NEW LPG BOOKING AND LPG CONNECTION SYSTEM

END TERM REPORT

by

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November, 2020

Student Declaration

This is to declare that this report has been written by us. No part of the report is copied from other sources. All information included from other sources has been duly acknowledged. We aver that if any part of the report is found to be copied, we are shall take full responsibility for it.

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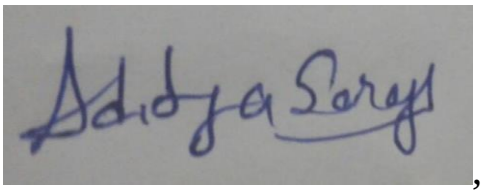
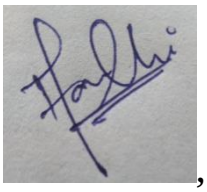
 ,  , 

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BONAFIDE CERTIFICATE

Certified that this project report “New LPG Booking and Connection System” is the bonafide work of “Miss Aanchal Kumari, Mr. Rishabh Chaudhary and Mr. Aditya Sarogi” who carried out the project work under my supervision.

<<Signature of the Supervisor>>(Due to Covid 19, signature is exempted)

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Background and Objectives

Chapter 1: INTRODUCTION

During today's era, it has become tiring to manually get things done manually, when it's both time consuming and not necessary when the task could be done from anywhere and can be delivered to the required place. And its bit of a hassle to get the cylinder refilled in a general gas-station based booking. 'New LPG Booking and Connection System' is a programmed UI page showing how easily such a task could be managed using a simple but interactive language python using GUI and Tkinter.

We propose a simple, interactive, hassle free, less time consuming and efficient New LPG Booking and connection System for any individual agency where the customers can easily log-in into their account, fill their details and get a receipt and get their LPG booked or can add a new connection! Furthermore, the LPG would be delivered soon.

As a result of the detailed study carried out some main things were noticed and the objective were formulated. The main objective of the project on is to manage the details of Consumers, enable them with the feature of booking, getting the final payable amount with receipt and option for adding a new connection of LPG. A database is added of user profiles, so the user can login in an existing account or can create a new one. A unique reference number is provided for necessary works details whether it be asked at the time of receiving a delivery or a token card for getting a new account.

Some details can be observed in the system are:
1. There is an entry screen stage of the application
2. Options to choose LPG from
3. Options to choose the delivery place
4. Avail discounts if any
3. Facilities to accept the user-entered data then validate and process it
4. Facilities to generate tax and payable amount
5. The information flow is developed
6. The input screen is provided with provision to select values or data from a list of values thus leading to almost no errors
7. Validation can be done in the option of 'Add New Connection'

8. Database is maintained for user accounts
9. Polite colors used for user ease of access of the background layout.

Subchapter 1.1: BACKGROUND

New LPG booking and connection system will help the user to maintain records or add a new connection if needed or book a LPG gas cylinder. The system is a Python configuration with a help of SQLite3 and Tkinter.

SQLite is a C library that provides a lightweight disk-based database that doesn't require a separate server process and allows accessing the database using a nonstandard variant of the SQL query language. Usually the SQL operations will use values from Python variables.

Here the system is implemented with mostly Tkinter GUI. Tkinter provides skeleton for the UI. While ‘class’ and ‘objects’ have been used to make the functions which are linked to the basic widgets behave in a manner to give usable performance. Python was selected due to its simplicity, portability and widely known acceptance.

Tkinter is a Python binding to the Tk GUI toolkit. It is the standard Python interface to the Tk GUI toolkit, and is Python's de facto standard GUI. Tkinter is included with standard Linux, Microsoft Windows and Mac OS X installs of Python. The name Tkinter comes from Tk interface.

LPG or Liquefied Petroleum Gas is the most widely used cooking gas. A safe and environmentally friendly equivalent to wood or kerosene, LPG is now readily available through a comprehensive distributor network. The government of India also subsidizes the cost of a fixed number of cylinders every year, making it affordable for households to use LPG for their fuel needs.

Booking an LPG gas cylinder used to be a long and tedious process earlier, since the only way to do so was by visiting the LPG dealership in person. This was followed by an anxious wait as a cylinder would be dispatched based on its availability, with LPG cylinders going missing or not reaching the recipient on many occasions.

LPG/Gas Booking is a major requirement in every individual life. The need of this project is to save time while booking the gas. When we call to the gas distributor

our request may not be recorded or call may not be connected. All of these waste the person's time. If we haven't noticed the completion of gas we need to book it in black for more money. But now, booking or adding a new connection of LPG cylinder can now be done from the comfort of your home at the click of a button.

There is no doubt that there are some distinct advantages that you can take advantage of if you switch to LPG at home.

The advantages such that some states in the country have gone on a drive to ensure that every household in the state has access to LPG and are arming themselves with grants from the state and central government to help with this transition. Some states are identifying houses where there is no LPG and offering them connections, stoves and the first cylinder for free. We even keep hearing about how the government has announced various subsidies for specific income groups, on each cylinder of LPG that they buy.

So now the question really becomes, what is so great about LPG?
The answer is that not only is the fuel cheaper and cleaner than things like kerosene and wood, it is also usable as fuel for cooking and fuel for vehicles. It also comes with the advantage of easy storage and more efficient combustion. However these are not the only advantages to using LPG.

Important Note:

For all cylinders booked, the market value of the cylinder is to be paid on delivery. Those who have opted for subsidized cylinders will receive the subsidy amount directly in their bank accounts.

Subchapter 1.3 MOTIVATIONS

The purpose of developing new LPG booking and connection system is to provide a hassle free re-fill booking that will help the consumer to help save manual time in the process. The user can also add another new connection if needed. The system also helps keeping a track if the entire user profiles by making an account of the user.

Meanwhile the clearance of issues and teaching of some beneficial elements was helped by our INT216 professor Mr. Dhanpratap Singh, and is taken in most

respectful consideration. With the kind assemblage of the team members and some web tools for reaching the ultimate necessities we can entitle ourselves as very motivated to help bring better options to the community.

The upcoming of a system like this one can be prove to be very useful in the following teams:
1. Advantage of the gas booking is that consumers can choose to pay via net-banking or credit card at the most basic time of delivery as optioned in the project to the delivery person.
2. Consumers who are at work and were unable to make a booking of their refill cylinders can now just order one any time and get a token/ reference ID number for a more secured delivery.
3. Once the cylinder is delivered, the consumer can book another one only after the period of days/months specified.
4. This facility is introduced recently and has made booking a cylinder refill a more convenient process.
5. Once implemented, then to book a cylinder online, the customer would just have visit the portal of LPG provider page and can register themselves or create an account for availing most of the benefits.
6. Once you have done so, you will see an option to book a refill, or to add a connection.
7. Get the billing receipt and follow the instructions and make your payment as cash on delivery taking the notice of the token.

Subchapter 1.4: OUT-COME OF THE PROJECT

The out-come of the project is described as the system will be user friendly and will make simple operations which are done mostly manually could have a mode of getting the task done with a program, needing simple details filling and getting the results on a touch of a requirement. Later-onwards the project can be modified to be full-time online operation.

Also, we as a team came to gain more knowledge into this field and realized how easy and necessary it is to provide our environment with simple concepts like the project, so that loads of manual work could be escaped.

When it comes time to replace an empty cylinder, the options provided by an programmed system can really come across as convenient and user friendly. The

reason for this is that when booking or adding a new connection with a system like this one, customers get to choose options as they like.

Some key features may be transcripted as:
1. The first option is to log onto their website and book a cylinder
2. The second option is to select the number of cylinders which then takes the person through a billing process that helps them book the gas as per requirement.

Subchapter 1.5: CONCREATE GOALS

The concrete goals of the projects can be described as of good worth as while using a system like this:
1. No additional charges for booking online
2. Safe and convenient method of booking an LPG refill
3. No hassle of traveling to gas agency or constant follow-ups with the distributor
4. Refill can be booked anytime, anywhere
5. Easy payment method

Meanwhile the standard booking through gas station or agency is simplified as a method where customers can also choose to book their refill cylinders by visiting the gas agency in person. They can book a cylinder by providing their customer number and can make the payment at the time or on delivery of the cylinder. This might take a long time queuing up and stand less time-friendly for people on schedules.

Subchapter 1.6: APPLICABILITY

The project was developed to manage a re-fill of LPG booking system and adding up a new connection. The system is developed in Python using Tkinter GUI and SQLite. The system is reliable, faster, maintainable and more user friendly. User enters the essential details and the payable main cost is generated. The user's profile previous account is also saved which can be viewed in the new connection UI. Also provides username and password can be made in create account section which is stored in the database which furthermore can be used to log-in into the account.

Necessary dialogue box appears on the arousal of different situations which provides a better guidance to the user and a better overview of the overall project system. Thus, leading to better analysis of the concept, counted in a format of booking system.

Subchapter 1.7: OBJECTIVES

The main objective of the project on New LPG Booking and Connection System is to manage the details of Consumers, add Bookings and New Connections as per the user's wishes. It enables the consumers to book an LPG refill very easily, as simple as just as a click. Not only that the consumers can book the LPG, they can add newer connections and get a billing receipt.

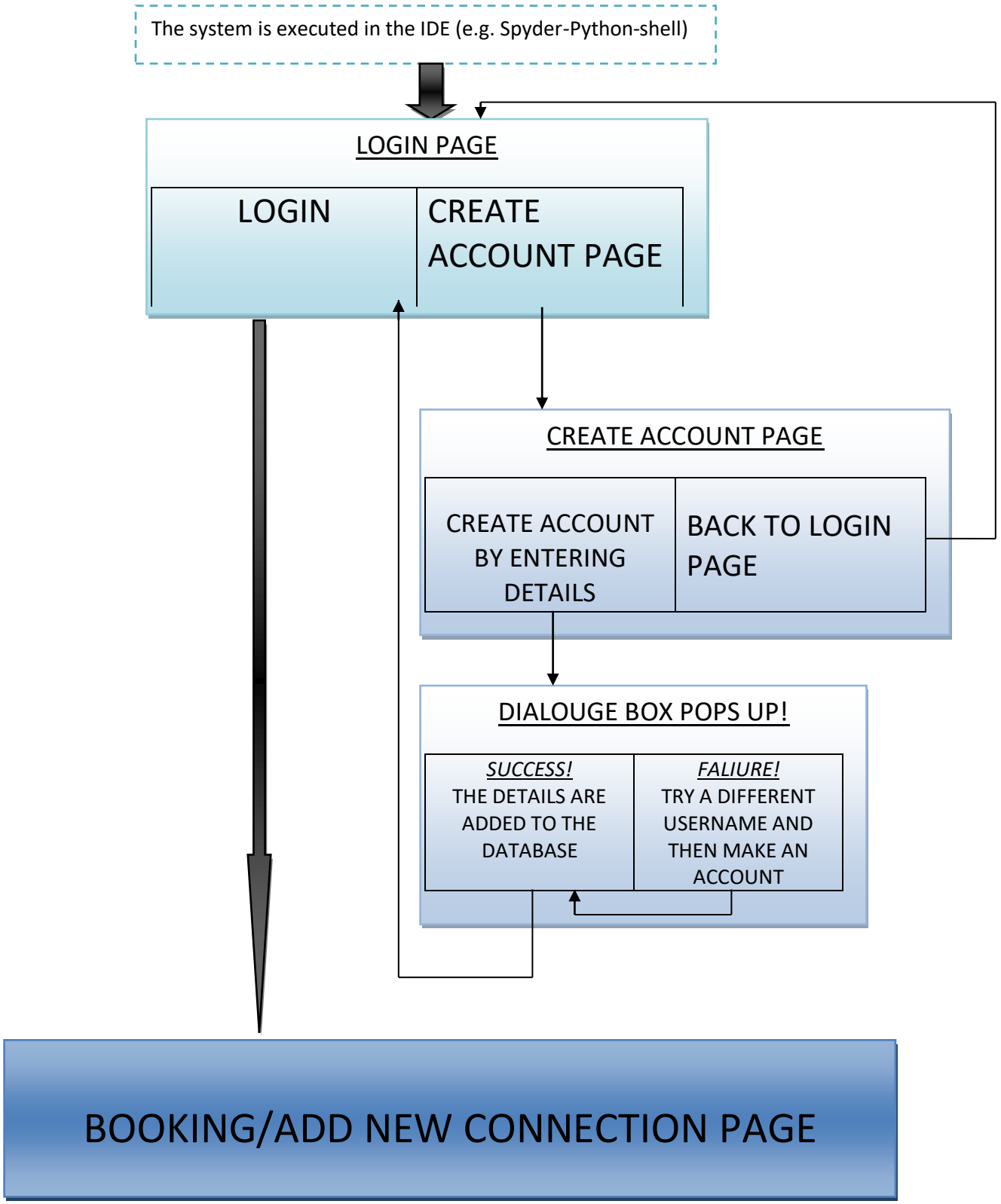
The interface allows the user to access the pricing of individual kinds of cylinders and gives an amount of period of time to avail the cylinders for. It adds up the basic pricing and tax involved in the transactions and modifies a final amount to be paid. The receipt takes the values entered by the user and then are displayed in upmost accuracy.

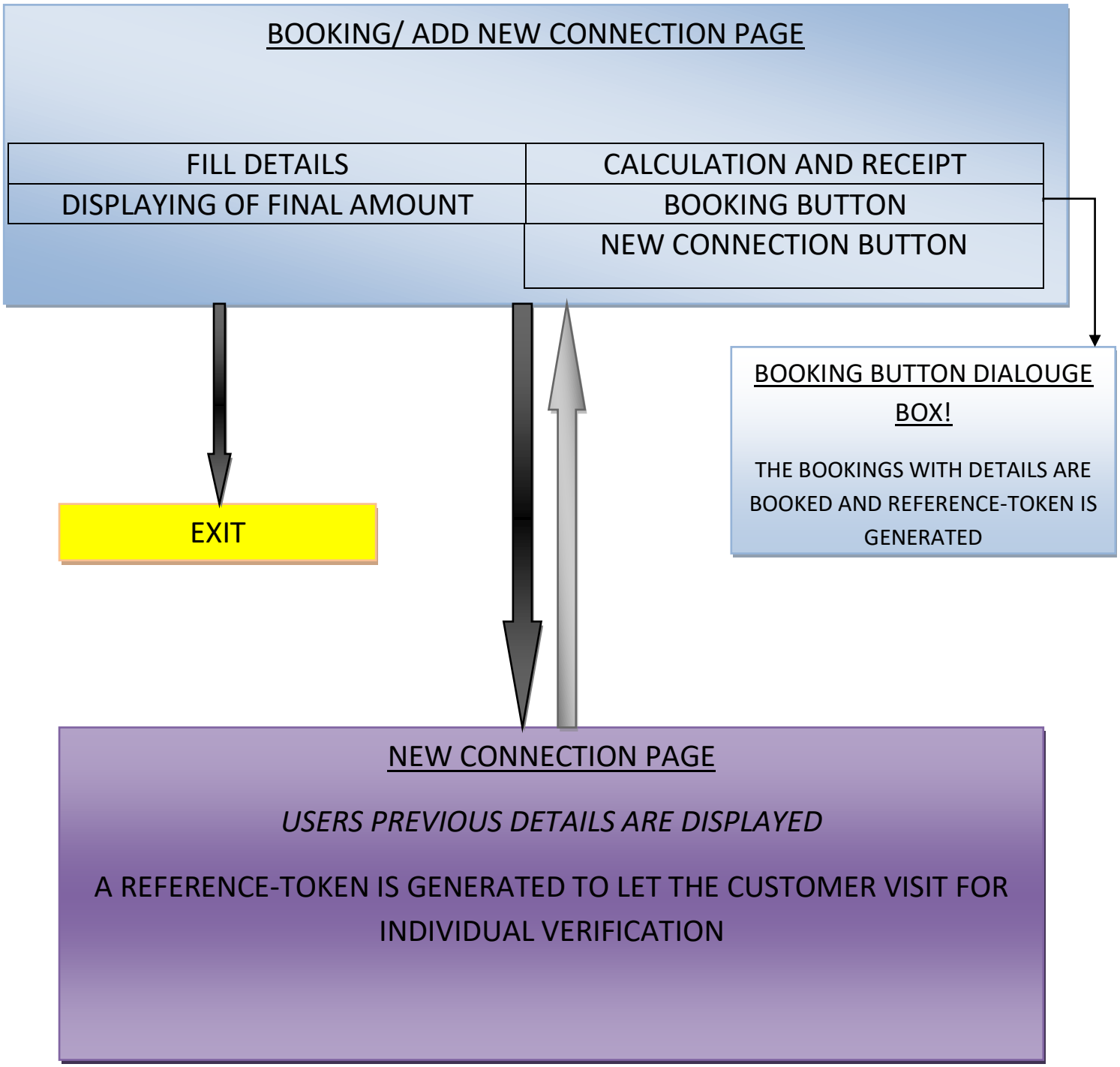
Meanwhile, the basic objective of this system is to help customers get more direct bookings easily and contribute to a better reasoning to get work mode be better turned online . It should have some effective features that help to generate revenues.

Chapter 2: DESCRIPTION OF PROJECT

(Note: Description is done in the form of modules and pictorial flow representation with main explanations as per requirements.)

Main frame pictorial flow of system:





So the basic pictorial structure of body flow diagram is:

Chapter 3: ROLES AMONG STUDENTS

This is to declare that every individual of our team has sincerely contributed to the successful completion project within the specified period of time.

The members accounting to the completion of project named “New LPG Booking and Connection System” are Miss Aanchal Kumari, Mr. Rishabh Chaudhary and Mr. Aditya Sarogi.

The work was divided into fragments so that each member receives equal work load. The programs were divided into sections for different team members to do and frames were divides to be done.

Execution of program as per the need was less time consuming as the work was divided. The basic framework was first developed by conversing the details and designs though different social platforms and updated source codes were shared amongst the group regardingly.

This also led to accuracy of the program as it was checked over and over again. So in context to role sharing we can say we managed to get everything quite equally. All the team members were mutually helpful to each other in the completion of the overall “New LPG Booking and Connection System”.

Firstly the designing of the page layout was given to Mr. Sarogi, then implementations for the classic model was done by Mr. Rishabh, then finally placements of widgets were added by Miss Kumari. Later ‘class and objects’ were applied to the main frame of widgets and the functions were divided mutually and the overall response of the team has been really heartwarming.

Later on new concepts were searched through the web and implemented to guide all the individuals to a new path of light of knowledge.

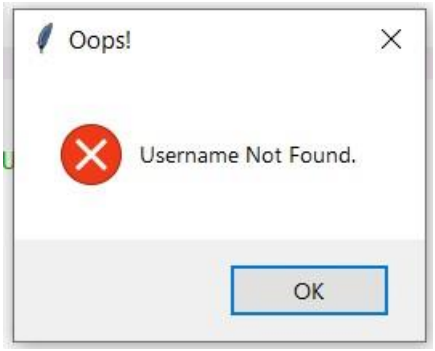
The result was pretty much appreciated by the individuals as the outcome was achieved with success and in a manner of peace amongst all.

Chapter 4: IMPLEMENTATION OF SCHEDULED WORK OF PROJECT

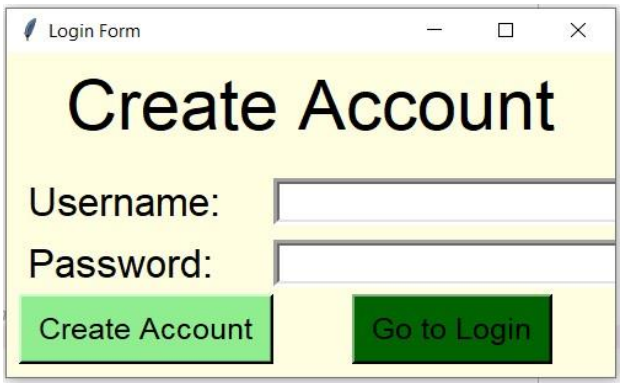
The beginning of the program is obtained by the execution of the program in any suitable IDE, here used Spyder for python shell. The program is successfully complied and run in the same. Further, the implementation is shown here in flow pattern here.

Page 1: The Login Page

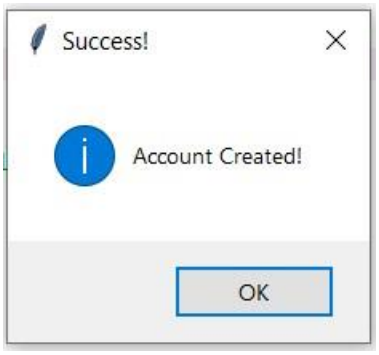
- On Clicking the "Login" button widget without any entered data, throws an error dialogue box as:

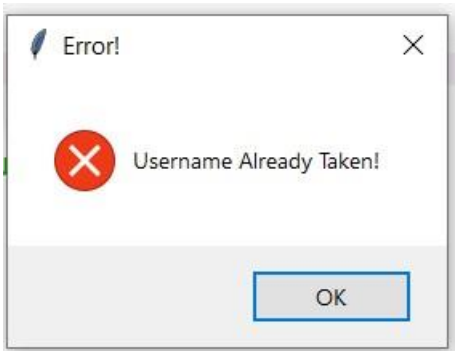


- Click on the "Create Account" button to create an account.



- You can go back to the previous page by clicking on “Go to Login” option.
- Enter valid data, and click on “Create Account”. The data that you enter are added to the database using SQLite3. The following pop-ups may appear once you click “Create Account”:





The “Success” prompt means that your entered details have been added to the db (database) now and pressing “OK” will jump the page back to the ‘Login’ page.
Meanwhile, “Error” prompt will declare that username has been already taken and is pre-existing in the database, i.e. someone else has this name already. Pressing “OK” will keep to the same ‘Create Account’ page, try a different value.

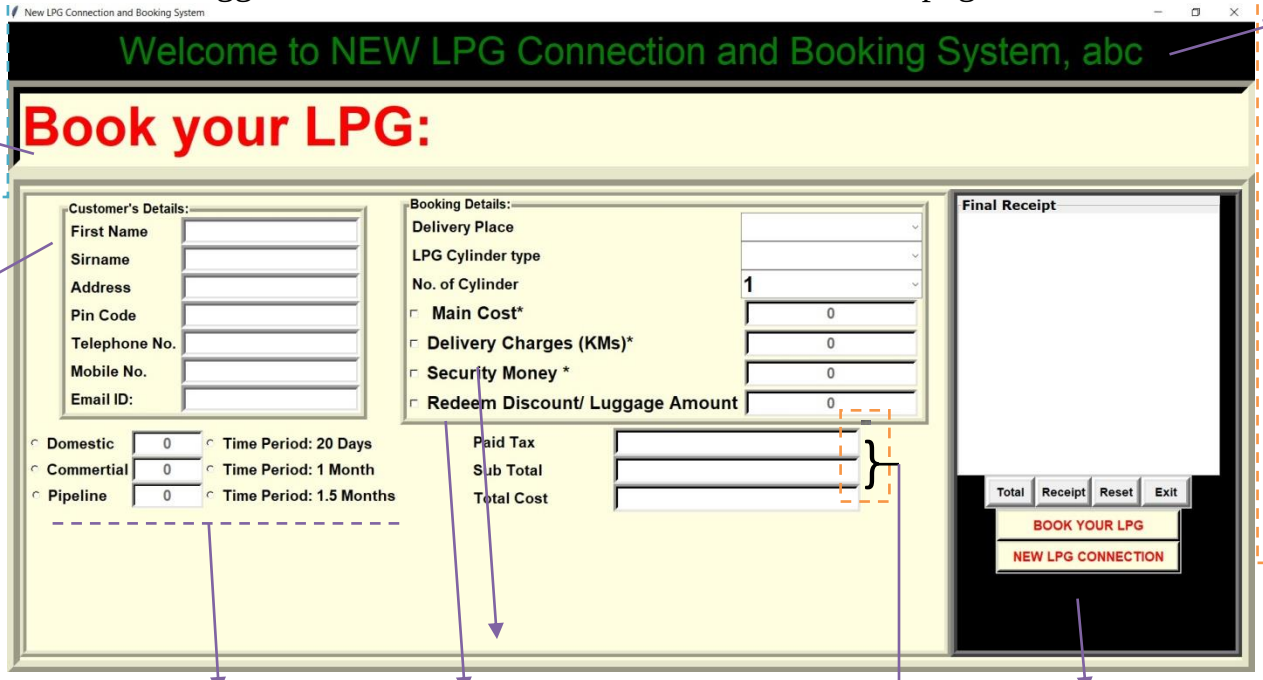
- After an Account is made you will be forwarded back to ‘Login’ Page, enter the details and access page 2. This sample shows username and encrypted password format. Sample username is taken as ‘user’ and pass-code ‘user’. Another sample is taken as username: ‘abc’ and password: ‘abc’.

Page 2: The New Booking and Connection Page

- Once logged in the user will be forwarded to this main page window:

Top frame as '**TOPS**' in the 'MainFrame'

Customer's Details frame as '**Customer DetailsFrame**' in the "**FrameDetails**" and boxed as '**Customer Name**'



Username is detailed for the directed user.

This is shown in main base frame '**Main Frame**' of the window.

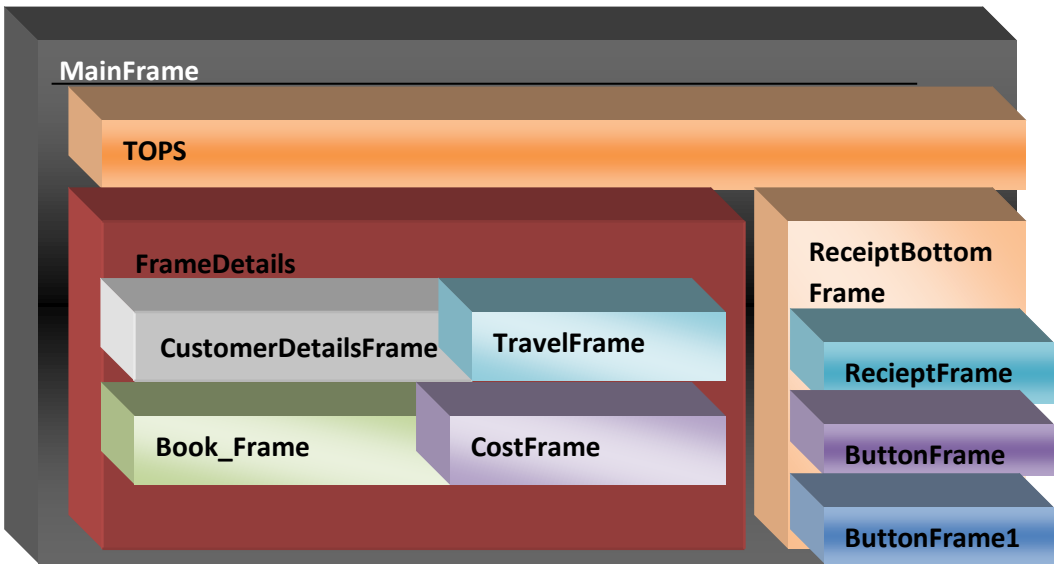
Type and period of booking is referenced as in the '**Book_Frame**'

Booking Details as '**TravelFrame**'

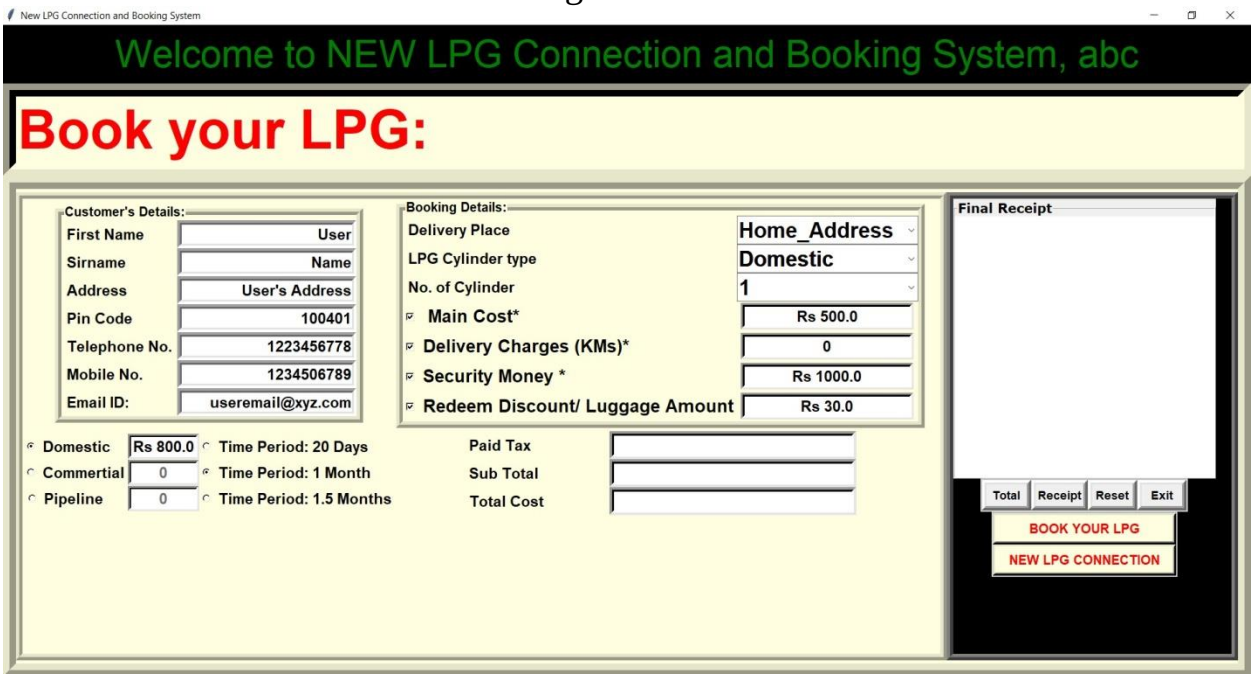
Billing cost total is done in the '**CostFrame**'.

The receipt frame is made as "**ReceiptBottomFrame**" in the "Mainframe" and has "**RecieptFrame**" which contains the white receipt printing box and "**ButtonFrame**" which as Total, Receipt, Reset and Exit Buttons. Also "**ButtonFrame1**" as referenced has Book Your LPG and New LPG Connection button

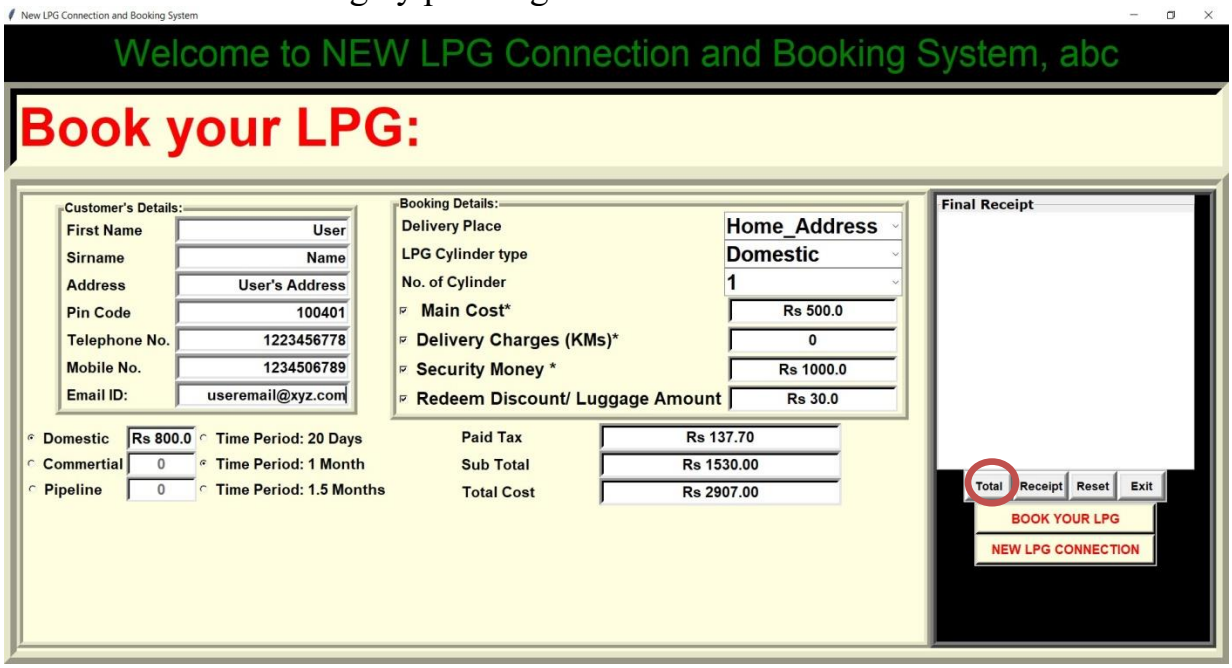
The structure of frames can be explained as:



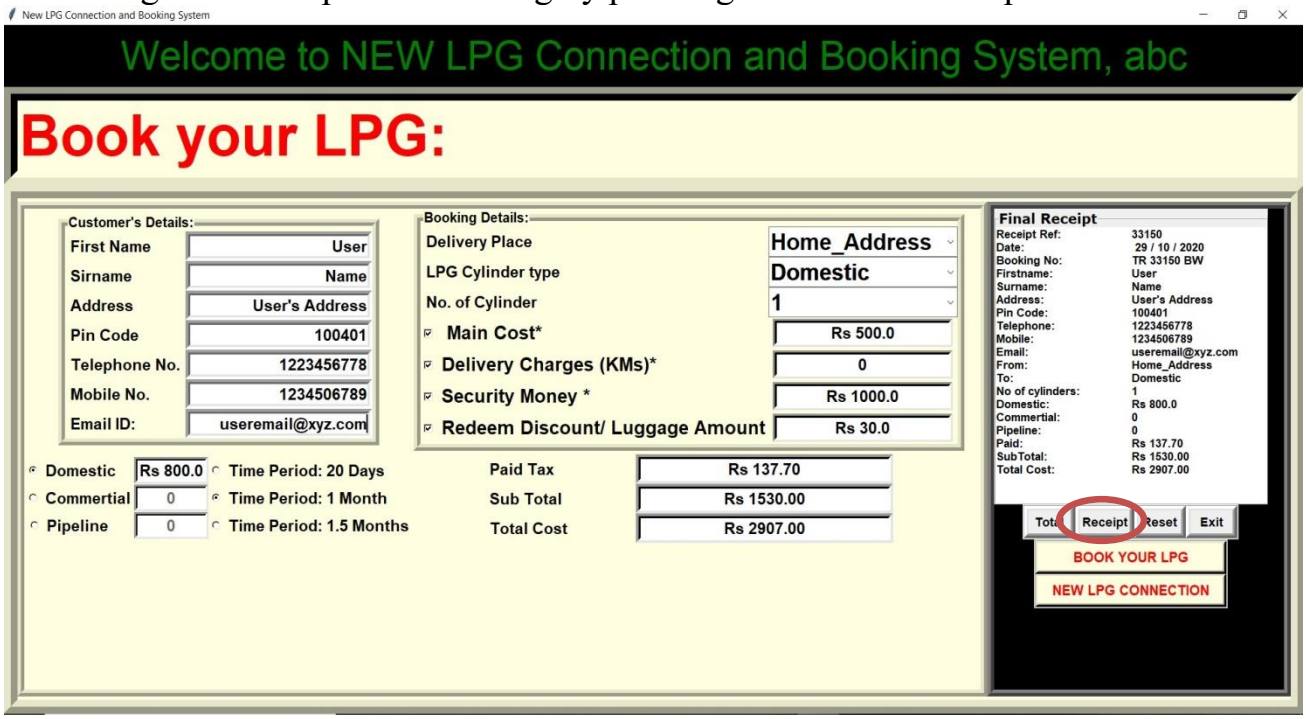
- User can enter/fill all details to get a valuable/desired result.



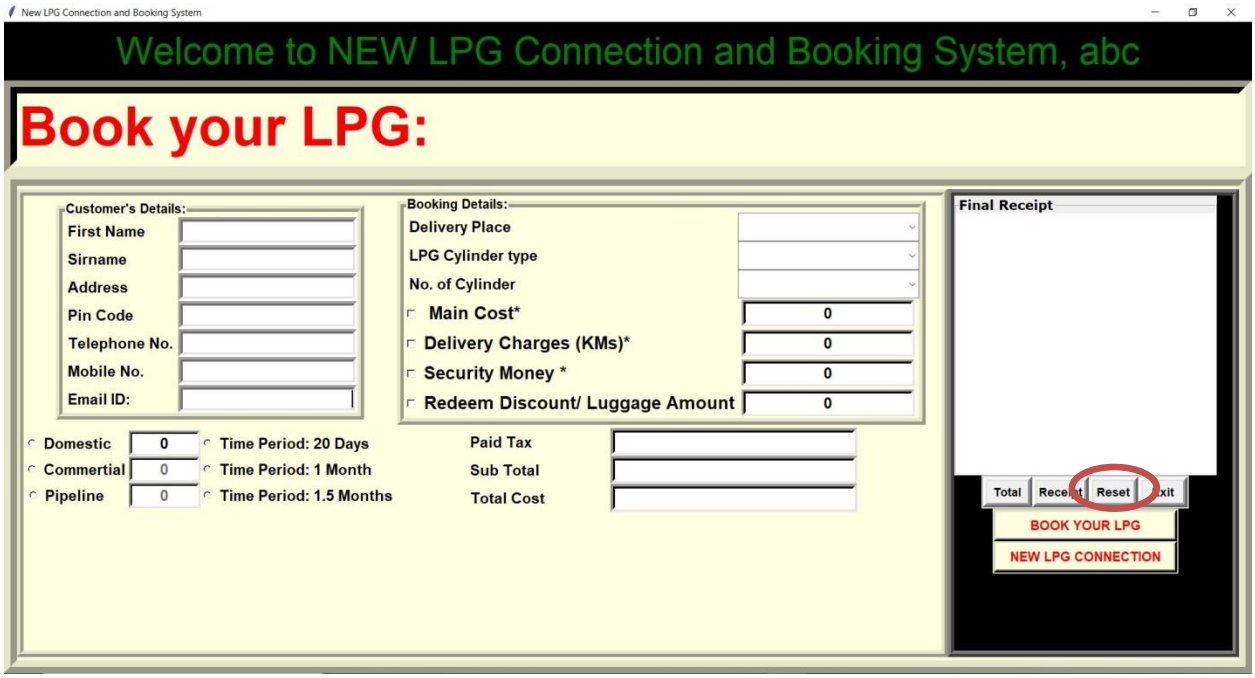
- User can total the billing by pressing the button “Total”



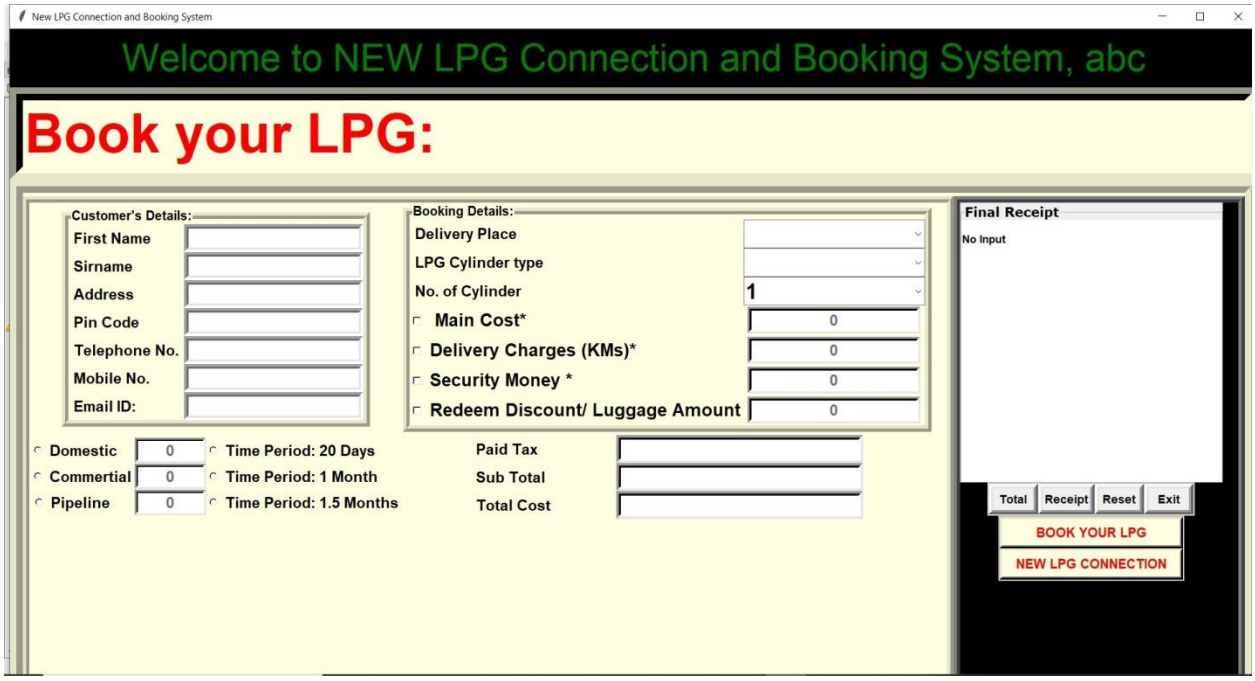
- User can get the receipt of the billing by pressing the button “Receipt”

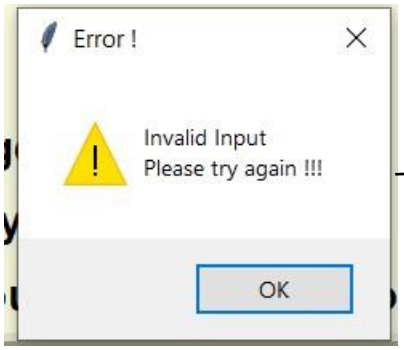


- User can rest the values of the billing by pressing the button “Reset”



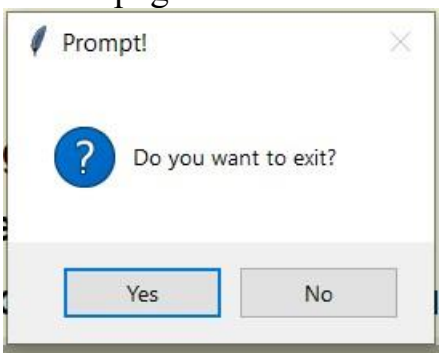
- Let’s take a look on what happens when details are not filled:



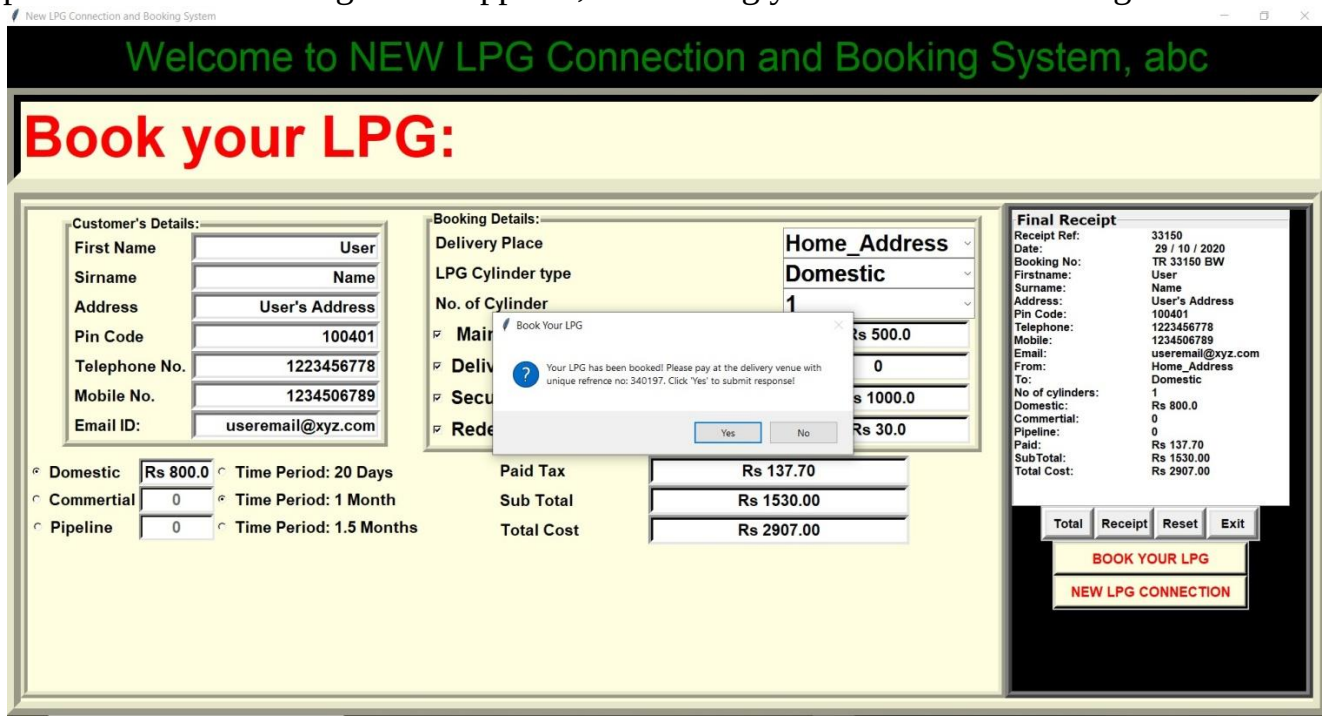


When Total is pressed with no data this error message pops up!

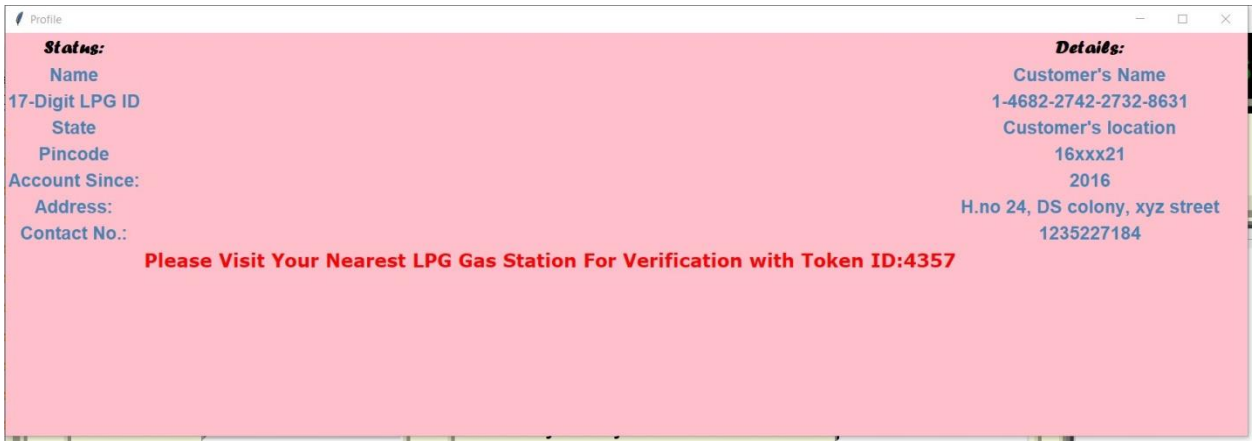
- The “Exit” button exits the UI with an exit prompt. Pressing ‘Yes’ exits and ‘No’ means staying on the same page.



- When the Correct information is filled and then “Book Your LPG” button is pressed then this dialogue box appears, accounting your successful booking



- The “New LPG Connection” button takes you another root page, which displays users previous details and generates a random token number for the user to verify its identity, following the later guidelines to avail new facilities.



Then user can go back to the Booking page and exit or simply hit the close(X) button.

Chapter 5: TECHNOLOGIES AND FRAMEWORK USED

This project is made Python. Moreover to make the project system more interactive and user friendly Tkinter GUI and SQLite3 are used.

Tkinter is Python's de-facto standard GUI (Graphical User Interface) package. It is a thin object-oriented layer on top of Tcl/Tk. Tkinter is not the only GuiProgramming toolkit for Python. It is however the most commonly used one. Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit. Import the Tkinter module.

SQLite is a C library that provides a lightweight disk-based database that doesn't require a separate server process and allows accessing the database using a nonstandard variant of the SQL query language. Usually, SQL operations will need to use values from Python variables. It can be used to create a database, define tables, insert and change rows, run queries and manage SQLite database file. It also serves as an example for writing applications that use the SQLite library. SQLite uses automated regression testing prior to each release.

Chapter 6: SWOT ANALYSIS

Strengths:

- Technological innovation aimed at improving user associability
- Simple to use and process
- Easier way to book LPG cylinder
- Easier way to add LPG connection
- The costing is machine based and accurate
- Easy paying at delivery option
- GUI interactive system
- Customers gets discounts if valid

Weakness:

- Still needs manual human verification as LPG bookings are company and government based system processes
- Token numbers must be conserved for referential usage
- Updating of the function’s source code might be needed if pricing or taxes

changes.

- Errors in program of a single frame can lead to disruptions in other frames.
- Needs to be more encrypted

Opportunities:

- Promotion of innovative cylinder handlings processes can be made online and ready for the user
- Cylinders can be booked from anyplace and anytime
- Queuing hours won't be necessary and the delivery could be made to any destination added by the user.

Threats:

- Unverified personals may be benefited and resource smuggling could be charged up.
- Pooling of LPG may not be subjected to specified delivery person and wrongly weighted cylinders might be delivered.
- System hackers might also possess a black market benefits from the same.

Chapter 7: REFERENCES

Here are some honorable references used for completion of the project:

- Google
- Wikipedia
- Introduction to programming using python by Y. Daniel Liang
- Python Programming: Using problem solving approach by Reema

GITHUB LINK

----------End Of Report----------