

Advanced Programming with Python Report

Group 2:

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1. Introduction

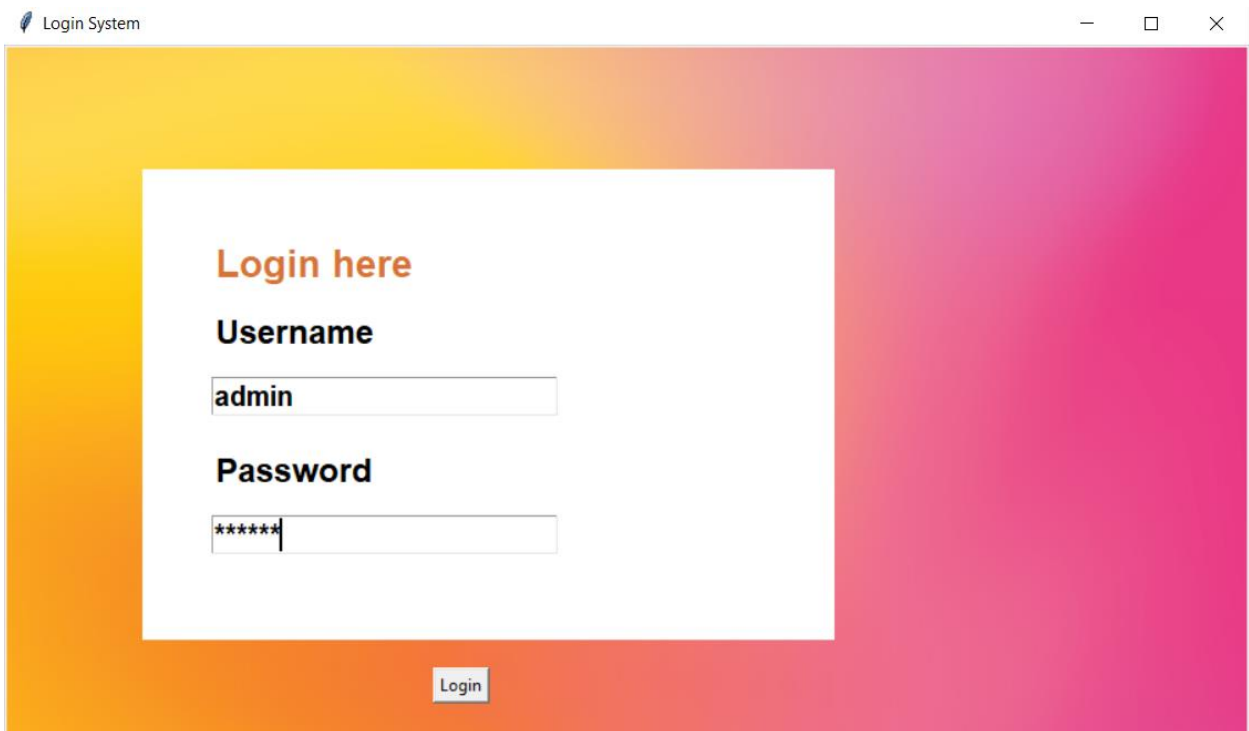
a. Project content

- Topic 9: Public Governmental Service Information Management System (e.g. birth/death declaration, marriage. . .)

b. Purpose

- Use the Public Governmental Service Information Management System helps reduce time, costs, helps the government store and manage user information easier.

- We have 1 account “admin” to manage the project, we have to log in to use the project:



The screenshot shows a window titled "Login System" with a gradient background transitioning from yellow to pink. In the center, there is a white rectangular box containing the login form. The form has the text "Login here" in orange, followed by "Username" and "Password" in bold black. The username field contains the text "admin". The password field contains six asterisks "*****". Below the password field is a "Login" button.

2. Structure

- We use tkinter to make the GUI, mysql workbench and xampp to store data in database, mysql.connector to connect project's data with database

a. Modules and Packages

- We use package tkinter with five functions and mysql.connector

- In main.py

```
from tkinter import *
from tkinter import ttk
from PIL import ImageTk, Image
import mysql.connector
from intro import intro
from function import refresh, add_citizen, update_citizen, delete_citizen, search
from function2 import add_enterprise, update_enterprise, delete_enterprise, search1, refresh1
```

- In login.py

```
from tkinter import *
from tkinter import messagebox
from PIL import ImageTk, Image
from main import windowclass
```

b. Class and Methods

- We have 2 classes: windowclass() and login().

- Class windowclass() has GUI with methods: “add, update, delete, refresh, search, show_list”. Class login() has GUI of login window and login method.

- We have 2 data types are people’s basic data and people’s employment.

```

def showall(self):
    self.show()

def show1(self):
    db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermmpy')
    command_handler = db.cursor()
    command_handler.execute("SELECT * from employment")
    self.row1 = command_handler.fetchall()
    if len(self.row1) != 0:
        self.treeview1.delete(*self.treeview1.get_children())
        for i in self.row1:
            self.treeview1.insert('', 'end', values=i)
        db.commit()

def showall1(self):
    self.show1()

def exit(self):
    self.window.destroy()

def read(self):
    self.newwindow = Toplevel(self.window)
    self.app = intro(self.newwindow)

```

- We have these functions:

+ Add: we fill all the fields Name, Year of birth, Citizen Identification, Company's Name, Business Code, Address..., create new data of one person

```

def add_citizen(self):
    if self.fentry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.lentry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.year_choice.get() == "-Select year- ":
        messagebox.showerror("Error", "All fields are required!")
    elif self.cccd_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.where_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.gender_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.folk_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.contact_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.marital_choice.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    else:
        db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermmpy')
        command_handler = db.cursor()
        query_vals = (
            self.fentry.get(), self.lentry.get(), self.year_choice.get(), self.cccd_entry.get(), self.where_entry.get(),
            self.gender_entry.get(), self.folk_entry.get(), self.contact_entry.get(), self.marital_choice.get())
        command_handler.execute(
            "INSERT INTO people(Firstname, Lastname, Year_of_birth, Citizen_Identification, Home_town, Gender, Folk, Contact_phone, Marital_status)
            values(%s,%s,%s,%s,%s,%s,%s,%s,%s)" % query_vals)
        db.commit()
        db.close()
        messagebox.showinfo("Success", "Added Successfully")

```

+ Update: we can change Name, Year of birth, Home town, Company's Name, Contact, Address..., Citizen Identification and Business Code can't be changed

```
def update_citizen(self):
    if self.fentry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.lentry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.year_choice.get() == "-Select year- ":
        messagebox.showerror("Error", "All fields are required!")
    elif self.cccd_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.where_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.gender_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.folk_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.contact_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    elif self.marital_choice.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    else:
        db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermPy')
        command_handler = db.cursor()
        query_vals = (
            self.fentry.get(), self.lentry.get(), self.year_choice.get(), self.where_entry.get(), self.gender_entry.get(),
            self.folk_entry.get(), self.contact_entry.get(), self.marital_choice.get(), self.cccd_entry.get())
        command_handler.execute(
            "UPDATE people set Firstname=%s, Lastname=%s, Year_of_birth=%s, Home_town=%s, Gender=%s, Folk=%s, Contact_phone=%s, f"
            query_vals)
        db.commit()
        db.close()
        messagebox.showinfo("Success", "Updated Successfully")
```

+ Delete: delete one user's data

```
def delete_citizen(self):
    if self.cccd_entry.get() == "":
        messagebox.showerror("Error", "All fields are required!")
    else:
        db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermPy')
        command_handler = db.cursor()
        idcheck = (self.cccd_entry.get(),)
        command_handler.execute("DELETE from people WHERE Citizen_Identification= %s", idcheck)
        db.commit()
        db.close()
        messagebox.showinfo("Success", "Deleted Successfully")
```

+ Refresh: refresh all the fields to blank

```
def refresh(self):
    self.fentry.delete(0, END)
    self.lentry.delete(0, END)
    self.year_choice.set(" -Select year- ")
    self.cccd_entry.delete(0, END)
    self.where_entry.delete(0, END)
    self.gender_entry.set("")
    self.folk_entry.delete(0, END)
    self.contact_entry.delete(0, END)
    self.marital_choice.set("")
```

- In searching data, we can search by “Last name, Citizen id, Phone, Name, Code, Year, Type, Contact”:

```
def search(self):
    if self.searchcombo.get() == "Lastname":
        db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermPy')
        command_handler = db.cursor()
        command_handler.execute("SELECT * from people where Lastname=%s", (self.search_entry.get(),))
        self.row = command_handler.fetchall()
        if len(self.row) != 0:
            self.treeview.delete(*self.treeview.get_children())
            for i in self.row:
                self.treeview.insert('', 'end', values=i)
            db.commit()
    elif self.searchcombo.get() == "CI":
        db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermPy')
        command_handler = db.cursor()
        command_handler.execute("SELECT * from people where Citizen_Identification=%s", (self.search_entry.get(),))
        self.row = command_handler.fetchall()
        if len(self.row) != 0:
            self.treeview.delete(*self.treeview.get_children())
            for i in self.row:
                self.treeview.insert('', 'end', values=i)
            db.commit()
    elif self.searchcombo.get() == "Contact":
        db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermPy')
        command_handler = db.cursor()
        command_handler.execute("SELECT * from people where Contact_phone=%s", (self.search_entry.get(),))
        self.row = command_handler.fetchall()
        if len(self.row) != 0:
            self.treeview.delete(*self.treeview.get_children())
            for i in self.row:
                self.treeview.insert('', 'end', values=i)
            db.commit()
```

- List: show all the data in the table

```
def show(self):
    db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermpty')
    command_handler = db.cursor()
    command_handler.execute("SELECT * from people")
    self.row = command_handler.fetchall()
    if len(self.row) != 0:
        self.treeview.delete(*self.treeview.get_children())
        for i in self.row:
            self.treeview.insert('', 'end', values=i)
        db.commit()

def showall(self):
    self.show()

def show1(self):
    db = mysql.connector.connect(user='datdt026', password='Bodoikuh0.', host='localhost', database='midtermpty')
    command_handler = db.cursor()
    command_handler.execute("SELECT * from employment")
    self.row1 = command_handler.fetchall()
    if len(self.row1) != 0:
        self.treeview1.delete(*self.treeview1.get_children())
        for i in self.row1:
            self.treeview1.insert('', 'end', values=i)
        db.commit()

def showall1(self):
    self.show1()
```

- If we forget to fill one or some fields, the system will show a window to announce you have to fill all the fields.

- If you fill all the fields, press one of four buttons, the system will announce you do it successfully.

c. Database Diagram

- Diagram:

midtermpty people	
Firstname	: varchar(250)
Lastname	: varchar(250)
Year_of_birth	: int(11)
Citizen_Identification	: varchar(250)
Home_town	: varchar(250)
Gender	: varchar(20)
Folk	: varchar(250)
Contact_phone	: varchar(250)
Marital_status	: varchar(250)

midtermpty employment	
CompanyName	: varchar(250)
BusinessCode	: varchar(250)
FoundedYear	: varchar(250)
BusinessType	: varchar(250)
Address	: varchar(250)
Contact	: varchar(250)

- Tables of fields in database:

+ People:

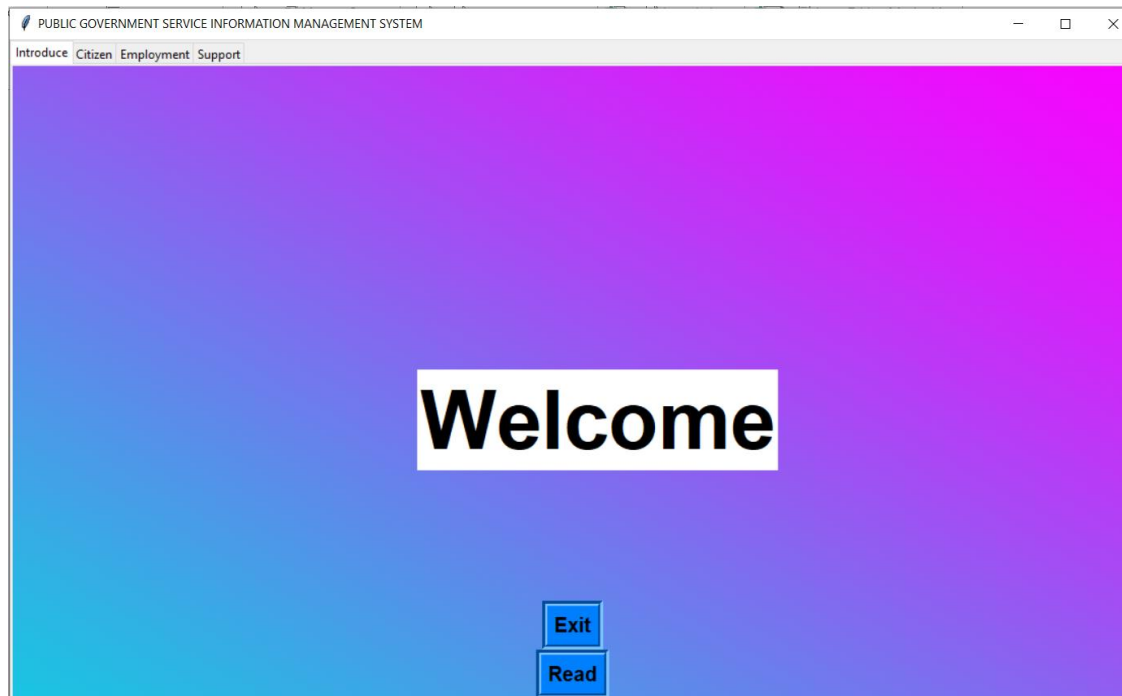
	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	Firstname	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	2	Lastname	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	Year_of_birth	int(11)			No	None			Change Drop More
<input type="checkbox"/>	4	Citizen_Identification	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	Home_town	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	Gender	varchar(20)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	7	Folk	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	8	Contact_phone	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	9	Marital_status	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More

+ Employment:

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	CompanyName	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	2	BusinessCode	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3	FoundedYear	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	4	BusinessType	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	5	Address	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	6	Contact	varchar(250)	utf8mb4_general_ci		No	None			Change Drop More

3. Demo

- Introduce



- Citizen

PUBLIC GOVERNMENT SERVICE INFORMATION MANAGEMENT SYSTEM

Introduce Citizen Employment Support

Citizen information

First name	Last name	Year of birth	Add Update Delete Refresh
Thanh Dat	Do	2001	
Citizen identification	Home town	Gender	
001201024107	Vinh Phuc	Male	
Ethnicity	Contact phone	Marital status	
Kinh	0973471150	Single	

Search:

First name	Last name	Year of birth	Citizen Identification	Home town	Gender	Folk	Contact phone	Marital status
Thanh Dat	Do	2001	0055662211	Hanoi	Male	Kinh	0973471150	Single
thanh dat	do	1952	004455336	Vinh Phuc	Male	Tay	0973471150	Single
quoc hieu	trinh	1954	00445533654	Hanoi	Male	Tay	0973471120	Single
hoang son	nguyen	1958	0022566334	Hanoi	Male	Kinh	097459962	Single
huy hinh	nguyen	1958	0022566334	haiduong	Male	Kinh	097459962	Single
duc thang	pham	1958	0022566334	haiduong	Male	Kinh	097459962	Single
linh	nguyen	2000	001201024512	Hanoi	Female	Kinh	097544556321	Single

- Employment

PUBLIC GOVERNMENT SERVICE INFORMATION MANAGEMENT SYSTEM

Introduce Citizen Employment Support

Employment information

Company's name	Business code	Founded year
Sota Tek	88455647	2015
Business type	Address	Contact
Technology	Trung Kinh, Hanoi	024 6658 5248

Add Update Delete Refresh

Search: Select option Search Show

Company's name	Business code	Founded year	Business type	Address	Contact
Sota Tek	88455647	2015	Technology	Trung Kinh, Hanoi	024 6658 5248

- Support

PUBLIC GOVERNMENT SERVICE INFORMATION MANAGEMENT SYSTEM


Introduce Citizen Employment Support

Phone number:

01741476476

Email:

gacon123@gmail.com



- Exit: after the work has done, press Exit to back to end the project

