Group 18's Python Project Report

Newspaper Information Management System

Nguyễn Đức Thắng - BI10-160

Lê Đức Mạnh - BI10-110

Trần Dũng - BI9-074

Đàm Thận Long - BA9-040

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1. Introduction

First of all, we would like to thanks professor Tran Giang Son for giving us a chance to develop our skills about Python programming and also presentation.

About our project
We made this report to specify the details of our program about Newspaper Information Management System.

Project summary
- Project title: Newspaper Information Management System.

- Contributors:

  ❖ Nguyễn Đức Thắng: Developer, code, demo, images.
  ❖ Đàm Thận Long: Database diagram, images, report.
  ❖ Lê Đức Mạnh: Slides, demo, images.
  ❖ Trần Dũng: Presentation, slides, report.

- Users: Newspaper readers.

- Functions: Add, delete, view the contents, titles and author of every news or advertisements on the page.

About our program
- This is a simple project (we will try to make it better in the future) that helps you to easily receive, store and export basic information in text and number form about the critical ongoing events worldwide like the online newspaper VNExpress. Two main data of the newspaper are articles and advertising information. We utilize the convenience of science to distribute newspaper instead of the old hectic manual technique.

- The program was built using POP (Procedure Oriented Programming) method because we have seen clear benefits of it over OOP in the pandemic:

+ It is simple and easy to understand algorithm, can be re-use in different places and facilitates in program flow monitoring.

+ We can work from home without any face-to-face communication also easier for all team members to be able to code and understand others code.

Main objectives and purposes
1. An easy and consistent database for manage the newspaper.
2. Save time to add, delete and view any newspaper and advertisements with simple and appealing interface.
3. Managers are able to constantly editing and adding news online without any troubles.
4. Readers can receive useful knowledge and information, find appropriate contents of their choice without demurring about seeing fake news.

2. Requirements

Database

The database should be able to:

1. Provide a space to store and manage the data about the news and advertisements (ID, Title, Author/Company, Content and Status).
2. Track the details of news or ads and their current status (Private/Public).
3. Suitable for managers to do many tasks in a short amount of time.

Data

The following data are required:

1. The ID of the news/ads: News_ID, Ad_Id.
2. Title of the news.
3. The author that has published the news or the company that provides the advertisement.
4. Content of the news or advertisements.
5. What is the current status of all the advertisement, public or private?

Project Lifecycle

Our database was designed to support managers not only constantly observing the newspaper but also making changes immediately although it is just a frame and needs to be energized by data.

3. Entity Relationship Diagram (ERD)

https://drive.google.com/file/d/16WU5l3zvjtzulAt4F5B7ipjFbzJlGPUR/view?usp=sharing
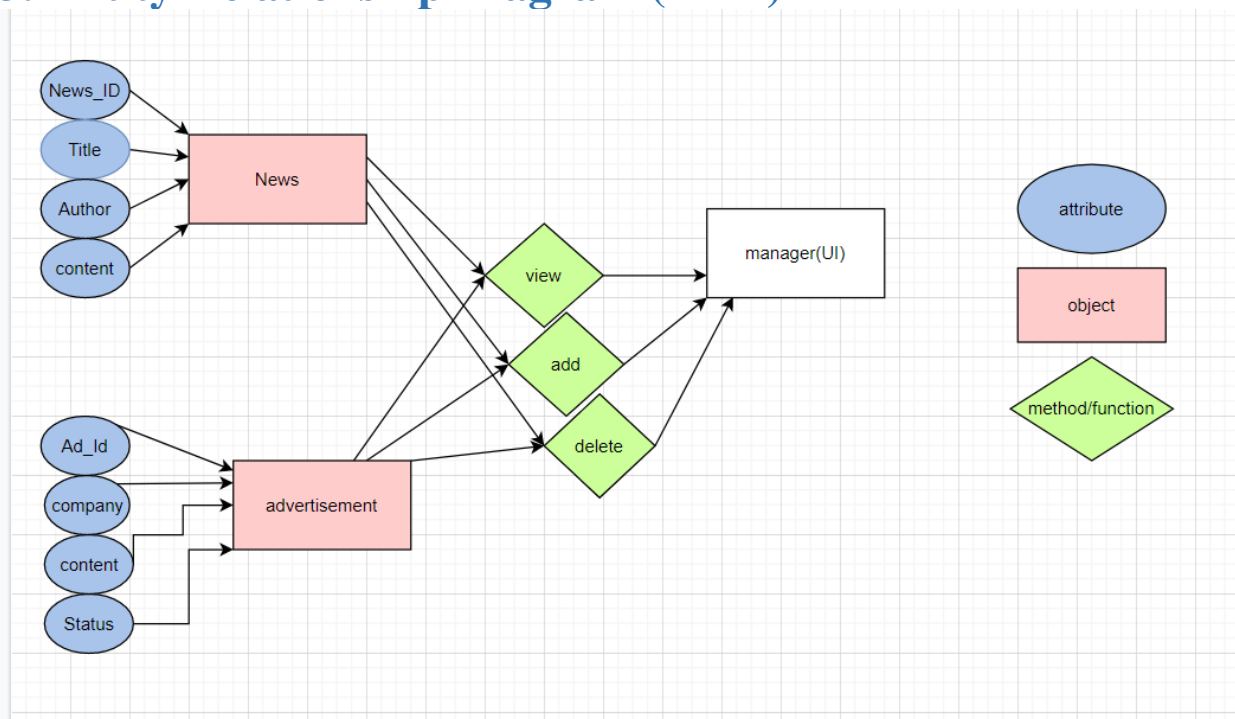
Overall, we have 2 sets of entity: News and advertisement.

1. News: are articles that newly received or noteworthy information, especially about recent or important events.
2. Advertisements: are notices or announcements to promote company's products, services, events, job vacancy, …

News and advertisements are the main parts of a newspaper, both were connected to manager through three methods/functions: view, add and delete (manager use them to modify news and advertisement).

In news we have 4 attributes: News_ID is the ID that was given to differentiate one news from others if they have the same name; Title is the name that describe the content of that news; Author is the writer of the news; content is the information that the article delivered.

There are also 4 attributes in advertisement but they are a little different from news: Ad_Id is the ID that was given to differentiate one advertisement from others if they have the same name; company is who employs the newspapers' manager to public their advertisements; content is what the company want to advertise; Status is an important attribute where managers can choose whether everyone can see the advertisement or only a few/no one can.

4. Database schema (schema diagram)
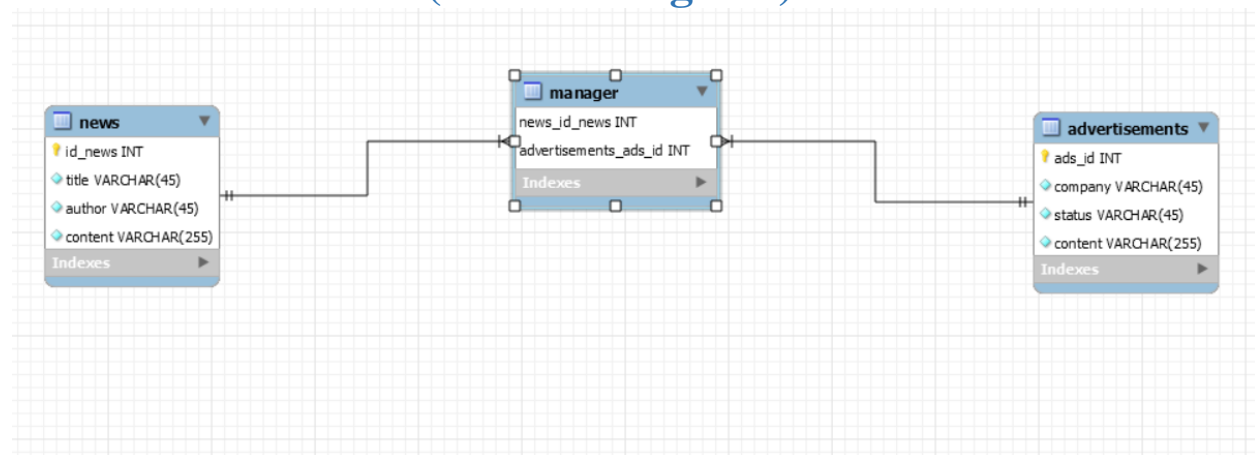
newspaper.mwb

In the middle of the database diagram we have manager with two attributes:

1. news_id_news
2. advertisements_ads_id

manager is linked to advertisements and news.

At the left side we have news with four attributes: id_news (primary key), title, author and content.

At the right side we have advertisements with also four attributes: ads_id (primary key), company, status and content.

5. SQL implemetation

Firstly, we import all modules and packages that are necessary: 6 function modules (AddNews, DelNews, ViewNews, AddAds, DelAds and ViewAds) and 3 packages (tkinter, PIL and pymysql). Afterward we create methods to connect to our database in MySQL. Finally, we go to the part that handling our GUI (adding background image, create header, ...) and create our program buttons that link to program's function modules.

```
from ViewAds import ViewAds
from DelAds import deleteAds
from AddAds import addAds
from ViewNewsPaper import ViewNewPaper
from DelNewPaper import deleteNewPaper
from AddNewsPaper import addNewsPaper
from tkinter import *
from PIL import ImageTk,Image
import pymysql
from tkinter import messagebox

mypass = "root"
mydatabase="dbNews"

con=pymysql.connect(host="localhost",user="root",password=mypass,database=
mydatabase)
cur = con.cursor()

root = Tk()
root.title("VNexpress")
root.minsize(width=600,height=600)
root.geometry("600x500")

# Take n greater than 0.25 and less than 5
same=True
n=0.25

# Adding a background image

background_image =Image.open("lib.jpg")
[imageSizeWidth, imageSizeHeight] = background_image.size

newImageSizeWidth = int(imageSizeWidth*n)
if same:
    newImageSizeHeight = int(imageSizeHeight*n)
else:
    newImageSizeHeight = int(imageSizeHeight/n)
```

```
background_image =
background_image.resize((newImageSizeWidth,newImageSizeHeight),Image.ANTIA
LIAS)
img = ImageTk.PhotoImage(background_image)

Canvas1 = Canvas(root)

Canvas1.create_image(300,340,image = img)
Canvas1.config(bg="white",width = newImageSizeWidth, height =
newImageSizeHeight)
Canvas1.pack(expand=True,fill=BOTH)

headingFrame1 = Frame(root,bg="#FFBB00",bd=5)
headingFrame1.place(relx=0.2,rely=0.1,relwidth=0.6,relheight=0.16)

headingLabel = Label(headingFrame1, text="Welcome to VNexpress",
bg='black', fg='white', font=('Courier',15))
headingLabel.place(relx=0,rely=0, relwidth=1, relheight=1)

btn1 = Button(root,text="Add News",bg='black',
fg='white',command=addNewsPaper)
btn1.place(relx=0.28,rely=0.3, relwidth=0.45,relheight=0.1)

btn2 = Button(root,text="Delete News",bg='black',
fg='white',command=deleteNewPaper)
btn2.place(relx=0.28,rely=0.4, relwidth=0.45,relheight=0.1)

btn3 = Button(root,text="View News",bg='black',
fg='white',command=ViewNewPaper)
btn3.place(relx=0.28,rely=0.5, relwidth=0.45,relheight=0.1)

btn4 = Button(root,text="Add Ads",bg='black', fg='white',command= addAds)
btn4.place(relx=0.28,rely=0.6, relwidth=0.45,relheight=0.1)

btn5 = Button(root,text="Delete Ads",bg='black',
fg='white',command=deleteAds)
btn5.place(relx=0.28,rely=0.7, relwidth=0.45,relheight=0.1)

btn6 = Button(root,text="View Ads",bg='black', fg='white',command=ViewAds)
btn6.place(relx=0.28,rely=0.8, relwidth=0.45,relheight=0.1)
root.mainloop()
```

Modules

- Module AddNews links to table that created in our database in MySQL. It shows 4
blanks to fill in (News ID, title, author and content).

```
from tkinter import *
from PIL import ImageTk,Image
from tkinter import messagebox
import pymysql

def newsRegister():

    bid = Info1.get()
    title = Info2.get()
```

```python
    author = Info3.get()
    status = Info4.get()
    status = status.lower()

    insertNews = "insert into "+NewsTable+"
values('"+bid+"','"+title+"','"+author+"','"+status+"')"
    try:
        cur.execute(insertNews)
        con.commit()
        messagebox.showinfo('Success',"News added successfully")
    except:
        messagebox.showinfo("Error","Can't add data into VNexpress
Database")


    root.destroy()

def addNewsPaper():

    global Info1,Info2,Info3,Info4,Canvas1,con,cur,NewsTable,root

    root = Tk()
    root.title("Add Newspaper")
    root.minsize(width=400,height=400)
    root.geometry("600x500")

    # Add your own database name and password here to reflect in the code
    mypass = "root"
    mydatabase="dbNews"

    con =
pymysql.connect(host="localhost",user="root",password=mypass,database=myda
tabase)
    cur = con.cursor()

    # Enter Table Names here
    NewsTable = "news"

    Canvas1 = Canvas(root)

    Canvas1.config(bg="#ff6e40")
    Canvas1.pack(expand=True,fill=BOTH)

    headingFrame1 = Frame(root,bg="#FFBB00",bd=5)
    headingFrame1.place(relx=0.25,rely=0.1,relwidth=0.5,relheight=0.13)

    headingLabel = Label(headingFrame1, text="Add News", bg='black',
fg='white', font=('Courier',15))
    headingLabel.place(relx=0,rely=0, relwidth=1, relheight=1)


    labelFrame = Frame(root,bg='black')
    labelFrame.place(relx=0.1,rely=0.4,relwidth=0.8,relheight=0.4)


    lb1 = Label(labelFrame,text=" News ID : ", bg='black', fg='white')
    lb1.place(relx=0.05,rely=0.15, relheight=0.12)

    Info1 = Entry(labelFrame)
    Info1.place(relx=0.3,rely=0.15, relwidth=0.62, relheight=0.12)
```

```python
    # Title
    lb2 = Label(labelFrame,text="Author : ", bg='black', fg='white')
    lb2.place(relx=0.05,rely=0.35, relheight=0.12)

    Info2 = Entry(labelFrame)
    Info2.place(relx=0.3,rely=0.35, relwidth=0.62, relheight=0.12)


    lb3 = Label(labelFrame,text="Title : ", bg='black', fg='white')
    lb3.place(relx=0.05,rely=0.55, relheight=0.12)

    Info3 = Entry(labelFrame)
    Info3.place(relx=0.3,rely=0.55, relwidth=0.62, relheight=0.12)


    lb4 = Label(labelFrame,text="Content : ", bg='black', fg='white')
    lb4.place(relx=0.05,rely=0.75, relheight=0.12)

    Info4 = Entry(labelFrame)
    Info4.place(relx=0.3,rely=0.75, relwidth=0.62, relheight=0.12)


    SubmitBtn = Button(root,text="SUBMIT",bg='#d1ccc0',
fg='black',command=newsRegister)
    SubmitBtn.place(relx=0.28,rely=0.9, relwidth=0.18,relheight=0.08)

    quitBtn = Button(root,text="Quit",bg='#f7f1e3', fg='black',
command=root.destroy)
    quitBtn.place(relx=0.53,rely=0.9, relwidth=0.18,relheight=0.08)

    root.mainloop()
```

- Module DelNews shows a blank that we fill in the News ID that we want to delete from our database.

```python
from tkinter import *
from PIL import ImageTk,Image
from tkinter import messagebox
import pymysql

# Add your own database name and password here to reflect in the code
mypass = "root"
mydatabase="dbNews"

con =
pymysql.connect(host="localhost",user="root",password=mypass,database=myda
tabase)
cur = con.cursor()

# Enter Table Names here

NewsTable = "news"


def DeleteNews():

    bid = Info1.get()
```

```python
        deleteSql = "delete from "+NewsTable+" where bid = '"+bid+"'"

        try:
            cur.execute(deleteSql)
            con.commit()

            messagebox.showinfo('Success',"News Deleted Successfully")
        except:
            messagebox.showinfo("Please check News ID")


        print(bid)

        Info1.delete(0, END)
        root.destroy()

def deleteNewPaper():

    global Info1,Info2,Info3,Info4,Canvas1,con,cur,NewsTable,root

    root = Tk()
    root.title("Delete Newspaper")
    root.minsize(width=400,height=400)
    root.geometry("600x500")


    Canvas1 = Canvas(root)

    Canvas1.config(bg="#006B38")
    Canvas1.pack(expand=True,fill=BOTH)

    headingFrame1 = Frame(root,bg="#FFBB00",bd=5)
    headingFrame1.place(relx=0.25,rely=0.1,relwidth=0.5,relheight=0.13)

    headingLabel = Label(headingFrame1, text="Delete News", bg='black',
fg='white', font=('Courier',15))
    headingLabel.place(relx=0,rely=0, relwidth=1, relheight=1)

    labelFrame = Frame(root,bg='black')
    labelFrame.place(relx=0.1,rely=0.3,relwidth=0.8,relheight=0.5)

    # News ID to Delete
    lb2 = Label(labelFrame,text="News ID : ", bg='black', fg='white')
    lb2.place(relx=0.05,rely=0.5)

    Info1 = Entry(labelFrame)
    Info1.place(relx=0.3,rely=0.5, relwidth=0.62,relheight=0.12)

    #Submit Button
    SubmitBtn = Button(root,text="SUBMIT",bg='#d1ccc0',
fg='black',command=DeleteNews)
    SubmitBtn.place(relx=0.28,rely=0.9, relwidth=0.18,relheight=0.08)

    quitBtn = Button(root,text="Quit",bg='#f7f1e3', fg='black',
command=root.destroy)
    quitBtn.place(relx=0.53,rely=0.9, relwidth=0.18,relheight=0.08)

    root.mainloop()
```

- Module ViewNews shows all the data we store in our database about Newspapers.

```python
from tkinter import *
from PIL import ImageTk,Image
from tkinter import messagebox
import pymysql

# Add your own database name and password here to reflect in the code
mypass = "root"
mydatabase="dbNews"

con =
pymysql.connect(host="localhost",user="root",password=mypass,database=myda
tabase)
cur = con.cursor()

# Enter Table Names here
NewsTable = "news"

def ViewNewPaper():

    root = Tk()
    root.title("Newspaper")
    root.minsize(width=400,height=400)
    root.geometry("600x500")


    Canvas1 = Canvas(root)
    Canvas1.config(bg="#12a4d9")
    Canvas1.pack(expand=True,fill=BOTH)


    headingFrame1 = Frame(root,bg="#FFBB00",bd=5)
    headingFrame1.place(relx=0.25,rely=0.1,relwidth=0.5,relheight=0.13)

    headingLabel = Label(headingFrame1, text="View News", bg='black',
fg='white', font=('Courier',15))
    headingLabel.place(relx=0,rely=0, relwidth=1, relheight=1)

    labelFrame = Frame(root,bg='black')
    labelFrame.place(relx=0.1,rely=0.3,relwidth=0.8,relheight=0.5)
    y = 0.25

    Label(labelFrame, text="%-10s%-40s%-30s%-
20s"%('ID','Title','Author','Content'),bg='white',fg='black').place(relx=0
.07,rely=0.1)
    Label(labelFrame, text="--------------------------------------------
-----------------------------
",bg='black',fg='white').place(relx=0.05,rely=0.2)
    getNews = "select * from "+NewsTable
    try:
        cur.execute(getNews)
        con.commit()
        for i in cur:
            Label(labelFrame, text="%-10s%-30s%-30s%-
20s"%(i[0],i[1],i[2],i[3]),bg='black',fg='white').place(relx=0.07,rely=y)
            y += 0.1
    except:
        messagebox.showinfo("Failed to fetch files from database")
```

```
    quitBtn = Button(root,text="Quit",bg='#f7f1e3', fg='black',
command=root.destroy)
    quitBtn.place(relx=0.4,rely=0.9, relwidth=0.18,relheight=0.08)

    root.mainloop()
```

- Module AddAds links to table that shows 4 blanks to fill in (Ads ID, company, Status (Public/Private) and content.
- Module DelAds shows a blank that we fill in the Ads ID that we want to delete from our database.
- Module ViewAds shows all the data we store in our database about advertisements.

Input
❖ Add_news:
  ➢ New_id
  ➢ Author
  ➢ Title
  ➢ Content
❖ Add_ads:
  ➢ Ads_id
  ➢ Company
  ➢ Content
  ➢ State (Public/Private)
❖ Delete_news:
 ➢ New_id
❖ Delete_ads:
  ➢ Ads_id

Output
❖ View_news
  ➢ Id
  ➢ Tile
  ➢ Author
  ➢ Content
❖ View_ads
 ➢ Id
  ➢ Title
  ➢ Author
  ➢ Status

Packages

1. tkinter is the standard GUI library for Python. Python when combined with tkinter provides a fast and easy way to create GUI applications.
2. The Python Imaging Library adds image processing capabilities to our Python interpreter. This library provides extensive file format support, an efficient internal representation, and fairly powerful image processing capabilities.
3. PyMySQL is an interface for connecting to a MySQL database server from Python.

- You can find all the code here: Final Python - Google Drive.

6. GUI
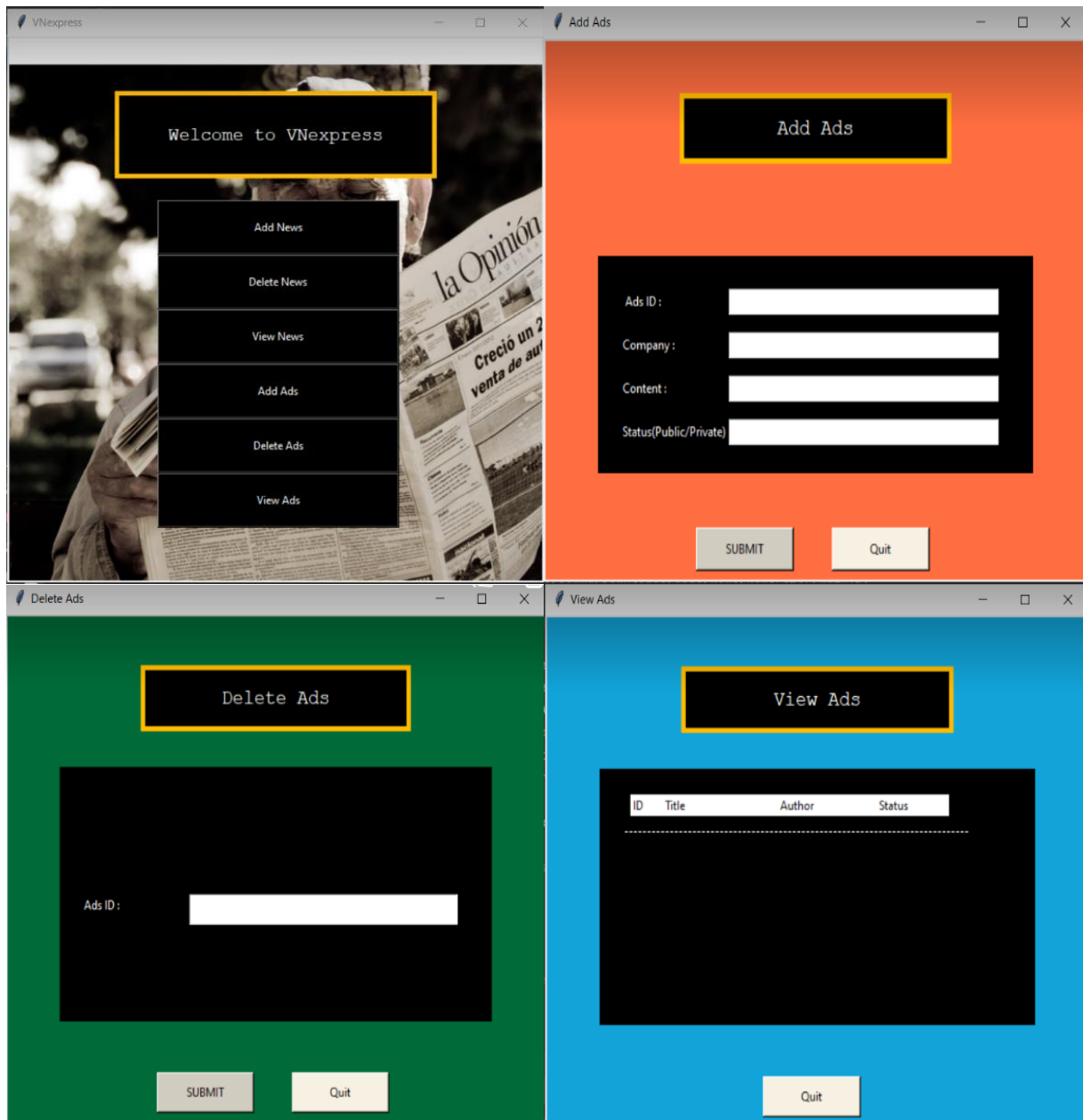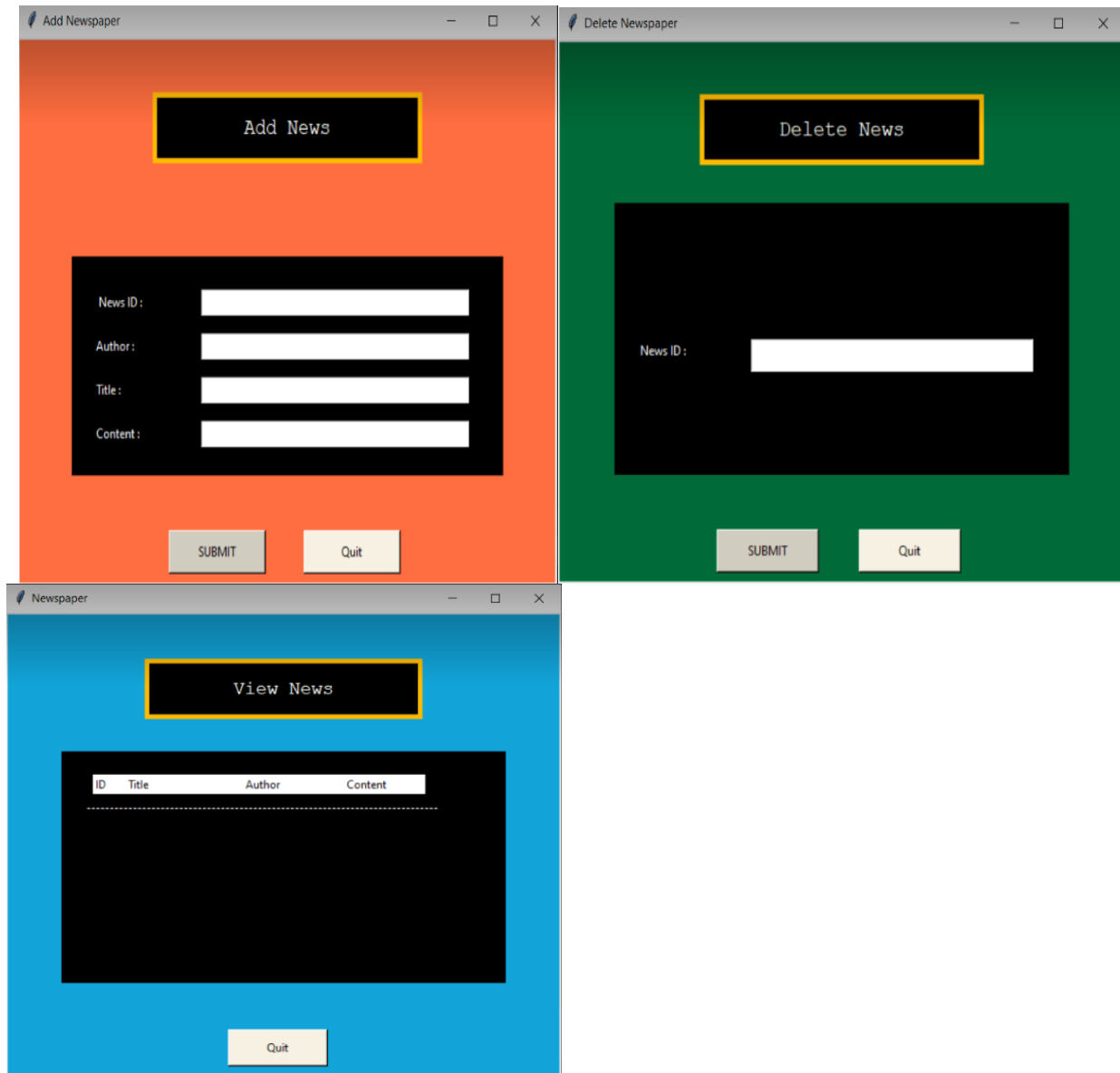
7. References and conclusions

- VnExpress - Báo tiếng Việt nhiều người xem nhất.

- Tin tức Việt Nam và quốc tế nóng, nhanh, cập nhật 24h | Báo Dân trí (dantri.com.vn).

- The Newspaper Information Management System Project has finally been finished, and from it we have learned a few things:

- Basic concepts about Advanced Programming with Python.

- Skills and knowledge from Basic Database.

- Modules, packages,…