Research on automation of gas meters and introduction of technological mobile application system in the Republic of Uzbekistan

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Abstract: As we are currently living in the era of advanced technology, we need to use the opportunities of technology properly. Currently in the Republic of Uzbekistan technological automation, studying the technical parameters of machines and having real-time information are gaining importance. Connecting gas meters to the system in the Republic of Uzbekistan is considered a complicated process. The reason is that every house uses natural gas (methane). This means that each gas meter is checked by one person from door to door, which is time-consuming and prone to human error. Android to automate this system automatically calculates and analyzes gas meters through a mobile camera. An application was presented when calculating the gas meter and meter numbers are attached to the application and automatically calculated using optical character recognition technology to obtain consumption units. This proposed software prototype was tested for 30 gas meters and it showed 97% accuracy results. It is a technology based application enhanced for reading numbers and reading barcodes. The purpose of this article will be to establish a program for calculating gas meters through a technological application and prevent errors.

Keywords: Technical automation, parameters of gas meters, viewing in the computer system, attaching the meter to the android application, software for detecting optical symbols, barcode reader application mode

Introduction: Currently, highly mechanized and productive sectors of the economy of the Republic of Uzbekistan are developing. In production areas automated system materials are widely used. A gas meter is a special flow meter used to measure gas. We use it to measure the volume of fuel gases such as natural gas (methane) and liquefied petroleum gas. Gas meters are used by these enterprises in all residential, commercial and industrial buildings that consume fuel gas supplied by gas service is established. It is necessary to install these gas meters in accordance with their technical parameters and to pass GOST standards in case of errors. Meter staff should be proficient in a specific set of skills and opportunities should be created to do the job properly. Meter readers must also find their way into the meter, it will be necessary to ensure that the meters work correctly regardless of the obstacles. This is important. The amount of time to manually record each meter, which can lead to human error and may lead to conflict between consumers and service providers due to incorrect records, and there is currently no proper data management system to facilitate accurate calculation and proper documentation. Reading the meter requires processes that cause various problems. Gas volume computing glitches, software update delays, and bug detection issues are the primary means and it is one of the most difficult problems for industries to find answers to. Related to the current procedure to the gas consumption calculation process and the gas meter reading system is not fully automatic. The meter involves manual procedures from the moment the reader starts reading the meter and the last counter reading will remain unchanged until you refresh the device. Meter readings are entered manually and the device is

handed over by the data entry clerk in the office. Therefore, such situations warrant an automated system to help generate gas bills correctly, while also allowing easy verification of gas bill records. The system also aims to eliminate problems and errors. This often happens with the calculation and production of gas bills that provide an efficient moment and helps update gas bill records. This calculation system was researched by O'telbayev Azizbek in house 105, house 79, Amir Temur street, Nukus, Republic of Karakalpakstan, and with gas consumers in this multi-storey building. A closer look revealed that there is currently no such fully automated gas meter the absence of a reading system with significant functionality. Some of the documents discussed here are just confusing and causing problems. presents the idea of a combination of mobile and web applications based on a technological system. Counter the reader must have an Android application with optical character recognition technology. The consumer takes an image of the meter and the mobile computing app extracts data from the image. This data is then sent to the server-side web application. Then the server restarts and data will automatically generate the account and email the account to the consumer. This article suggests, it will be enough for the consumer to provide the android application with a map of the counters and provide the data. This is the picture then automatically processed by the computing system and sent to the server and the server creates after the system and sends the bill to the consumer. It offers the use of an android application with an automatic calculation system and the counter is formed based on the existing system for the student. Receives image extract data using consumers and sends the data to the server. The server creates the account and sends it to him the consumer thereby makes payments. Here the server can receive and broadcast consumer complaints. In the system any relevant information will be saved automatically.

Parameters and description of technological gas meters

The system consists of a meter reader who reads the meter through a mobile application and a consumer who checks the consumption units at home through a mobile application. This will help you track your gas usage over the course of a month. Designed for mobile application supporting both meter and user is our main goal. The application works using automatic system management monitoring mode technology. The admin panel is a website with full access to a large database, which is responsible for manipulating data, creating calculations and saving reports, as well as many other tasks. . As shown in Picture 1, a picture of the tasks and the counter. Includes a meter that reads the gas meter through a mobile application and displayed by a user who checks household consumption units through a mobile application.Counter based on studies to monitor gas usage within a month. Designed for mobile application helps the calculator reader and user to calculate quickly and easily. The application works using system technology. Computing system is a website with full access to a large database, which data manipulation, calculation creation and automatic storage of reports, and much more including functions.

Picture 1. Gas meter parameters and indicators of the calculation system currently used in the Republic of Uzbekistan.

Conclusions

Technology is increasingly developing and entering industries with new modern technology. There have been technological advancements since the beginning of the era of technology development led to a huge increase in industrial productivity. The solution for this research is, we have shown how to solve problems with the manual gas meter calculation system. This reduces human errors in recording readings and automates the system from the server side. Also, the counter is easy to use by the student and the customer and avoids excessive time consumption. In this way, counter workers travel less loads and they can collect readings from more numbers more easily and more accurately. In addition, customers have the opportunity to view their gas bills mobile app and can pay bill online. Admins are also easy there are options to perform their tasks through the web application.

Picture 2. Problems in the computing system and the appearance of a program that is not attached to the technical system.

Results

The application based on technological computing system uses new technology, which has low production cost, low performance and costs, more information security and less labor required. The proposed software prototype was tested on 30 gas meters (in apartment buildings) and it gave 97% accuracy results in reading both numbers. The technology system application is attached to the barcode reader software to view and pay this bill. Another advantage of the technological computing application is that it connects the meter to the network and creates the possibility of their automatic control. For example, you can see how much gas you use in your home per day or at a certain time. O'telbayev Azizbek, a student of the Nukus Mining Institute under the Navoi State University of Mining and Technology, is conducting research on the automation of the computing system through computer networks in an automated program based on the technological system. If these studies are successful, we may implement an automatic alert mode program for meter technology control.

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