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A Gas Cylinder Delivery Service in Oman

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Abstract:

Gas is one of the basic requirements that must be available in every home, purchased from gas stations and street vendors. However, issues may arise in reaching gas stations or finding sellers in certain areas when gas is needed urgently.

Our project aims to create a desktop application for a gas cylinder delivery service, enhancing the community's experience by facilitating the timely delivery of suitable gas cylinders.

The application lists gas cylinder owners in Omani society, providing customer data like name, phone number, city, and governorate. Customers can pay using cash and choose cylinder size and price. The app also determines delivery time based on location. It facilitates communication between buyers and sellers in Arabic and English.

The gas cylinder delivery service application requires login information like username, phone number, and city, then opens a location service home page.

The home page features an "Order Now" button, allowing users to choose from a list of gas cylinder sellers, specifying size and price. After confirmation, customers can choose payment method, delivery location, and expected delivery time.

Then the seller receives an order containing the buyer's data and a gas cylinder, and the application confirms the delivery to the customer after completion.

Oman's technological advancements have made society accustomed to mobile phones, software, and applications, making the location of the gas cylinder delivery service to people easier than the traditional method of finding sellers.

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PROBLEM STATEMENT

Gas cylinder delivery service in Oman is the best way to satisfy customers. This desktop application can solve their problems in Gas scope. Customers who would like to buy gas cylinders with gas cylinder sellers in various regions in the Sultanate of Oman. The proposed system aims to facilitate the difficulty of the customer searching for the required gas cylinders in the appropriate sizes at times when their availability is difficult.

It also facilitates the lack of time for the customer to search for the required gas cylinders or his connection to other work such as working hours. Also, the availability of a means of transportation to carry gas cylinders. They can make their order at any time and any place in Oman.

In the coming years, we find ourselves in front of many changes in this major. We should focus on improving the performance of the desktop application on all sides.

We decided to do the current diagnostic, statistical, and analytical study for the following aims:

• To find out the causes and factors of this weakness.

• To suggest a suitable solution for developing this part in service.

• To evaluate the level for both seller and desktop application by the customer.

• To evaluate the level of desktop application by the seller.

• To develop the desktop application performance this is one of the quality requirements.

This study focuses on the above problem of the customers and sellers or society to find a way for them to develop their abilities by finding out the reasons behind this weakness in all sides.

LITERATURES REVIEW

The study explores the effectiveness of FAL in mitigating liquid loading in gas wells, providing insights into its operational parameters and suitability for stable production. [1]

The help of Foam-assisted lift (FAL) is a well-established gas well liquefication technique to prolong stable production from depleting, liquid-loading gas wells. Field tests were carried out to delineate the operating envelope of FAL in PDO liquid-loading gas wells. The field tests in five different wells consisted of stepdown tests [2].

Unique experience has been gained in implementing the wet gas metering process in a large-scale installation, including the incorporation of the wet gas Venturi correction algorithm in the DCS system, the understanding of fluid PVT behavior and its effects on the calculations, and the optimal installation of venturi, tracer injection, and fluid sampling hardware [3].

We consume half of the commercial energy sources—such as gasoline, gas, and electricity—for daily needs, according to data. Renewable energy is one of the alternate energy sources that are available to humans; they should be utilized. To create a cleaner environment, it is also crucial to motivate the population to begin utilizing alternative energy sources. The solar cooker is a modern innovation that cooks food in the evening using sun energy [4].

METHODS AND METHODOLOGY

Creating a gas cylinder application includes several steps. First, we need to understand what users need from the app. Then we design the user interface to be easy to use and attractive. After that, we choose the appropriate technologies and start developing the application using an agile development methodology. We also need to build a robust system to manage back-end operations and integrate location services and payment gateways. Once completed, we check the application to ensure it is working properly. After that, the application is deployed and maintained regularly to ensure its continuous operation.

QUESTIONNAIRE LIST AND DATA SAMPLES

The questionnaire for this study consists of two basic sections: the personal information section and the general questions section. This questionnaire also contains 7 different questions.

RESULTS AND DISCUSSION

A. **PRELIMINARY RESULTS:**

The preliminary results for the 7 questions shown in the questionnaire represent the total answers we obtained from the sample. We obtained personal information from the questions in the first section, and from the second section we obtained general information about the topic.

B. **COMPILING RESULTS:**

We have compiled the results around questions 7, which include personal questions and general questions. The personal questions section contains two questions: age and gender. The general questions section contains 5 questions (3 optional questions, and 2 opinion questions):

1- Do you use gas cylinders?
2- Do you prefer to have gas cylinders delivered to you?
3- Do you think that the idea of connecting gas cylinders has economic, social and military innovation value?

4- In your opinion, what are the security and safety measures that must be followed when transporting gas cylinders?
5- In your opinion, will the idea of delivering gas cylinders be successful in the future? How can it be developed?

C. **RESULTS SUMMARY:**

The final result of this study showed through this questionnaire that 98% use gas cylinders and are interested in this matter, and that 96% prefer to have gas cylinders delivered to them rather than having to go to buy them. The results of the questionnaire were as follows:

1- Age:
- Under 18 (2%)
- 18-24 (77%)
- 25-34 (6%)
- Above 34 (15%) 2- Gender:
- Man (8%)
- Female (49%)

4- Do you use gas cylinders?
- Yes (98%)
- No (2%)

5- Do you prefer to have gas cylinders delivered to you?
- Yes (96%)
- No (2%)
- Maybe (2%)

6- Do you think the idea of connecting gas cylinders has economic, social and military innovation value?
- Yes (81%)
- No (4%)
- Maybe (15%)

7- In your opinion, what are the security and safety measures that must be followed when transporting gas cylinders?
- Move it safely Make sure that the cylinder does not leak any gas. Dealing with it appropriately.
- It must be transported via trucks designed for transporting gas cylinders by a person familiar with security and safety guidelines and capable of dealing with and solving problems.
- Must be away from heat sources.
- Transporting gas cylinders requires secure storage, proper ventilation, avoiding open flames, and following industry safety guidelines to prevent leaks or accidents.

8- In your opinion, will the idea of delivering gas cylinders be successful in the future? How can it be developed?
   - Yes, of course, Making an application that helps the customer to execute his order quickly.
   - Yes, specialized people and make easy contact with customers.

SUGGESTIONS AND RECOMMENDATIONS

In light of the above summary and the results of this survey, we propose and recommend the following proposals:

1. Collaboration with restaurants, hotels, and large establishments to use Cylinder application
2. Integration of Payment Gateway which would enhance user convenience and streamline the transaction process.
3. Provide another gas cylinders such as gases for medical uses and gases for vehicles.
4. Multilingual Support in addition to Arabic and English.

CONCLUSION

The delivery gas cylinder system seeks to solve the current problems that customers in Oman encounter while trying to get gas cylinders. It also makes this system more convenient for those requiring gas cylinders for work, by providing a centralized platform that offers easy access to information. The system seeks to streamline the building construction process and enhance the overall customer experience. The method seeks to lower the unemployment rate and boost Oman's economy.

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