWARE TOOLS	MINIMUM REQUIREMENTS
Processor	Dual core or above
Hard disk	4 GB
Ram	8GB
Monitor	17"" coloured
Mouse	Optical
keyboard	122

SOFTWARE TOOLS	MINIMUM REQUIREMENTS
Platform	Windows/linux
Os	wWndows/mac
Technology	Machine learning- python
Script language	Python
Ide	Pycharm

CODING VIDEO


```python
import string
import random
import smtplib
from email.mime.multipart import MIMEMultipart
from email.mime.text import MIMEText
from getpass import getpass


# OTP generation


OTP = "".join([random.choice(string.digits) for i in range(6)])


# creating email content

sub = "OTP Verification"
body = """
THIS OTP is sent as a part of small python project
Don't worry
Enter this OTP as verification system purposeam
""" + OTP
msg = MIMEMultipart()
msg["Subject"] = sub
msg.attach(MIMEText(body,
message = msg.as_string()

# sender email and passwon
```

OUTPUT SCREENSHOT

Enter your Email : amitkumarpaul720@gmail.com
Otp Sent to your Email please Check your email

Enter your Otp: 505052
Invalid OTP

You have 2 attempts left
Enter your OTP again:505053
OTP verified Succesfully

Process finished with exit code 0

OTP Verification   Inbox ×

A   **amitkumarpaul720@gmail.com**
to bcc: me ▼

THIS OTP is sent as a part of small python project
Don't worry
Enter this OTP as verification system purposeam
505053

OTP Verified 😊   Inbox ×

A   **amitkumarpaul720@gmail.com**
to bcc: me ▼

OTP Verified Succesfully
Thank You 😊

CONCLUSION

- OTP verification is one of the ways to ensure the identity of a person during transactions, registration, etc. OTP verification provides additional security along with the static password method. It also helps to reduce cyber crimes as the expiry time of OTP is just a few minutes. OTP verification is a very simple and feasible solution for any business or own private purpose.