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Gas Level Indicator - Extended Project Idea Analysis
Group EN-17

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Reasoning of the problem and solution

In this economic situation, conserving gas has become a necessity due to the cost and the scarcity of gas cylinders. We were able to confirm this through a survey where 84.6% of the respondents considered gas conservation to be at least a moderate necessity. However, in the normal way of using gas cylinders, conservation can only be done by guesswork as there is no way of knowing how much gas has been used until the cylinder runs out of gas. Eliminating this limitation could be useful for many households in the country.

To conserve gas as optimally as possible, we propose a product that can calculate the remaining gas level of the cylinder. Our reasoning was that being able to check the level of gas left will make it easier for the user to conserve gas.

This is based on the following common observations:

- When there is a way to know the amount of gas in the cylinder, it is possible to monitor how much gas was used for a particular task, and this will enable the user to optimally allocate gas amounts for various tasks.
- Knowing the gas level is low will subconsciously allow the user to efficiently use the remaining amount of gas.

Another common issue related to gas cylinders is the possibility of unexpectedly running out of gas before being able to purchase a new one. This can cause inconveniences and wastage of resources. According to our survey, 68% of the respondents have experienced this issue at least occasionally. The above mentioned product can also resolve this problem by reliably indicating a low gas level.

Our product will also be able to indicate the variation of gas level over time, which can allow the user to identify periods of high gas usage and determine the best ways to conserve gas.

According to the above observations, we inductively reasoned that a product that can measure the gas level of a cylinder will be useful for conserving gas. 87% of the respondents to our survey agreed that having such a product will help them to manage gas usage more easily, which provided a strong validation to our solution.

Description and usage of the proposed product

The product will consist of a weighing scale that can be kept under the gas cylinder, and a display that can be fixed nearby. By measuring the weight of the gas cylinder and using the known weight of gas in a full cylinder (which can be taken as a user input according to the size of the cylinder), the device will be able to calculate the remaining percentage of gas and display it.

When using the device, the scale can be kept under the cylinder without using a significant amount of extra space. Once the cylinder is placed on the scale, the gas level percentage and statistics can be checked at any time without any extra effort from the user until the cylinder has to be replaced. This level of convenience could be an additional incentive for people to use our product.

Innovation rating: 7/10
This type of product has the potential to be an extremely useful device during the current economic crisis in the country even though it is not commonly available in the market.