



## Gas Booking System Using RFID Reader

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**Abstract**— Now a days technology is already on a high level. But still in some states or we can say in some villages, technology is not even introduced. Taking this into consideration we have decided to do something regarding to gas booking so that even villagers can use the technology efficiently. We know that gas is the most important factor for everyday life. So, we have decided to do gas booking system using Radio Frequency Identification Reader (RFID) which we will keep in such places that people can access it easily. And we will give that identification card to each of the gas holder. So, even they are illiterate they can use this system.

**Keywords**— RFID Reader, RS-232, Illiterate people, Gas booking, Availability

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### I. INTRODUCTION

To achieve simplest Gas booking method, which will help illiterate people also and this system can be easily provided and easy to use. There are many ways to book the gas. But they are not providing that much efficiency. Hence we developed another way to book the gas using RFID reader. The domain we used for developing this system is basically embedded. We developed this system basically for literature people. The existing gas booking systems are hard for the illiterate person as they are lack in the knowledge of technology. The existing gas booking systems are not providing the necessary efficiency mostly in the rural area. But the systems which we are going to build it can be used in the rural area very efficiently and can easily available and used and also to come over the disadvantages of the existing gas booking system.

### II. LITERATURE REVIEW

Many organizations, particularly in computer hardware and software areas, provide extensive customer support via telephone 'help desks. This project demonstrates the use of emerging automation technologies to potentially permit better utilization of increasingly scarce human resources. Based on the analysis of available technologies, we are developing a system using rfid reader. This paper provides a survey on radio frequency identification (RFID) technology. There are various existing methods to book gas now days like booking of gas by phone calls which is the older method. The oldest method was or the pattern was to stand in line outside the gas office with the gas cylinder which is over for hours and to replace the old cylinder with new one and take the new one. But this method took hours and hours and was a tedious and tiring task to do. Due to which after that came the method of phone calls. In that method we had to call the office and give our id number according to which they used to check and verify the information and after that they inform the customer their number as per they will receive their gas. After that came the method of message. In this method customer has to send the message by the registered number to a particular office number with our gas id. After that the admin used to check the availability and send the customer its number as per that the customer used to get the gas. After that the net gas booking came into existence by which we just have to go to gas booking site and fill in some details and get our gas book. But this booking of gas through internet took extra charges. So through our analysis all the methods had some draw backs for which we all decided to overcome most of its disadvantages and create such a user friendly method that can be used with ease by every member of the family. The paper reviews the current progress.

### III. PROPOSE SYSTEM

#### **Purpose:-**

The purpose of this project is to provide cooking gas booking system more effectively than the existing system. There are some disadvantages of the existing gas booking system. We need to pay some money to book the gas. But the gas booking system using RFID Reader does not require much money. And it can be made easily available to every person. The gas booking can be easily done by RFID Reader and it can be used even by illiterate person. It is hard for illiterate person to book the gas now using existing system as they are lack in the knowledge about technology. Young age people easily use the technology as they have all the idea about existing technology. So the basically the purpose of this gas booking system using RFID reader to be easily available and can be easily used by different gas holders.

Architecture:-

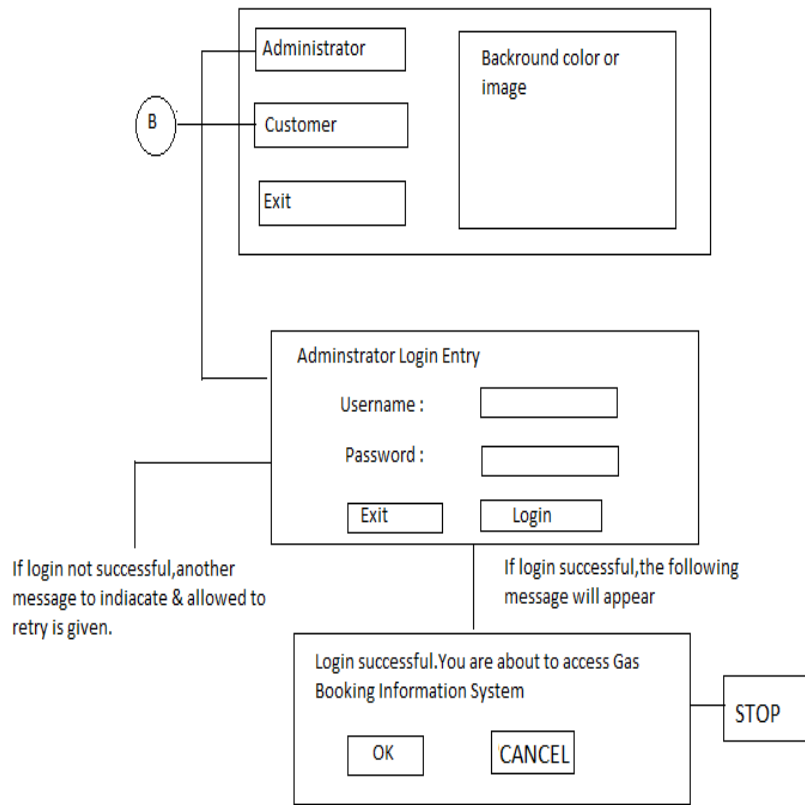


Fig (a) Architecture of Gas booking system

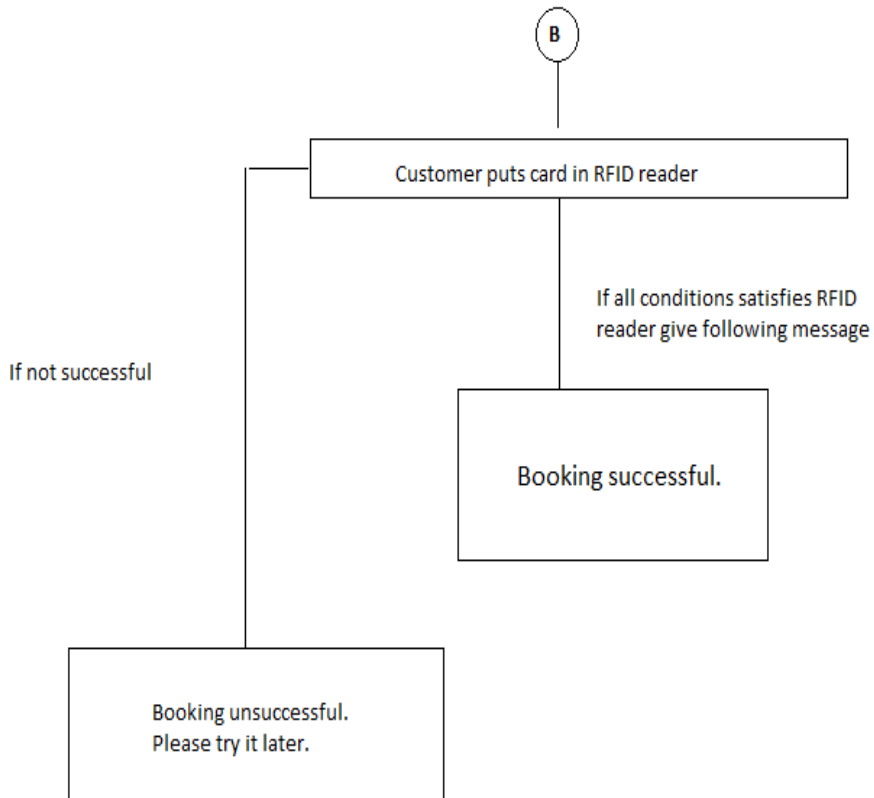


Fig (b) Architecture of Gas booking system

#### **Mathematical Model:-**

A mathematical model is a description of a system using mathematical concepts and language.

The process of developing a mathematical model is termed mathematical modelling.

Mathematical model consist of three parts:

1. Mapping
2. State Diagram
3. Set theory

A mapping cardinality is a data constraint that specifies how many entities an entity can be related to in a relationship set. Mapping Cardinalities are useful in describing the binary relationship sets. For a binary relationship between two entity sets X and Y we have the following mapping cardinalities.

Types of mapping are:

1. One-to-one Mapping
2. One-to-Many Mapping
3. Many-One Mapping
4. Many-to-Many Mapping

In our project there 'N' number of users and system. Therefore our mapping is many to many. The users are represented as {U1, U2, U3.....Un}. And our system represented as {S1, S2, S3...Sn}.

User set : { U1, U2, U3.....Un}

System set : { S1, S2, S3...Sn}.

Relationship: Many to Many

#### **IV. FEASIBILITY STUDY**

The feasibility study is an evaluation and analysis of the potential of the proposed project which is based on extensive investigation and research to support the process of decision making. Feasibility studies aim to objectively and rationally uncover the strengths and weaknesses of an existing business or proposed venture, opportunities and threats present in the environment, the resources required to carry through, and ultimately the prospects for success. In its simplest terms, the two criteria to judge feasibility are cost required and value to be attained. As such, a well-designed feasibility study should provide a historical background of the business or project, description of the product or service, accounting statements, details of the operations and management, marketing research and policies, financial data, legal requirements and tax obligations. Generally, feasibility studies precede technical development and project implementation.

A feasibility study evaluates the project's potential for success; therefore, the perceived objectivity is an important factor in the credibility to be placed on the study by potential investors and lending institutions. It must therefore be conducted with an objective, unbiased approach to provide information upon which decisions can be based.

#### **V. SYSTEM FEATURES**

##### **A. Functional Requirements**

- Admin authentication using user id and password.
- RS 232 Serial communication mode.
- Power generator.
- RFID receiver.

##### **B. Non-functional Requirements**

- 24 X 7 availability.
- Better component design to get better performance.
- Flexible service based architecture will be highly desirable for future extension.
- Ease of Use-flexibility, performance.
- Security- Privacy, Confidentiality, Integrity, Authentication.
- Comprehensiveness- Transferability, Divisibility, Standardization.
- Maintenance.

#### **VI. FUTURE SCOPE**

Current system considering the limitations and enhancements, offer a comfortable environment for the gas holders. Many challenges are involved in building solution, and just as many solutions available on the market. The above proposed model is easy to implement considering the available technology infrastructure. The models are simple, secure and scalable. Our current model is based on serial communication. But for future scope in enlarging the system we can use connectionless system. We can even start online for registration and information based website.

#### **VII. CONCLUSION**

We know that cooking gas is the most important factor of the life. In today's world, gas booking is being done by message system and using networking. But this is not user friendly to those people who cannot use internet or mobile phones. So, we have decided to do gas booking system using Radio Frequency Identification Reader (RFID) which we will keep in such places that people can access it easily. In this method the gas holder will get a unique number

card .Whenever gas holder wants to book the gas they just need to keep that card on RFID Reader. So because of this even illiterate or aged persons who don't know how to operate mobile phones and internet can book the gas within seconds with ease. And system will automatically book the gas .The gas holder will get the receipt which contains all the details of booking. And as this gas centers will be placed nearby or at many places so people will not have to travel much. We are working on this system so that we can provide gas booking system to everyone without taking more efforts. We all know that gas booking is required by everyone. But the techniques that are available for gas booking now days are many but those are not totally suitable or favourable for everyone. Thus we decided to take up such a project on gas booking and built such a system that can be used by everyone. And so for this purpose we built such a project in which we can build a system using rfid. And through this system we can find that we made gas booking being done by everyone easily in proper way.

#### **ACKNOWLEDGMENTS**

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