

PROGRAM SPECIFICATIONS

NewsPaper Management Program

Our Python program, "NewspaperPal," functions as a comprehensive information management system catering to both customers and staff members. Featuring an aesthetically pleasing opening frame and menu structure, the program leverages MySQL database connectivity to handle customer subscriptions efficiently. User authentication is implemented to ensure secure interactions, allowing existing customers to manage subscriptions, view details, and effect changes, while new customers can seamlessly register with unique usernames and passwords. Staff members benefit from analytics functionalities, enabling them to analyze customer data, calculate total fees, and gain insights into subscription patterns. The program exhibits a user-friendly interface, incorporating time delays for visual appeal. Noteworthy features include robust error handling during registration and the utilization of looping structures for repetitive tasks. Overall, "NewspaperPal" serves as an effective tool for newspaper subscription management, combining database interaction, user authentication, and analytical capabilities for an enhanced user experience.

SOURCE CODE

```
import mysql.connector as sqltor
import time
from prettytable import PrettyTable

def opening_frame():
    print("*****")
    time.sleep(0.6)
    print("*   Welcome to NewspaperPal!   *")
    time.sleep(0.6)
    print("*   Your Source for Daily News   *")
    time.sleep(0.6)
    print("*****")
    time.sleep(0.6)

def print_menu_options():
    print("*****")
    time.sleep(0.6)
    print("*       NewspaperPal Menu       *")
    time.sleep(0.6)
```

```
print("*****")  
time.sleep(0.6)  
print("1] Existing Customer")  
time.sleep(0.6)  
print("2] New Customer")  
time.sleep(0.6)  
print("3] Staff member")  
print("*****")
```

```
def print_customer_menu():
```

```
    print("*****")  
    time.sleep(0.6)  
    print("*      Customer Menu      *")  
    time.sleep(0.6)  
    print("*****")  
    print("1] View Subscriptions")  
    time.sleep(0.6)  
    print("2] View Subscription Duration")  
    time.sleep(0.6)  
    print("3] View Publication")  
    time.sleep(0.6)  
    print("4] View All Subscriptions")
```

```
time.sleep(0.6)  
print("5] Add a Subscription")  
time.sleep(0.6)  
print("6] Change Username and Password")  
time.sleep(0.6)  
print("7] Exit")  
time.sleep(0.6)  
print("*****")
```

```
def print_registration_menu():
```

```
    print("*****")  
    time.sleep(0.6)  
    print("*      Registration Menu      *")  
    time.sleep(0.6)  
    print("*****")  
    time.sleep(0.6)  
    print("1] Continue Registration")  
    time.sleep(0.6)  
    print("2] Back to Main Menu")  
    time.sleep(0.6)  
    print("*****")
```

```

def staff_menu():

    print("*****")

    time.sleep(0.6)

    print("*          Staff Member Menu          *")

    time.sleep(0.6)

    print("*****")

    time.sleep(0.6)

    print("1] View All Customer Names")

    time.sleep(0.6)

    print("2] Calculate Total Fee of Each customer")

    time.sleep(0.6)

    print("3] Calculate Total No. of Newspaper Publications")

    time.sleep(0.6)

    print("4] Display All NewsPaper Publications")

    time.sleep(0.6)

    print("5] Display Data of a Customer ")

    time.sleep(0.6)

    print("6] Display a specific Newspaper publicaiton data")

    time.sleep(0.6)

    print("7] Display subscription by duration")

    time.sleep(0.6)

    print("8] Display expiring subscriptions")

```

```
time.sleep(0.6)
```

```
print("9] Display most subscribed newspaper")
```

```
time.sleep(0.6)
```

```
print("10] Exit")
```

```
time.sleep(0.6)
```

```
print("*****")
```

```
# Display the opening frame
```

```
opening_frame()
```

```
time.sleep(2)
```

```
mycon = sqltor.connect(host='localhost', user='new_user',  
    password='password', database='newspaperpal')
```

```
if mycon.is_connected():
```

```
    print("Connection is Successful")
```

```
else:
```

```
    print("Not able to connect to the database")
```

```
cursor = mycon.cursor()
```

```

def login(username, password):
    query = f"SELECT * FROM login WHERE username='{username}'
    AND password='{password}'"
    cursor.execute(query)
    result = cursor.fetchone()
    return result is not None

def view_all_customer_names():
    query = "SELECT cname FROM customerdata"
    cursor.execute(query)
    customers = cursor.fetchall()

    if customers:
        print("### All Customer Names ###")
        time.sleep(0.6)
        for customer in customers:
            print(customer[0])
    else:
        print("No customers found.")

```

```

def calculate_total_prices():
    query = "SELECT SUM(price) FROM customerdata"
    cursor.execute(query)
    total_prices = cursor.fetchone()[0]

    if total_prices:
        print(f"Total Prices: {total_prices}")
    else:
        print("No prices found.")

def calculate_total_publications():
    query = "SELECT COUNT(DISTINCT newspaperpublication) FROM
customerdata"
    time.sleep(0.6)
    cursor.execute(query)
    total_publications = cursor.fetchone()[0]

    if total_publications:
        print(f"Total Publications: {total_publications}")
    else:
        print("No publications found.")

```



```

def display_customer_data(username):

    query = f"SELECT * FROM customerdata WHERE
    cname='{username}'"

    cursor.execute(query)

    time.sleep(0.6)

    customer_data = cursor.fetchall()

    if customer_data:

        print(f"### Customer Data for {username} ###")

        time.sleep(0.6)

        table = PrettyTable(["Subscription ID", "Publication", "Duration",
        "Price"])

        for data in customer_data:

            table.add_row([data[0], data[1], data[2], data[3]])

        print(table)

    else:

        print(f"No data found for customer: {username}")

def view_subscriptions_by_duration_range(min_duration, max_duration):

    query = f"SELECT cname, newspaperpublication, duration FROM
    customerdata WHERE duration BETWEEN {min_duration} AND
    {max_duration}"

```

```
cursor.execute(query)
```

```
subscriptions_in_range = cursor.fetchall()
```

```
if subscriptions_in_range:
```

```
    print("\nSubscriptions in Duration Range:")
```

```
    print("=====")
```

```
    for data in subscriptions_in_range:
```

```
        print(f"{data[0]} - {data[1]}: {data[2]} days")
```

```
else:
```

```
    print("No subscriptions found in the specified duration range.")
```

```
def display_all_publications():
```

```
    query = "SELECT DISTINCT newspaperpublication FROM  
customerdata"
```

```
    cursor.execute(query)
```

```
    publications = cursor.fetchall()
```

```
if publications:
```

```
    print("### All Publications ###")
```

```
    table = PrettyTable(["Publication"])
```

```
    for publication in publications:
```

```
        table.add_row([publication[0]])

    print(table)

else:

    print("No publications found.")
```

```
def search_newspaper_data(newspaper_name):

    query = f"SELECT * FROM customerdata WHERE
    newspaperpublication = '{newspaper_name}'"

    cursor.execute(query)

    newspaper_data = cursor.fetchall()

    if newspaper_data:

        print(f"\nData for '{newspaper_name}':")

        print("=====")

        for data in newspaper_data:

            print(f"Customer ID: {data[0]}")

            print(f"Newspaper Publication: {data[1]}")

            print(f"Subscription Duration: {data[2]} days")

            print("-----")

    else:

        print(f"No data found for '{newspaper_name}'.")
```

```

def display_expiring_subscriptions(days_threshold=7):
    query = f"SELECT cname, MAX(duration) AS max_duration FROM
customerdata GROUP BY cname HAVING max_duration <=
{days_threshold}"
    cursor.execute(query)
    expiring_subscriptions = cursor.fetchall()

    if expiring_subscriptions:
        print("\nCustomers with Expiring Subscriptions:")
        print("=====")
        for data in expiring_subscriptions:
            print(f"{data[0]}: {data[1]} days remaining")
    else:
        print("No customer data found.")

```

```

def display_most_subscriptions():
    query = "SELECT cname, COUNT(*) AS subscription_count FROM
customerdata GROUP BY cname ORDER BY subscription_count
DESC"
    cursor.execute(query)
    most_subscriptions = cursor.fetchall()

```

```

if most_subscriptions:

    print("\nCustomers with Most Subscriptions:")

    print("=====")

    for data in most_subscriptions:

        print(f'{data[0]}: {data[1]} subscriptions')

else:

    print("No customer data found.")

```

```

def check_credentials(username, password):

    query = f'SELECT * FROM login WHERE username='{username}'
AND password='{password}'

    cursor.execute(query)

    result = cursor.fetchone()

    return result is not None

```

```

def display_subscriptions(username):

    query = f'SELECT newspaperpublication,subscription FROM
customerdata WHERE cname='{username}'

    cursor.execute(query)

```

```
subscriptions = cursor.fetchall()
```

```
if subscriptions:
```

```
    for subscription in subscriptions:
```

```
        print(subscription)
```

```
else:
```

```
    print("No subscriptions found for this user.")
```

```
def change_subscription_duration(username):
```

```
    query = f"SELECT subscription FROM customerdata WHERE
```

```
cname='{username}'"
```

```
    cursor.execute(query)
```

```
    subscriptions = cursor.fetchall()
```

```
    if subscriptions:
```

```
        for subscription in subscriptions:
```

```
            print(subscription)
```

```
    else:
```

```
        print("No subscriptions duration found for this user.")
```

```
    pass
```

```
def change_publication(username):
```

```
    query = f"SELECT newspaperpublication FROM cusotmerdata
```

```
WHERE cname='{username}'"
```

```
cursor.execute(query)
```

```
subscriptions = cursor.fetchall()
```

```
if subscriptions:
```

```
    for subscription in subscriptions:
```

```
        print(subscription)
```

```
else:
```

```
    print("No subscriptions duration found for this user.")
```

```
pass
```

```
def all_subscription(username):
```

```
    query = f"SELECT * FROM customerdata WHERE
```

```
cname='{username}'"
```

```
    cursor.execute(query)
```

```
    subscriptions = cursor.fetchall()
```

```
if subscriptions:
```

```
    for subscription in subscriptions:
```

```
        print(subscription)
```

```
else:
```

```
    print("No subscriptions duration found for this user.")
```

```
    pass
```

```

def add_newspaper_subscription(username):
    print("### Add Newspaper Subscription ###")
    newspaper_publication = input("Enter the newspaper publication: ")
    subscription_duration = int(input("Enter the subscription duration (in
days): "))

    # Insert the subscription data into the customerdata table
    cursor.execute("INSERT INTO customerdata (uid,
newspaperpublication, duration) VALUES (%s, %s, %s)",
                    (username, newspaper_publication, subscription_duration))
    mycon.commit()
    print("Newspaper subscription added successfully!\n")

```

```

def change_username_password(username, password=123):
    # Check if the provided username and password are valid
    if check_credentials(username, password):
        new_username = input("Enter a new username: ")
        time.sleep(0.6)
        new_password = input("Enter a new password: ")

```



```

# Check if the new username is already taken

cursor.execute(f"SELECT * FROM login WHERE username =
{new_username}")

time.sleep(0.6)

existing_user = cursor.fetchone()


if existing_user:

    print("Username already exists. Please choose a different
username.")

    time.sleep(0.6)


else:

    # Update the username and password in the database

    cursor.execute("UPDATE login SET username = %s, password =
%s WHERE username = %s AND password = %s",
(new_username, new_password, username, password))

    mycon.commit()

    time.sleep(0.6)

    print("Username and password changed successfully!\n")

else:

    print("Invalid credentials. Unable to change username and
password.")

```

```
# Main  
  
print("Welcome!")  
  
time.sleep(0.75)  
  
print_menu_options()  
  
print("Press '1' for old customer and '2' for new customer")  
  
time.sleep(0.75)  
  
n = int(input("Enter the number:- "))  
  
time.sleep(1.25)  
  
  
if n == 1:  
  
    username = input("Enter your username: ")  
  
    time.sleep(0.6)  
  
    password = input("Enter your Password: ")  
  
  
    if check_credentials(username, password):  
  
        while True:  
  
            print_customer_menu()  
  
            number = int(input("Enter the number: "))  
  
            time.sleep(0.75)
```

if number == 1:

display_subscriptions(username)

elif number == 2:

change_subscription_duration(username)

elif number == 3:

change_publication(username)

elif number == 4:

all_subscription(username)

elif number == 5:

add_newspaper_subscription(username)

elif number == 6:

change_username_password(username)

else:

print("Please enter a valid number!!")

repeat = input("Do you want to repeat? (yes/no)").lower()

if repeat != "yes":

break

else:

print("Invalid credentials")

elif n == 2:

print("### New Customer Registration ###")

time.sleep(0.6)

new_username = input("Enter a new username: ")

time.sleep(0.6)

new_password = input("Enter a new password: ")

time.sleep(0.6)

Check if the username is already taken

cursor.execute(f"SELECT * FROM login WHERE username =

'{new_username}')

time.sleep(0.6)

existing_user = cursor.fetchone()

if existing_user:

print("Username already exists. Please choose a different username.")

else:

Insert new customer data into the database

```
cursor.execute("INSERT INTO login (username, password) VALUES  
(%s, %s)", (new_username, new_password))  
mycon.commit()  
print("Registration successful!\n")
```

if check_credentials(username, password):

while True:

```
    print("Select the number:- ")  
    time.sleep(0.75)  
    print("1]To see your subscriptions")  
    time.sleep(0.75)  
    print("2]To view the subscription duration")  
    time.sleep(0.75)  
    print("3]To view the publication")  
    time.sleep(0.75)  
    print("4]To view all subscription")  
    time.sleep(0.75)  
    print("5]To add a Subscription")  
    time.sleep(0.75)
```

```
print("6]To Change your username and password")
```

```
number = int(input("Enter the number: "))
```

```
time.sleep(0.75)
```

```
if number == 1:
```

```
    display_subscriptions(username)
```

```
elif number == 2:
```

```
    change_subscription_duration(username)
```

```
elif number == 3:
```

```
    change_publication(username)
```

```
elif number == 4:
```

```
    all_subscription(username)
```

```
elif number == 5:
```

```
    add_newspaper_subscription(username)
```

```
elif number == 6:
```

```
    change_username_password(username)
```

else:

print("Please enter a valid number!!")

time.sleep(0.6)

repeat = input("Do you want to repeat? (yes/no)").lower()

if repeat != "yes":

break

elif n == 3:

print("### Staff Member Login ###")

staff_username = input("Enter your username: ")

time.sleep(0.6)

staff_password = input("Enter your password: ")

time.sleep(0.6)

if login(staff_username, staff_password):

print("Login successful!\n")

while True:

staff_menu()

time.sleep(0.6)

```
choice = input("Enter the number: ")
```

```
if choice == '1':
```

```
    view_all_customer_names()
```

```
elif choice == '2':
```

```
    calculate_total_prices()
```

```
elif choice == '3':
```

```
    calculate_total_publications()
```

```
elif choice == '4':
```

```
    display_all_publications()
```

```
elif choice == '5':
```

```
    name=input("Enter the customer name:- ")
```

```
    display_customer_data(name)
```

```
elif choice=='6':
```

```
    newspaper = input("Enter the newspaper you want to search for: ")
```

```
    search_newspaper_data(newspaper)
```


elif choice=='7':

**a,b = int(input("input the range between which you want to view
the subscription: "))**

view_subscriptions_by_duration_range(a,b)

elif choice=='8':

display_expiring_subscriptions()

elif choice == '9':

display_most_subscriptions()

elif choice == '10':

print("Exiting program. Goodbye!")

break

else:

print("Please enter a valid number!")

else:

print("Invalid credentials. Login failed.")

else:

print("Please enter a valid number!!")

mycon.close()

Console outputs

```
*****
*      Welcome to NewspaperPal!      *
*      Your Source for Daily News    *
*****
Connection is Successful
Welcome!
*****
*              NewspaperPal Menu          *
*****
1] Existing Customer
2] New Customer
3] Staff member
*****
Press '1' for old customer and '2' for new customer
Enter the number:-

Press '1' for old customer and '2' for new custome
Enter the number:- 1
Enter your username: Anita Yadav
Enter your Password: 123
*****
*              Customer Menu              *
*****
1] View Subscriptions
2] View Subscription Duration
3] View Publication
4] View All Subscriptions
5] Add a Subscription
6] Change Username and Password
7] Exit
*****
```

```

*****
*                               *
*           Customer Menu       *
*                               *
*****
1] View Subscriptions
2] View Subscription Duration
3] View Publication
4] View All Subscriptions
5] Add a Subscription
6] Change Username and Password
7] Exit
*****
Enter the number: 4
('Anita Yadav', 'The Telegraph', '2 months', '170 rs')
('Anita Yadav', 'Mid Day', '3 months', '270 rs')
('Anita Yadav', 'The Telegraph', '3 months', '270 rs')

```

```

*****
*                               *
*           Customer Menu       *
*                               *
*****
1] View Subscriptions
2] View Subscription Duration
3] View Publication
4] View All Subscriptions
5] Add a Subscription
6] Change Username and Password
7] Exit
*****
Enter the number: 2
('2 months',)
('3 months',)
('3 months',)
Do you want to repeat? (yes/no)yes
.....

```

MYSQL

```
mysql> select * from customerdata;
```

cname	newspaperpublication	subscription	price
John	Times of India	1 month	10 rs
John	Economic Times	1 month	7 rs
John	Pune Mirror	2 month	18 rs
Walter	Economic Times	4 month	48rs
Walter	Lokmat	4 month	48rs
Walter	Sakal	2 month	12rs
Rahul Kumar	The Times of India	1 month	150 rs
Priya Sharma	Hindustan Times	2 months	200 rs
Amit Patel	The Hindu	3 months	300 rs
Neha Singh	Indian Express	1 month	120 rs
Raj Gupta	Dainik Bhaskar	2 months	180 rs
Pooja Verma	Deccan Chronicle	1 month	130 rs
Sanjay Mishra	Mumbai Mirror	3 months	250 rs
Anita Yadav	The Telegraph	2 months	170 rs
Vikas Rajput	Business Standard	1 month	140 rs
Sneha Das	DNA India	2 months	190 rs

```
mysql> select * from customerdata;
```

cname	newspaperpublication	subscription	price
John	Times of India	1 month	10 rs
John	Economic Times	1 month	7 rs
John	Pune Mirror	2 month	18 rs
Walter	Economic Times	4 month	48rs
Walter	Lokmat	4 month	48rs
Walter	Sakal	2 month	12rs
Rahul Kumar	The Times of India	1 month	150 rs
Priya Sharma	Hindustan Times	2 months	200 rs
Amit Patel	The Hindu	3 months	300 rs
Neha Singh	Indian Express	1 month	120 rs
Raj Gupta	Dainik Bhaskar	2 months	180 rs
Pooja Verma	Deccan Chronicle	1 month	130 rs
Sanjay Mishra	Mumbai Mirror	3 months	250 rs
Anita Yadav	The Telegraph	2 months	170 rs
Vikas Rajput	Business Standard	1 month	140 rs
Sneha Das	DNA India	2 months	190 rs
Ravi Saxena	The Economic Times	1 month	160 rs
Arpita Singh	The Pioneer	3 months	280 rs
Alok Tiwari	Navbharat Times	2 months	210 rs
Meera Reddy	The Statesman	1 month	110 rs
Rahul Verma	The Hindustan Samachar	3 months	270 rs
Swati Kapoor	The Tribune	2 months	220 rs
Aryan Sharma	The Mint	1 month	170 rs
Nisha Gupta	Rajasthan Patrika	2 months	200 rs
Vishal Singh	The Asian Age	1 month	150 rs
Anjali Pandey	Mid Day	3 months	260 rs
Rahul Kumar	The Tribune	1 month	170 rs
Priya Sharma	Indian Express	3 months	200 rs
Amit Patel	The Economic Times	2 months	150 rs
Neha Singh	The Statesman	2 months	190 rs
Raj Gupta	The Telegraph	1 month	250 rs
Pooja Verma	Dainik Bhaskar	2 months	130 rs
Sanjay Mishra	Deccan Chronicle	1 month	160 rs
Anita Yadav	Mid Day	3 months	270 rs
Vikas Rajput	Hindustan Times	1 month	140 rs
Sneha Das	DNA India	3 months	180 rs
Ravi Saxena	Rajasthan Patrika	1 month	110 rs
Arpita Singh	The Asian Age	2 months	220 rs
Alok Tiwari	Mumbai Mirror	2 months	300 rs
Meera Reddy	The Times of India	1 month	200 rs
Rahul Verma	The Pioneer	3 months	170 rs
Swati Kapoor	The Mint	1 month	140 rs
Aryan Sharma	Business Standard	2 months	270 rs
Nisha Gupta	Navbharat Times	3 months	150 rs
Vishal Singh	The Hindustan Samachar	2 months	110 rs
Anjali Pandey	The Hindu	1 month	260 rs
Rahul Kumar	Mid Day	3 months	170 rs
Priya Sharma	The Economic Times	1 month	200 rs
Amit Patel	Dainik Bhaskar	2 months	150 rs
Neha Singh	The Mint	1 month	190 rs
Raj Gupta	Rajasthan Patrika	2 months	250 rs
Pooja Verma	The Pioneer	2 months	130 rs

BIBLIOGRAPHY

1. <https://www.google.com/>
2. <https://www.w3schools.com/>
3. <https://www.geeksforgeeks.org/>
4. <https://www.youtube.com/>
5. NCERT Computer Science Textbook