1. INTRODUCTION

1.1 PROJECT OVERVIEW

A gas agency has number of customers whenever a customer need for booking of gas; they come and make a booking for refilling of gas.

Whenever a customer comes for booking his/her details are stored in booking register against booking number. When refilled cylinder is released, this is done in first come first serve basis .i.e. order of booking number.

When a customer joins, he/she is given a customer number and then his/her details are appended at the end of customer register. Similarly, for the incoming transfer of customer, after validating the customer details these are appended at the end of customer register.

The Gas Agencies get the order request through phone calls or by personal from their customers and deliver the gas cylinders to their address based on their demand and previous delivery date. This process is made computerized and the customer's name, address and cylinder type details are stored in a database. Based on this the price for a customer is made simple and easier, since a customer order for gas can be accepted only after completing a certain period from the previous delivery. This can be calculated and priced easily through this.

There are two types of delivery like domestic purpose use delivery and commercial purpose use delivery. The price rate and capacity differs for both. This can be easily maintained and charged accordingly.

1.2 PROJECT DESCRIPTION

The project entitled "Gas booking and cancellation system" is done to make the manual process easier by making it a computerized system for booking and cancelling the cylinders booked.

The Gas Agency get the order request through phone calls or by personal from their customers and deliver the gas cylinders to their address based on their demand and previous delivery date. This process is made computerized and the customer's name, address and cylinder type details are stored in a database. Based on this the price for a customer is made simple and easier, since a customer order for gas can be accepted only after completing a certain period from the previous delivery. This can be calculated and priced easily through this.

There are two types of delivery like domestic purpose use delivery and commercial purpose use delivery. The price rate and number of cylinders differs for both. This can be easily maintained and charged accordingly. The number of cylinders and all its price details are processed swiftly.

The following are involved in this project

- User Details
- Booking Details
- History of booking Details
- Admin access

3. SYSTEM SPECIFICATION

3.1 HARDWARE SPECIFICATION:

Microprocessor : Intel Core i5 Processor

RAM : 8 GB

Hard Disc : 1 TB

3.2 SOFTWARE SPECIFICATION:

Operating System: Windows 10 home (x64 bit)

Front End : Visual Studio 2010 Ultimate

Back End : MS-Access 2010

3. SYSTEM ANALYSIS

3.1 PRELIMINARY INVESTIGATION

Preliminary investigation is a problem solving activity that requires intensive communication between the system users and system developers. It does various feasibility studies. In these studies, a rough figure of the system activities can be obtained, from which the decisions about the strategies to be followed for effective system study and analysis can be taken.

At the preliminary investigation an initial picture about the system working is got from the information got from this study, the data collection methods were identified. Right from the investigation about the system many existing drawbacks of the system could be identified, which helped a lot in the later stages of more rigorous study and analysis of the manual system.

The most critical phase of managing system projects is planning. To launch a system investigation, we need a master plan detailing the steps to be taken, the people to be questioned, and the outcome expected.

3.2 EXISTING SYSTEM

The existing system is a manual system. In the present Gas Agency system, all the activities are done manually. All data entry is performed by writing data into the book, paper documents. The price calculations are prepared manually, so there is a chance for occurring errors and the calculations are not so accurate. Various information's such as customer details, price details, delivery details cancellation and customer requirements are handled manually. When there is need for retrieving details searching is unavoidable this is a difficult task searching the records manually. This is also too much time consuming when we want to retrieve details according to some specific conditions. There are many disadvantages in manual system. They are:

1. Book keeping charge:

We have to keep the record in the large amount of books which may incur much cost. We have to spend lot of money to buy a new book when one book gets completed.

2. Inaccuracies:

Since all the data entry is done manually in book of records, inaccuracies can occur. Cause of error is more in manual system.

3. Expensive:

Large number of personal hours is required for each and every part of the manual system. We have to buy lot of books, paper for keeping the information. So the existing system is very expensive.

4. Inefficiency:

Large volume of data and unformatted outputs lead to inefficient decision making. Inefficiency in the existing system is also caused by the lack of proper communication between the people of the organization.

5. Time and effort

Large amount of time and efforts may require. For searching a particular data, we have to search all the paper documents, its corresponding book and find the data.

6. All the searching are done manually:

In the existing system, all the work like entering the details of a Customer, Booking details, cancellation Details etc.., are done manually. This is really time consuming.

3.3 PROPOSED SYSTEM

There are many disadvantages and drawbacks in manual system. We can solve this problem by using the computer based system. Our proposed system is computer based which can be very effective. Many advantages are there in this type of gas agency system.

The main advantages of this proposed system are:

1. Security:

The software used for this gas agency system include the password, so the security is provided. When anyone opens the software it has the provision for entering password. We have to enter the correct password; otherwise we cannot enter into the system. Password is saved in system registry for more security.

2. User Friendly:

This package is very user friendly because it is easy to maintain and operate. All data entry operations are simple, administrator wants only enter data and all other operations are performed by the computer.

3. Speed and Accuracy:

Computerization process increases the speed of all the operations. The manpower is reduced. Instead of doing all operation manually, computer will do it automatically. It also increases the accuracy of all the operations performed.

4. Efficiency and flexibility:

The flexibility and the efficiency of all the operation in this gas agency system is increased because of the computerization. No errors are occurred compared to the manual system. Instead of searching lot of data, we can produce report in a few seconds.

5. Formatted Output:

Each output of the proposed system is formatted in such a way so as to allow easy decision making. We can print the profile easily using data reports.

3.4 FEASIBILITY STUDY

Feasibility study is test of system proposal according to its workability, impact on organization, ability to meet the needs, effective use of resources. During the study, the problem definition is crystallized and aspects of the problem to be included in this system are determined. The result of the feasibility study is a formal proposal. If the proposal is accepted, we continue with the project.

FEASIBILTY CONSTRAINTS

1. ECONOMIC FEASIBILITY

Economic analysis is most frequently used method for evaluating the effectiveness of a candidate system. More commonly known as cost/benefit analysis, the procedure is to determine the benefits and savings that are expected from a candidate system and compare them with costs.

The proposed system is economically feasible one. We do not want to keep lot of books for storing the data. By manipulating data using computer reduces cost. We do not want lot of employees; we simply want one to operate it, Administrator.

2. TECHNICAL FEASIBILTY

Technical feasibility centres on the existing computer system and to what extend it can support the proposed system. It involves financial considerations to accommodate technical enhancements. If the budget is a serious constraint, then the project is judged not feasible.

Here we need only a computer working in low speed to accomplish the task.

3. BEHAVIOUR FEASIBILTY

People inherently resist change and computers have been known to facilitate change. An estimate should be made of how strong a reaction the user staff is likely to have toward the development computerized system. The computer installations have something to do with turnover, retraining and changes to employee status.

In the proposed system, it behaves very feasibly. It is very easy to train the people in the proposed system. We simply want to tell the purpose of each button and about a little data to enter.

3.5 ADVANTAGES OF PROPOSED SYSTEM

- > Users will receive better and quick service.
- > Security is ensured by protecting the system with passwords.
- > Normalized database tables eliminate data redundancy.
- > Provision for minimizing errors in data entry.
- > Efficient data storage.
- > Real-time response and user-friendliness.
- > Time saving.

3.6 REQUIREMENT SPECIFICATIONS MICROSOFT VISUAL STUDIO 2010

Visual Basic .NET (VB.NET) is an object-oriented computer programming language implemented on the .NET Framework. Although it is an evolution of classic Visual Basic language, it is not backwards compatible with VB6, and any code written in the old version does not compile under VB.NET.

Like all other .NET languages, VB.NET has complete support for object-oriented concepts. Everything in VB.NET is an object, including all of the primitive types (Short, Integer, Long, String, Boolean, etc.) and user-defined types, events, and even assemblies. All objects inherit from the base class Object.

VB.NET is implemented by Microsoft's .NET framework. Therefore, it has full access to all the libraries in the .Net Framework. It is also possible to run VB.NET programs on Mono, the open-source alternative to .NET, under not only Windows, but also even Linux or Mac OSX.

The following reasons make VB.Net a widely used professional language:

- Modern, general purpose.
- Object oriented.
- Component oriented.
- Easy to learn.
- Structured language.
- It produces efficient programs.
- It can be compiled on a variety of computer platforms.

MICROSOFT ACCESS 2010

Microsoft Access is a database package generally, used to design database applications MICROSOFT ACCESS IS USED IN THIS PROJECT FOR FOLLOWING REASONS

- Microsoft Access able to store large data.
- Its DBMS Applying validation is easy in Microsoft Access.
- Creating relationship is not a complex task.
- It provides good graphical interface.
- Microsoft Access can execute any valid SQL query
- It provides all necessary forms of data types.
- Microsoft access has good connectivity with visual basic.

Microsoft Access, also known as Microsoft Office Access, is a database management system from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools Microsoft Access stores data in its own format based on the Access Jet Database Engine. It can also import or link directly to data stored in other applications and databases.

Software developers and data architects can use Microsoft Access to develop application software, and "power users" can use it to build software applications. Like other Office applications, Access is supported by Visual Basic for Applications (VBA), an object-oriented programming language that can reference a variety of objects including DAO (Data Access Objects), ActiveX Data Objects, and many other ActiveX components. Visual objects used in forms and reports expose their methods and properties in the VBA programming environment, and VBA code modules may declare and call Windows operating system.

4. SYSTEM DESIGN

4.1 MODULAR DISCRIPTION

• Admin module:

The admin can login to the page and view the entire report of the user i.e. user, booking and cancellation details and admin has the authentication to make changes in the report also

• User profile module:

The user can register/login to the home page and view his profile details and also can makes changes by updating his profile.

• Booking module:

The user can make his/her booking by selecting the number of cylinders and can view the price. The user cannot make additional booking again if he/she has already made a booking(booking can be made only after 20 days from the date of delivery).

• History of booking module:

The user can cancel the current booking made.

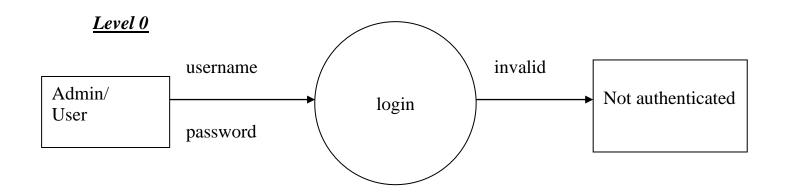
4.2 DATA FLOW DIAGRAM

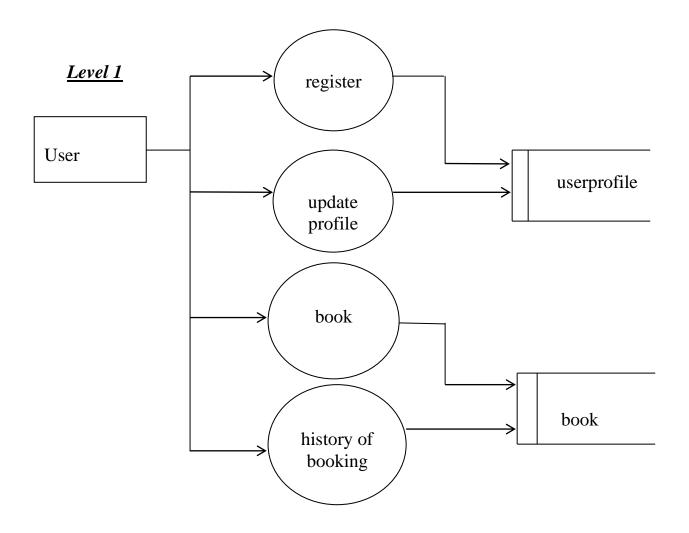
A data flow diagram is the best and easiest tool to represent the flow of the data in the project. It is otherwise known as bubble chart. It has the purpose of clarifying system requirements and identifying major transformations that will become programs in the system design. It is the major starting point in the design phase that functionally decomposes the requirements specifications down to the lowest level of detail. A DFD consists of a series of bubbles joined by lines. The bubble represents data flow in the system. In the normal convention a DFD has four major symbols.

. In the normal convention a DFD has four major symbols.
1. A Square defines source or destination of data.
2. An Arrow shows data flow.
3. A Circle represents a process that transforms incoming data into outgoing data
flows

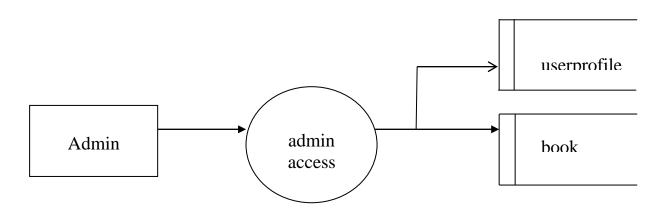
4. An Open rectangle shows a data store

DFD OF THE PROJECT

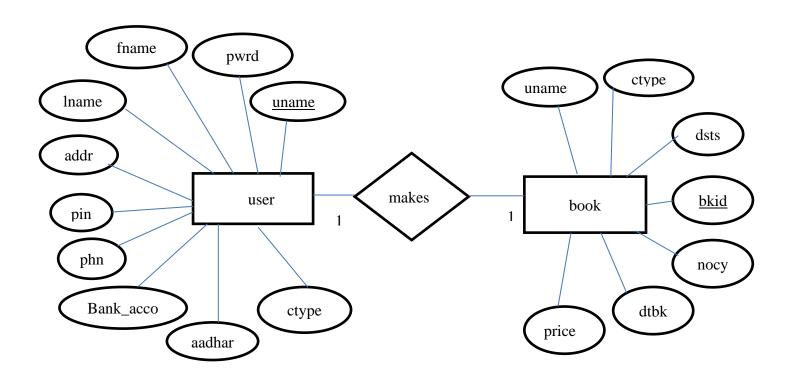




Level 2



4.3 ER DIAGRAM:



4.4 INPUT DESIGN

The input data are collected and organized to make data entry easy, logical, and error free. Each area in the input form should be identified should be specified for the user what to write and where to write.

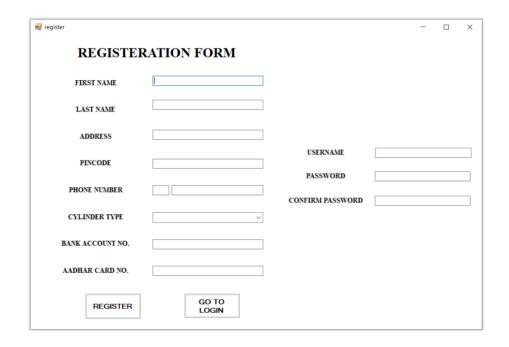
A screen is an actually a display station that has a buffer for storing data. The main objective of screen design is for simplicity, accurate and quick data capture or entry.

The objective in the input design is to ensure that the data which will be processed by the system is collected and inserted into the system efficiently according to the specified requirements, and with the minimum errors. The basic design consideration that would satisfy the user requirements were as follows.

Our guidelines are:

- Use the same format throughout the project.
- Allow ample space to avoid data over crowding because it cause eyestrain and may reduce the interest of the user.
- Use easy tolerant and consistent term such as "add", "Delete" and "close".





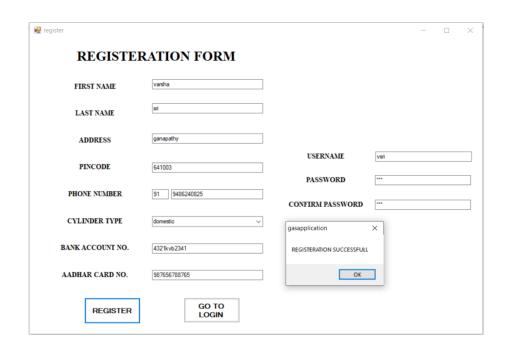
4.5 OUTPUT DESIGN

Report design is very important concept in the computerized system, without reliable output the user may feel the entire system is unnecessary and avoids using it. The proper output design is important in any system and facilitates effective decision making.

The basic output considerations were as follows

- Simple and legible methods were used for output using standard display controls
- All the output screens were informative and integrative in such a way the user can fulfil his requirements
- Quality reports were made available to the user





4.6 DATABASE DESIGN

It is a process of designing the database file, which is the key source of the information in the system. The objective of database is to design is to provide storage and it contributes to the overall efficiency of the system. The file should properly design and planned for collection, accumulation, editing and retrieving the required information.

The primary objective of a database design are fast response time to inquiries ,more information at low cost, control of redundancy ,clarity and ease of use, accuracy and integrity of the system ,fast recovery and availability of powerful end-user languages. The theme behind a database is to handle information as an integrated whole thus the main objective is to make information as access easy, quick, inexpensive and flexible for the users.

TABLE DESIGN

Table name: userprofile

Primary key: uname

Field	Data type	Size	Description
uname	Text	255	User name
pwrd	Text	255	Password
fname	Text	255	First name
Iname	Text	255	Last name
addr	Text	255	Address
pin	Number	Long integer	Pincode
phn	Number	double	Phone number
ctype	Text	255	Cylinder type
bank_acco	Text	255	Bank account
			number
aadhar_card	Number	double	Aadhar card
			number

Table name: book
Primary key: bkid
Foreign key: uname

Field	Data type	Size	Description
uname	Text	255	User name
ctype	Text	255	Password
dsts	Text	255	Delivery status
<u>bkid</u>	Number	Long integer	Booking id
nocy	Number	Long integer	Number of cylinder
dtbk	Date	Short date	Date of booking
price	Number	decimal	Price

5. SYSTEM TESTING

5.1 TESTING METHODS

In a software development project, errors can be injected at any stage during the development. Testing performs a very critical role for quality and for ensuring the reliability of software. During testing, the program to be tested is executed with set of test cases, and the output of the program for the test cases is evaluated to determine if the program is performing as it is expected to. Due to its approach, dynamic testing can only ascertain the presence of error in the program; the exact nature of the error is not usually decided by testing. Testing forms the first step in determining the errors in the program. Clearly the success of testing in revealing errors in programs depends critically on the test cases.

Testing is usually relied upon to detect the faults that occur during any phase of the software development cycle, in addition to the faults that introduced during the coding phase itself. For this, different levels of testing are used which perform different tasks and aim to test different aspects of the system. The basic levels of testing are unit testing ,integration testing ,system and acceptance testing. The different levels of testing attempt to detect different types of faults.

The main objective of testing is to uncover errors from the system. For the uncovering process we have to give proper input data to the system. So we should have more conscious to give input data. It is important to give correct inputs to efficient testing.

5.2 TEST PLAN

UNIT TESTING

Unit testing verification efforts on the smallest unit of software design, module. This is known as "Module Testing". The modules are tested separately. This testing is carried out during programming stage itself. In these testing steps, each module is found to be working satisfactorily as regard to the expected output from the module.

INTEGRATION TESTING

Integration testing is a systematic technique for constructing tests to uncover error associated within the interface. In the project, all the modules are combined and then the entire programme is tested as a whole. In the integration-testing step, all the error uncovered is corrected for the next testing steps.

VALIDATION TESTING

To uncover functional errors, that is, to check whether functional characteristics confirm to specification or not.

OUTPUT TESTING

The output generated or displayed by the system, under consideration is tested asking the users about the format required by them. Here, the output is considered into two ways: one is on the screen and other is the format.

The output format on the screen is found to be correct as the format design according to the user needs. For the hard copy also, the output comes out as specified by the user. Hence the output testing didn't result in any correction in the system.

USER ACCEPTANCE TESTING

User acceptance of a system is the factor for the success of any system. The system under consideration is tested for user acceptance by constantly keeping in touch with the perspective system users at the time developing and making of testing automation tool.

The testing of the software began along with coding. Since the design was fully object-oriented, first the interface were developed and tested. Then unit testing was done for every module in the software for various inputs, such that each line of code is at least once executed.

After all modules were coded, the integration test was carried out. Some minor errors were found in the output at the earlier stage and each of them was corrected. In the implementation of user interface part no major errors were found. After the software was completely developed, the testing was done. The output of the system is correct and accurate during the time of demonstration. We proceed the testing process in this way

Each and every program units are tested which is known as unit testing

Then, we check the logic of the program, were the input of one would affect the output of the order, which is called as series testing

We test the inputs to ensure that they do infant process contain transactions according to specification. This testing is named as positive testing.

Execution a program with the intention of finding errors does system testing.

We run the system with live data by the actual user. This known as acceptance testing.

The security level of the system is tested which prevents unauthorized access to the system and records the user names that performed any change to the records. This kind of test is known as security testing.

5.3 TESTING OBJECTIVE

Testing is a process of executing a programme with intention of finding an error. A good test case is one that has a high probability of finding an as-get undiscovered error. A successful test is that in which no error are found. The objective is to design tests that systematically uncover different classes of error and do with a minimum amount of time and effort.

6. SYSTEM IMPLEMENTATION

Implementation is the process of bringing a developed system into operational use and turning it over to the user. Implementation activities extend from planning through conversion from the old system to the new.

At the beginning of the development phase a preliminary implementation plan is created to schedule and manage the many different activities that must be integrated into the plan. The implementation plan is updated throughout the development phase, culminating in a changeover plan for the operation phase. The major elements of the implementation plan are test plan, training plan, an equipment installation plan, and a conversion plan.

7. CONCLUSION

Gas booking and cancellation System has been designed and developed according to the current requirements of public and gas agency. The benefit expected from this is that it could reduce the burden of traditional method.

The major goal of the software is to create software that could automate all Gas Agency Related tasks and public works easy. This software is very helpful to users who are searching for software for automating a Gas Agency.

This helps public for easy booking and cancellation of cylinders and the agency to access their portal from remote.

8. SCOPE FOR FUTURE ENHANCEMENT

This system is designed in such a way that addition of new modules can be done in a very simple and efficient manner. The future holds a lot to offer to the development and refinement of this project. As proper documentation exists the whole system flow is traceable. Some likely enhancements could be added in the future to enhance the capability of this system.

We may conclude that this software created will definitely find a good market in the Gas Agency and the public to its maximum extend.

9. BIBLIOGRAPHY

BOOKS REFERENCES

- 1. Jesse Liberty "Learning Visual Basic. NET"
- 2. Chuck Easttom- "Learn VB.NET"
- 3. Fred Barwell- "Professional VB.NET"
- 4. Gary Cornell and Jonathan Morrison- "Programming VB .NET: A Guide for Experienced Programmers"
- 5. Dan Appleman- "Moving to VB .NET: Strategies, Concepts, and Code"

WEBSITES REFERENCES

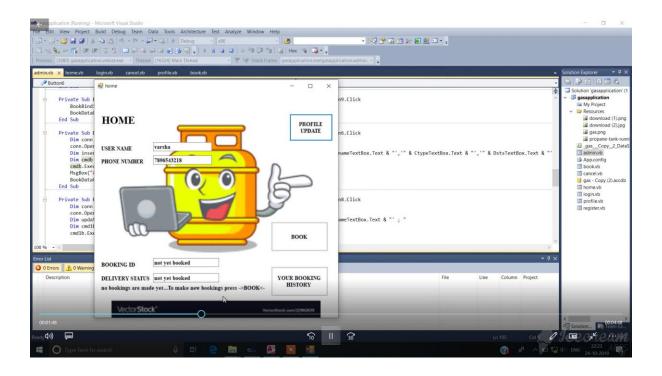
- 1. https://www.tutorialspoint.com/vb.net/
- 2. https://www.vbtutor.net/index.php/visual-basic-net-tutorials/
- 3. https://www.guru99.com/vb-net-tutorial.html
- 4. howtostartprogramming.com/vb-net/
- 5. http://vb.net-informations.com

10.E-CONTENT

E-learning, or electronic learning, has been defined in number of ways in the literature. In general, e-learning is the expression broadly used to describe instructional content or learning experience delivered or enabled by electronic technologies.

Some definitions of e-learning are more restrictive, for example limiting e-learning to content delivery via the Internet The broader definition can include the use of the Internet, intranets/extranets, audio and videotape, satellite broadcast, interactive TV, and CDROM, not only for content delivery, but also for interaction among participants Holmes and Gardner point out that e-learning provide access to resources that promotes learning on an anyplace, anytime basis.

However, E-learning is simply a delivery of course content via electronic media such as Internet, Intranet, Extranet, satellite broadcast, audio/video clips, interactive TV and CD-ROMs

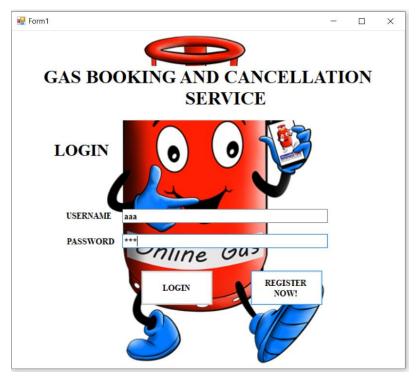


11. APPENDIX

11.1. SCREENSHOTS

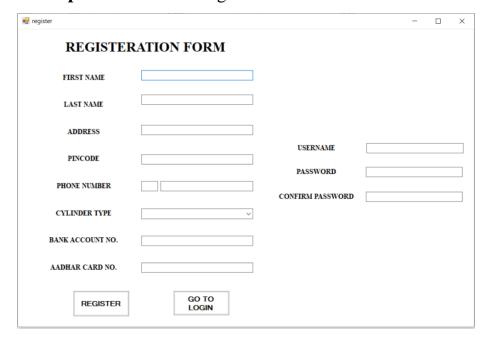
Login

Description: This is the login sheet where the user can login



Registration form

Description: This is the registration form where new user can register



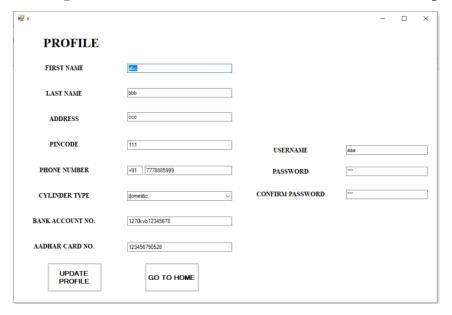
Home

Description: This is the home page for the user



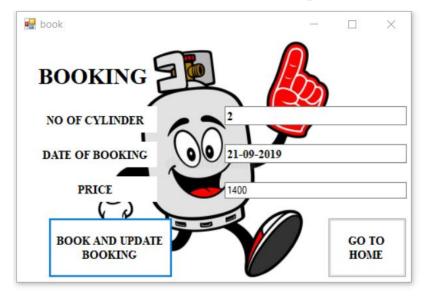
Profile updated

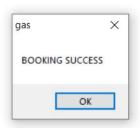
Description: Here, we can make some alteration to our profile



Booking cylinders

Description: Here, we can book the required number of cylinders





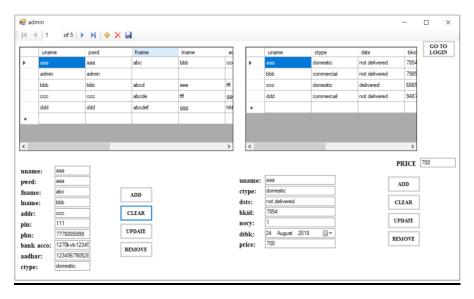
Cancel the booking

Description: The booking history can be viewed here and can cancelled the pre-booking



Admin access

Description: The admin has access permission to add ,make updates, remove an user



11.2 SAMPLE CODING:

Login form:

```
Imports System.Data.OleDb
Imports System.Data
Imports System.Data.OleDb.OleDbCommand
PublicClasslogin
Public uname AsString = ""
Public pword AsString
Public pass AsString = ""
Public objh AsNewhome
Public unameh AsString = ""
Public phnh AsString = ""
Public dstsh AsString = ""
Public bkidh AsString = ""
Public dbsource AsString = "Provider=Microsoft.ACE.OLEDB.12.0;Data
Source=|DataDirectory|\gas - Copy (2).accdb"
PrivateSub LOGIN1_CLICK_Click(ByVal sender As System.Object, ByVal e As
System. EventArgs) Handles LOGIN1_CLICK. Click
If USERID1_TYPE.Text = ""Or PASSWORD1_TYPE.Text = ""Then
MsgBox("PLEASE FILL ALL THE REQUIRED INFORMATION")
Else
uname = USERID1_TYPE.Text
pword = PASSWORD1_TYPE.Text
If USERID1_TYPE.Text = "admin"Then
admin.Show()
Me.Hide()
Else
Dim querry AsString = "select pwrd from userprofile where uname= ""& uname &""; "
Dim conn = NewOleDbConnection(dbsource)
Dim cmd AsNewOleDbCommand(querry, conn)
conn.Open()
Try
pass = cmd.ExecuteScalar().ToString
```

```
Catch ex AsException
MsgBox("USERNAME DOESNOT EXIST")
EndTry
If (pword = pass) Then
MsgBox("LOGIN SUCCESS")
 objh.unameh = USERID1_TYPE.Text
Dim qsphn AsString = "select phn from userprofile where uname= "% uname &"'; "
Dim connphn = NewOleDbConnection(dbsource)
Dim cmdphn AsNewOleDbCommand(qsphn, connphn)
connphn.Open()
objh.phnh = cmdphn.ExecuteScalar().ToString
Dim qsdsts AsString = "select dsts from book where uname= ""& uname &""; "
Dim conndsts = NewOleDbConnection(dbsource)
Dim cmddsts AsNewOleDbCommand(qsdsts, conndsts)
conndsts.Open()
objh.dstsh = cmddsts.ExecuteScalar().ToString
Dim qsbkid AsString = "select bkid from book where uname= "'& uname &"'; "
Dim connbkid = NewOleDbConnection(dbsource)
Dim cmdbkid AsNewOleDbCommand(qsbkid, connbkid)
connbkid.Open()
objh.bkidh = cmdbkid.ExecuteScalar().ToString
objh.Show()
Ifhome. Visible = TrueThen
Me.Close()
EndIf
Me.Hide()
Else
MsgBox("LOGIN FAILED")
 USERID1_TYPE.Clear()
PASSWORD1_TYPE.Clear()
EndIf
EndIf
EndIf
```

EndSub

PrivateSub REGISTER_NOW1_CLICK_Click(ByVal sender As System.Object, ByVal e As

System.EventArgs) Handles REGISTER_NOW1_CLICK.Click

register.Show()

Me.Hide()

EndSub

PrivateSub login_Shown(ByVal sender AsObject, ByVal e As System.EventArgs)

HandlesMe.Shown

uname = vbNullString

pword = vbNullString

pass = vbNullString

EndSub

EndClass