

PYTHON PROJECT CA-2

Report

PROJECT NAME:

DESIGN A ATM MANAGEMENT SYSTEM
USING PYTHON.

Submitted to

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Submitted by:

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Introduction:

ATM Simulator project is written in Python. The project file contains a python script. This is a simple console based system which is very easy to use. Talking about the system, it contains various functions which include Account Statement, Withdrawing, Depositing amount and changing the pin. Here, at first the user has to enter an existing username, when the username matches the system proceed toward the next procedure i.e asking pin number. When a user passes all these sign-in procedures, he/she can use all those features. It is too easy to use, he/she can check their respective account statements.

While depositing or withdrawing amount, he/she just has to enter the amount then the system calculates the total remaining balance of the respective account and displays to the user. And the user can view all these transactions from the account statement. In this ATM Simulator, the user can also change the pin number. For this, the user has to enter the New pin code and then confirm it in order to change the pin code. This simple console based ATM simulator provides the simple account balance management of a respective account. It contains all the essential features. There is no database connection or neither any external text or other files used in this mini project to save user's data. Everything is set inside the source code whether its pin code or the amount.

ATMs are Automated Teller Machines that are used to carry day-to-day financial transactions. ATMs can be used to withdraw money or to deposit money or even to know the information of an account like the balance amount, etc. They are convenient and easy to use, and it allows consumers to perform quick self-service transactions.

Objective:

1. An ATM, which stands for automated teller machine, is a specialized computer that makes it convenient to manage a bank account holder's funds
2. Deposit cash.
3. Withdraw cash ..etc

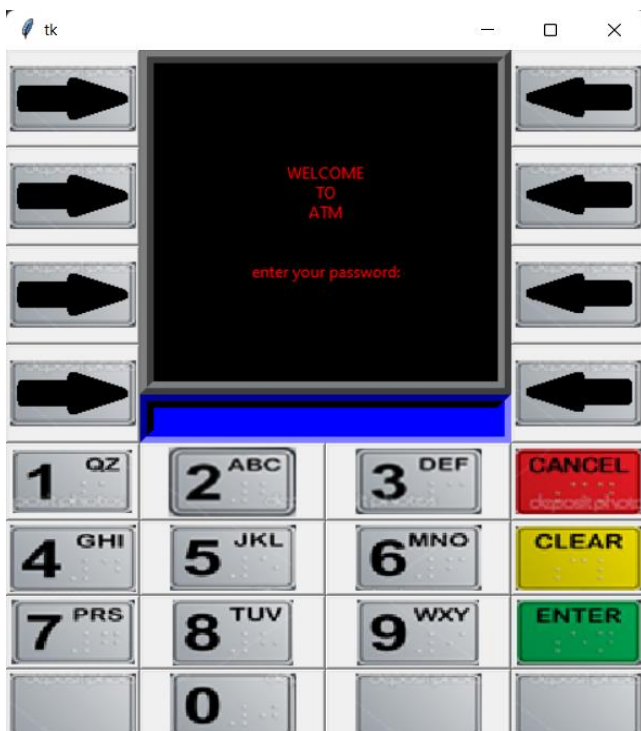
Design:

GUI IN PYTHON:

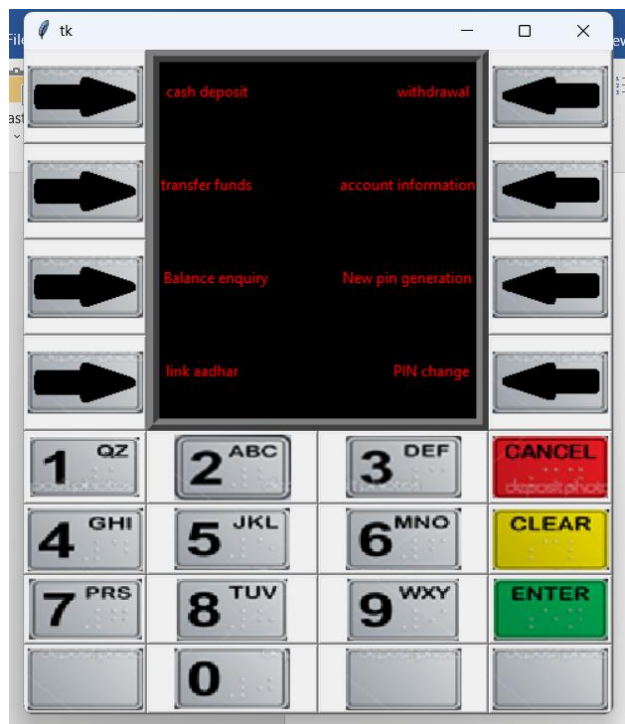
Python offers multiple options for developing GUI (Graphical User Interface). Out of all the GUI methods, tkinter is the most commonly used method. It is a standard Python interface to the Tk GUI toolkit shipped with Python. Python with tkinter is the fastest and easiest way to create the GUI applications. There are a number of widgets which you can put in your tkinter application. Some of the major widgets are grid, buttons, font, image, width, height, bg..etc

In this project we used the GUI(Graphical User Interface). Firstly created the tkinter window and the size of window is not resizable as it is given the size of 591x690. For selection of images used the buttons to select. For this we used images as buttons using button command.

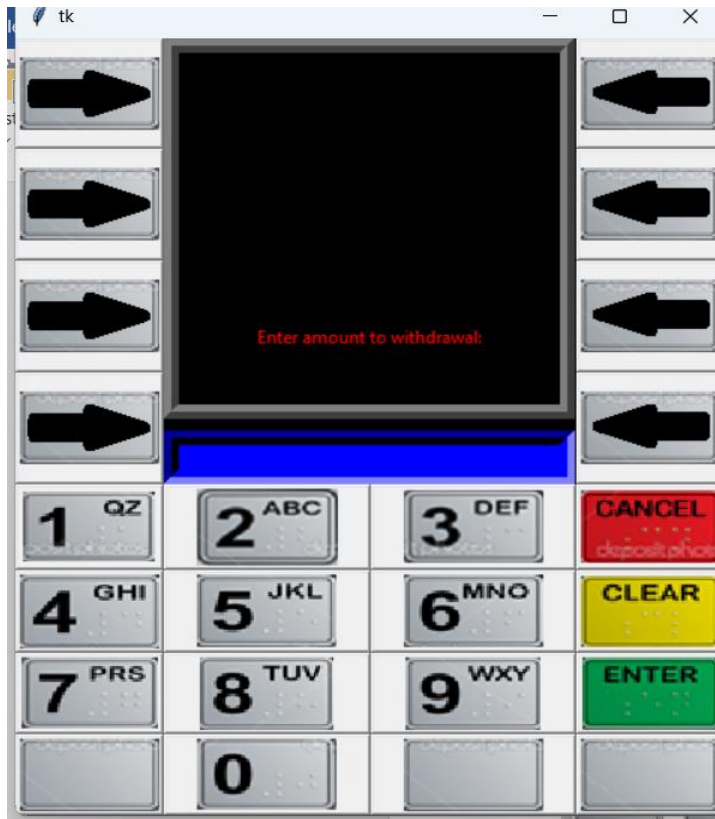
Result Screenshot:



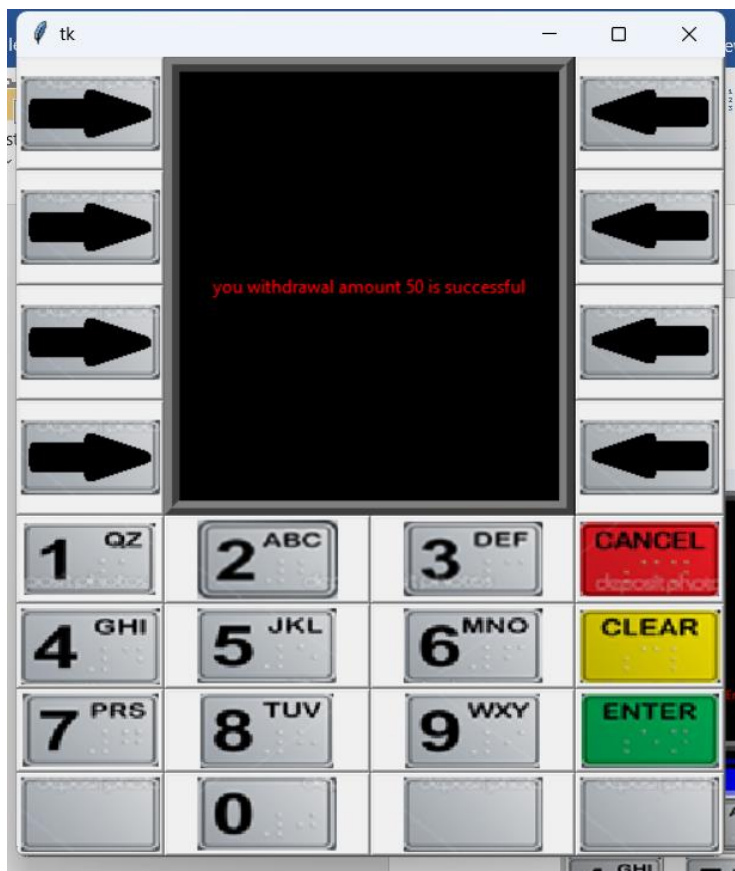
1.Enter the password .



2.Select any option from the list.



3. Enter withdrawal amount



4. Your withdrawal amount is successful

Code:

```
from tkinter import *
window=Tk()

window.config(background='black')
def show_frame1(frame):
    frame.tkraise()
    frame.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
frame1=Frame(window,bg='black')
frame2=Frame(window,bg='yellow')
frame3=Frame(window,bg='pink')
frame4=Frame(window,bg='black')
frame5=Frame(window,bg='black')
frame6=Frame(window,bg='pink')
frame7=Frame(window,bg='black')
frame8=Frame(window,bg='black')
frame9=Frame(window,bg='black')
frame10=Frame(window,bg='black')
frame11=Frame(window,bg='black')
frame12=Frame(window,bg='black')
frame13=Frame(window,bg='black')
frame14=Frame(window,bg='black')
frame15=Frame(window,bg='black')
frame16=Frame(window,bg='black')
frame17=Frame(window,bg='black')
frame18=Frame(window,bg='black')
frame19=Frame(window,bg='black')
frame20=Frame(window,bg='black')
frame21=Frame(window,bg='black')
frame22=Frame(window,bg='black')
frame23=Frame(window,bg='black')
frame24=Frame(window,bg='black')
frame25=Frame(window,bg='black')
frame26=Frame(window,bg='black')
frame27=Frame(window,bg='black')
frame28=Frame(window,bg='black')
frame29=Frame(window,bg='black')
frame30=Frame(window,bg='black')
show_frame1(frame1)
#frame3=Frame(window)

#*****#
amountdeposited=0
amounttransferred=0
names=['Praveenreddy','Preeti','Deepaksharma']
account_numbers=[202177,22356,31541]
ifsc_code=['sbin11545','sbin1145213','andb216453']
Type_of_account=['current','savings','salaried']
ATM_card_number=[12102001,12102002,12102003]
ATM_pin=[1234,2211,3356]
account_opened_date=['03-06-2002','02-03-2009','03-08-2015']
branch=['galivedu-516267','rayachoti-25364','chitoor-58951']
password=['1234','2211','3356']
balance=[1000,1500,2000]
#*****#
```

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*****#

def start():
    show_frame1(frame1)
    frame1.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
#*****enter*****
*****#

def show_frame():
    global password
    global userindex
    pin_no=frame1_entry.get()

    for i in password:
        if pin_no==i:
            show_frame1(frame2)
            frame2.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
            userindex=password.index(pin_no)
            break
        else:
            show_frame1(frame3)
            frame3.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
            else:
                show_frame1(frame4)
                frame4.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
#*****cancel*****
*****#

def cancel():
    global operator
    operator = ""
    InputText.set("")
    show_frame1(frame1)
    frame1.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
    button_enter.config(command=show_frame)
#*****clear*****
*****#

def clear():
    global operator
    operator = ""
    InputText.set("")
#*****cash deposit*****
functions*****#

def cash_deposit():
    global operator
    operator = ""
    InputText.set("")
    show_frame1(frame5)
    frame5.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')

    button_enter.config(command=deposited_amount)

def deposited_amount():
    global amountdeposited

    amountdeposited=frame5_entry.get()
    if len(amountdeposited)>0:
        if int(str(amountdeposited))>0:

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        show_frame1(frame6)
        frame6.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
        frame6_info.config(text="you deposited "+str(amountdeposited)+"
successfully")
        frame6_info.pack()
    else:
        show_frame1(frame14)
        frame14.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
        frame14_info.config(text="enter valid amount")
        frame14_info.pack()
    else:
        show_frame1(frame14)
        frame14.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
        frame14_info.config(text="enter valid amount")
        frame14_info.pack()

#*****transfer
amount*****#
def transfer_account():
    global operator
    operator = ""
    InputText.set("")
    show_frame1(frame7)
    frame7.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
    button_enter.config(command=transfer_amount)
def transfer_amount():

    accountnumber=frame7_entry.get()
    global operator
    operator = ""
    InputText.set("")
    if len(accountnumber)==6:
        show_frame1(frame8)
        frame8.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
        button_enter.config(command=transferred_amount)
    else:
        show_frame1(frame29)
        frame29.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
def transferred_amount():

    global amounttransferred
    amounttransferred=frame8_entry.get()
    if int(str(amounttransferred))>0:
        show_frame1(frame9)
        frame9.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
        frame9_info.config(text="you transferred "+str(amounttransferred)+"
successfully")
        frame9_info.pack()
    else:
        show_frame1(frame30)
        frame30.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
#*****check
balance*****#
def checkbalance():
    global balance
    global userindex
    balanceshow=balance[userindex]

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        show_frame1(frame10)
        frame1.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
        frame10_info.config(text="your balance : "+str(balanceshow))
        frame10_info.pack()
#*****aadhar
link*****#
def account_no_to_link():
    global operator
    operator = ""
    InputText.set("")

    show_frame1(frame11)
    frame11.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')

    button_enter.config(command=aadharlink)
def aadharlink():
    global operator
    operator = ""
    InputText.set("")

    show_frame1(frame12)
    frame12.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
    button_enter.config(command=aadharlinked)
def aadharlinked():
    show_frame1(frame13)
    frame13.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
    frame13_info.config(text="your aadhar linked successfully")
    frame13_info.pack()
#*****withdrawal*****
*****#
def withdrawalamount():
    global operator
    operator = ""
    InputText.set("")
    show_frame1(frame15)
    frame15.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')

    button_enter.config(command=amountdebited)
def amountdebited():
    global debitedamount
    global balance
    global userindex
    debitedamount=frame15_entry.get()
    if len(debitedamount)>0 and int(str(debitedamount))>0:
        if int(str(debitedamount))<balance[userindex]:
            show_frame1(frame16)
            frame16.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
            frame16_info.config(text="you withdrawal amount
"+str(debitedamount)+" is successful")
            frame16_info.pack()
        else:
            show_frame1(frame17)
            frame17.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
            frame17_info.config(text="you dont have sufficient balance to
withdraw")
            frame17_info.pack()
        else:
            show_frame1(frame17)
            frame17.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')

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        frame17_info.config(text="enter valid amount")
        frame17_info.pack()
#*****account
information*****#
def account_information():
    global userindex
    global account_numbers
    global password
    global names
    global ifsc_code
    global Type_of_account
    global account_opened_date
    global branch
    global ATM_card_number
    global balance
    show_frame1(frame18)
    frame18.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
    frame18_info.config(text="username:
"+str(names[userindex])+'\n'password: '+str(password[userindex])+'\n'
                                'ac_no: '+str(account_numbers[userindex])+'\n'ifsc
code: '+str(ifsc_code[userindex])+'\n'
                                'account type:
'+str(Type_of_account[userindex])+'\n'
                                'ac. opened date:
'+str(account_opened_date[userindex])+'\n'
                                'branch: '+branch[userindex]+'\n'ATM number:
'+str(ATM_card_number[userindex])+'\n'
                                'account balance: '+str(balance[userindex]))
    frame18_info.pack()
#*****new pin
generation*****
def new_pin():
    global operator
    operator = ""
    InputText.set("")
    show_frame1(frame19)
    frame19.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')

    button_enter.config(command=pin_generation)
def pin_generation():
    global ATM_card_number
    global userindex
    global ATM_pin
    card_number=frame19_entry.get()
    if int(str(card_number))==ATM_card_number[userindex]:
        global operator
        operator = ""
        InputText.set("")
        show_frame1(frame20)
        frame20.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
        button_enter.config(command=sendotp)
    else:
        show_frame1(frame28)
        frame28.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')

def sendotp():
    otp=frame20_entry.get()
    if len(str(otp))==6:

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        show_frame1(frame21)
        frame21.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
    else:
        show_frame1(frame22)
        frame22.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')

#*****pin
change*****#
def pin_change():
    global operator
    operator = ""
    InputText.set("")
    show_frame1(frame23)
    frame23.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')

    button_enter.config(command=new_pin_enter)
def new_pin_enter():
    global ATM_pin
    global userindex
    old_pin=frame23_entry.get()
    if int(str(old_pin))==ATM_pin[userindex]:

        global operator
        operator = ""
        InputText.set("")
        show_frame1(frame24)
        frame24.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
        button_enter.config(command=changedsuccessfully)
    else:
        show_frame1(frame25)
        frame25.grid(row=0, rowspan=4, column=1, columnspan=2, sticky='nsew')
def changedsuccessfully():
    newpin=frame24_entry.get()
    if len(newpin)==4:
        show_frame1(frame26)
        frame26.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
    else:
        show_frame1(frame27)
        frame27.grid(row=0, rowspan=4, column=1, columnspan=2,
sticky='nsew')
#*****button
function*****#
def ClickButton(char):
    global operator
    operator += str(char)
    InputText.set(operator)
operator=""
InputText = StringVar()
#*****frame1*****#
frame1_info=Label(frame1,height=16,width=36,text='WELCOME\nTO\nATM\n\n\nent
er your password:',bd=10,bg='black',fg='red',relief=RIDGE)
frame1_info.pack(side=TOP)
frame1_entry=Entry(frame1,bg='blue',width=36,bd=10,textvariable=InputText,fg='red',font=('arial',9,'bold'))
frame1_entry.pack(side=BOTTOM)
#*****frame2*****#

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[illegible]

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frame30_text=Label(frame30,text='\n\nplease enter valid amount',
height=19,width=36,bg='black',bd=10,fg='red',relief=RIDGE)
frame30_text.place(x=0,y=0)
#*****frame9*****
#*****#
frame9_info=Label(frame9,height=19,width=36,bg='black',fg='red',bd=10,relief=RIDGE)
#*****check balance*****
#*****#
frame10_info=Label(frame10,height=19,width=36,bg='black',fg='red',bd=10,relief=RIDGE)
#*****frame11*****
#*****#
frame11_info=Label(frame11,height=16,width=36,text='\n\n\n\n\n\n\n\n\n\nEnter account number to link aadhar:',
bd=10,bg='black',fg='red',relief=RIDGE)
frame11_info.pack(side=TOP)
frame11_entry=Entry(frame11,bg='blue',width=36,bd=10,textvariable=InputText,fg='red',font=('arial',9,'bold'))
frame11_entry.pack(side=BOTTOM)
#*****frame12*****
#*****#
frame12_info=Label(frame12,height=16,width=36,text='\n\n\n\n\n\n\n\n\n\nEnter aadhar number to link:',
bd=10,bg='black',fg='red',relief=RIDGE)
frame12_info.pack(side=TOP)
frame12_entry=Entry(frame12,bg='blue',width=36,bd=10,textvariable=InputText,fg='red',font=('arial',9,'bold'))
frame12_entry.pack(side=BOTTOM)
#*****aadhar link*****
#*****#
frame13_info=Label(frame13,height=19,width=36,bg='black',fg='red',bd=10,relief=RIDGE)
#*****cash withdrawal*****
#*****#
frame15_info=Label(frame15,height=16,width=36,text='\n\n\n\n\n\n\n\n\n\nEnter amount to withdrawal:',
bd=10,bg='black',fg='red',relief=RIDGE)
frame15_info.pack(side=TOP)
frame15_entry=Entry(frame15,bg='blue',width=36,bd=10,textvariable=InputText,fg='red',font=('arial',9,'bold'))
frame15_entry.pack(side=BOTTOM)
frame16_info=Label(frame16,height=19,width=36,bg='black',fg='red',bd=10,relief=RIDGE)
#frame6_info.pack()
frame17_info=Label(frame17,height=19,width=36,bg='black',fg='red',bd=10,relief=RIDGE)
#*****account information*****
#*****#
frame18_info=Label(frame18,height=19,width=36,bg='black',fg='red',bd=10,relief=RIDGE)
#*****new pin generation*****
#*****#
frame19_info=Label(frame19,height=16,width=36,text='\n\n\n\n\n\n\n\n\n\nEnter ATM card number:',
bd=10,bg='black',fg='red',relief=RIDGE)
frame19_info.pack(side=TOP)
frame19_entry=Entry(frame19,bg='blue',width=36,bd=10,textvariable=InputText,fg='red',font=('arial',9,'bold'))
frame19_entry.pack(side=BOTTOM)

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frame20_info=Label(frame20,height=16,width=36,text='\n\n\n\n\n\n\n\n\n\nEnter OTP send to mobile number:',
                    bd=10,bg='black',fg='red',relief=RIDGE)
frame20_info.pack(side=TOP)
frame20_entry=Entry(frame20,bg='blue',width=36,bd=10,textvariable=InputText,
                    fg='red',font=('arial',9,'bold'))
frame20_entry.pack(side=BOTTOM)
frame21_text=Label(frame21,text='\n\nyour password sent to your\n registered
mobile number',

height=19,width=36,bg='black',bd=10,fg='red',relief=RIDGE)
frame21_text.place(x=0,y=0)
frame22_text=Label(frame22,text='\n\nenter valid OTP',

height=19,width=36,bg='black',bd=10,fg='red',relief=RIDGE)
frame22_text.place(x=0,y=0)

#*****PIN
change*****#
frame23_info=Label(frame23,height=16,width=36,text='\n\n\n\n\n\n\n\n\n\nEnter old pin:',
                    bd=10,bg='black',fg='red',relief=RIDGE)
frame23_info.pack(side=TOP)
frame23_entry=Entry(frame23,bg='blue',width=36,bd=10,textvariable=InputText,
                    fg='red',font=('arial',9,'bold'))
frame23_entry.pack(side=BOTTOM)
frame24_info=Label(frame24,height=16,width=36,text='\n\n\n\n\n\n\n\n\n\nEnter new password what you want:',
                    bd=10,bg='black',fg='red',relief=RIDGE)
frame24_info.pack(side=TOP)
frame24_entry=Entry(frame24,bg='blue',width=36,bd=10,textvariable=InputText,
                    fg='red',font=('arial',9,'bold'))
frame24_entry.pack(side=BOTTOM)
frame25_text=Label(frame25,text='\n\nyou entered wrong password',

height=19,width=36,bg='black',bd=10,fg='red',relief=RIDGE)
frame25_text.place(x=0,y=0)
frame26_text=Label(frame26,text='\n\nyour pin changed successfully',

height=19,width=36,bg='black',bd=10,fg='red',relief=RIDGE)
frame26_text.place(x=0,y=0)
frame27_text=Label(frame27,text='\n\nEnter valid pin',

height=19,width=36,bg='black',bd=10,fg='red',relief=RIDGE)
frame27_text.place(x=0,y=0)
frame28_text=Label(frame28,text='\n\nEnter valid ATM card number',

height=19,width=36,bg='black',bd=10,fg='red',relief=RIDGE)
frame28_text.place(x=0,y=0)

#*****buttons*****
*****#
image1=PhotoImage(file='one.png')
image2=PhotoImage(file='two.png')
image3=PhotoImage(file='three.png')
image4=PhotoImage(file='four.png')
image5=PhotoImage(file='five.png')
image6=PhotoImage(file='six.png')
image7=PhotoImage(file='seven.png')
image8=PhotoImage(file='eight.png')
image9=PhotoImage(file='nine.png')

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image10=PhotoImage(file='zero.png')
image11=PhotoImage(file='lArrow.png')
image12=PhotoImage(file='rArrow.png')
image13=PhotoImage(file='enter.png')
image14=PhotoImage(file='clear.png')
image15=PhotoImage(file='cancel.png')
image16=PhotoImage(file='empty.png')
#*****#
button1=Button(window,command=lambda:ClickButton('1'),image=image1)
button1.grid(row=4, column=0, sticky="nsew")
button2=Button(window,image=image2,command=lambda:ClickButton('2'))
button2.grid(row=4, column=1, sticky="nsew")
button3=Button(window,image=image3,command=lambda:ClickButton('3'))
button3.grid(row=4, column=2, sticky="nsew")
button4=Button(window,image=image4,command=lambda:ClickButton('4'))
button4.grid(row=5, column=0, sticky="nsew")
button5=Button(window,image=image5,command=lambda:ClickButton('5'))
button5.grid(row=5, column=1, sticky="nsew")
button6=Button(window,image=image6,command=lambda:ClickButton('6'))
button6.grid(row=5, column=2, sticky="nsew")
button7=Button(window,image=image7,command=lambda:ClickButton('7'))
button7.grid(row=6, column=0, sticky="nsew")
button8=Button(window,image=image8,command=lambda:ClickButton('8'))
button8.grid(row=6, column=1, sticky="nsew")
button9=Button(window,image=image9,command=lambda:ClickButton('9'))
button9.grid(row=6, column=2, sticky="nsew")
button0=Button(window,image=image10,command=lambda:ClickButton('0'))
button0.grid(row=7, column=1, sticky="nsew")

button11=Button(window,image=image16,command=lambda:ClickButton('*'))
button11.grid(row=7, column=0, sticky="nsew")
button12=Button(window,image=image16,command=lambda:ClickButton('#'))
button12.grid(row=7, column=2, sticky="nsew")
#*****>>>>>>>>>>>>>>>>>>>>>>*****#
button17=Button(window,image=image11,command=cash_deposit)
button17.grid(row=0, column=0, sticky="nsew")
button18=Button(window,image=image11,command=transfer_account)
button18.grid(row=1, column=0, sticky="nsew")
button19=Button(window,image=image11,command=checkbalance)
button19.grid(row=2, column=0, sticky="nsew")
button20=Button(window,image=image11,command=account_no_to_link)
button20.grid(row=3, column=0, sticky="nsew")
#*****<<<<<<<<<<<<<<<<<<<<<<*****#
button21=Button(window,image=image12,command=withdrawalamount)
button21.grid(row=0, column=3, sticky="nsew")
button22=Button(window,image=image12,command=account_information)
button22.grid(row=1, column=3, sticky="nsew")
button23=Button(window,image=image12,command=new_pin)
button23.grid(row=2, column=3, sticky="nsew")
button24=Button(window,image=image12,command=pin_change)
button24.grid(row=3, column=3, sticky="nsew")
#*****#
button_cancel=Button(window,image=image15,command=cancel)
button_cancel.grid(row=4, column=3, sticky="nsew")
button_clear=Button(window,image=image14,command=clear)
button_clear.grid(row=5, column=3, sticky="nsew")
button_enter=Button(window,image=image13,command=show_frame)
```

```
button_enter.grid(row=6, column=3, sticky="nsew")
button_start=Button(window, image=image16)
button_start.grid(row=7, column=3, sticky="nsew")
window.mainloop()
```

Conclusion:

- From this presentation, one can observe that an ATM system is associated with the bank transactions of the consumers.
- Majorly, the ATM system is utilized for the money associated transactions from the consumers. Consumers make major use of ATM to withdraw money from their bank account.
- It is a fast way to get money out of your account, especially when on the go or during a trip.

References:

<http://money.howstuffworks.com/personal-finance/banking/atm3.htm>