RATION DISTRIBUTION SYSTEM USING MACHINE LEARNING AND DATA ANALYSIS

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ABSTRACT

In India a lot of people have low wages due to which for their food needs they are mostly dependent on government rations. Most of the Ration Distributors take advantage of the current loop holes in this scenario which results in increasing pockets of distributors and lowering the rations of needy people. In this scenario we're using latest technologies such as machine learning by which we aimed to make this system more flexible and more transparent as well as reduce the current corrupt loopholes. The proposed system

Keywords *–IOT, Arduino, Monitoring System, Raspberry Pi*

INTRODUCTION:

The ration distribution system is one of the largest government policies in india.The main objectives is to provide food grains (wheat, rice, sugar, kerosene etc.,)..The distribution of ratio is controlled by central government along with state government. The government issues different distinctive ration cards like yellow ration cards ,saffron ration cards and white ration cards depending on family annual income .Public distribution system is one of the widely controversial issues that involve malpractice

.The manual intervention in weighing of the material leads to inaccurate measurements or the it may happen ,the dealer may not provide sufficient amount of food grains to customers. Most of the time people are not aware of availability of ration in ration shops. The dealer may sell at a higher price than recommended by the government, in this way, we are facing a problem of corruption in the public distribution system. The proposed system aids to control malpractices which are present in ration shops by replacing manual work with automatic systems based on machine learning. The ration distribution system is automated by using machine learning algorithms. Once consumer is validated by password, the system will provide the customer information like how many persons rations is permitted to their account , how much ration will be provided , on which day the ration would be available to distribute etc.

The Government of India provides one of the largest economic policies called the Ration Distribution System. This system is used mostly for the people below the poverty line which can't afford food grains of high cost. Currently, the ration distribution is operated manually so there are more chances of corruption. Also it consumes a lot of time. There are a number of limitations in this system such as ration Forgery. Many times, a shopkeeper uses fault id and puts false data in their record. People

are not aware about the ration allocated to them and the actual prices of ration. Sometimes, shopkeepers may sell the material to the end user with higher prices than recommended by the government of India. Even there are cases in which shopkeepers used to sell the ration in the open market in order to gain profit. So the end users are not capable of fully utilizing the facilities of the ration distribution system. In order to overcome all these issues, we designed the Automated Ration Distribution System. This system is using machine learning algorithms to make the system more transparent and flexible.

The system is in the form of a web app which will be accessible to the end user i,e, public and ration distributor as well.

LITERATURE SURVEY:

Distribution and Corruption Controlling System is the project that will allow a smooth and easy in the market sector can be prevented if the system becomes automated, increase in adulteration can be prevented as well, the hoarding done by the officials and laborers of government.

Public distribution system (PDS) is an Indian system food security established by the Government of India under Ministry of Consumer Affairs, Food, and Public Distribution and managed jointly with state governments ration distribution. The paper explains the concept of ration distribution and controlling. This system enabled the distribution of food equally among poor people. The commodities are stored in a storage tank, when goods are inserted in the FPS, then that quantity of goods is updated in the web server. That website can be accessed by the collector whenever he requires the ration from the respective ration shop. Shivabhaktet al described the concept to automate the PDS, a Government of India initiative process in which a fixed amount of ration is provided monthly to the people by the PDS stores.

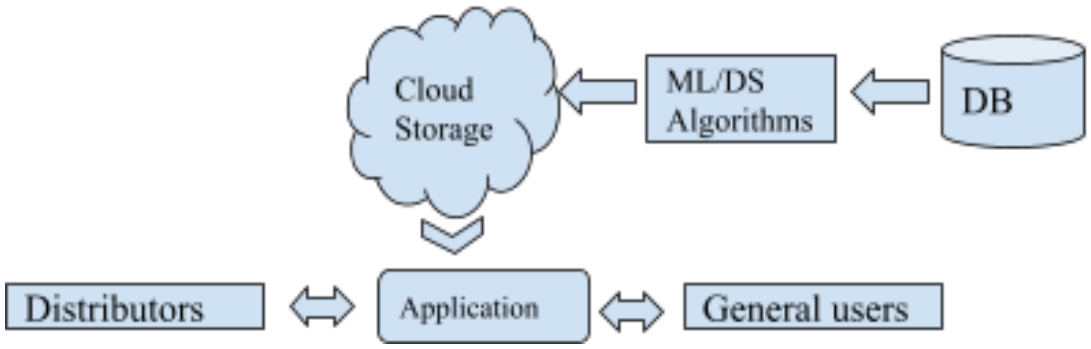
The increased corruption in India, it distributes subsidized food and non-food items to India's poor. Major commodities distributed include staple food grains, such as wheat, rice, salt, and cooking oil, through a network of public distribution shops (also known as ration shops) established in several states across the country. Food Corporation of India, a government owned corporation, procures and maintains the PDS.

WORKING STRUCTURE:

The proposed system is a web application which will be used by both general end users as well as distributors i.e. government approved authorities. This system is going to use machine learning and data science algorithms on existing data of users, ration distributions, complaints, demand and every other aspect of the current distribution chain. which will be used to train the system to validate the correctness of information entered by government authorised distributors. Along with this, the system will be able to provide the important information to the end users like the number of approved units of ration for them, the registered distributor for them, the date of distribution etc. Upon validating users' identity with UIDAI verification.

BLOCK DIAGRAM:

As you can see in the diagram the system comprises two kinds of users, that are general users and distributors. The system is using ML/DS algorithms on existing databases of the current distribution chain. By the use of these algorithms, we aim to find out information about gap in demand and supply, unnecessary ration, correctness of distribution etc.



BENEFITS:

1. Provide real time data about the rations, eligible persons, date of distribution, details of distributor etc.
2. forgery of rations will be reduced by a lot.
3. Tracing of rations will be much easier.
4. It will be a stepping stone to digital India because ration distribution is one of the core parts of Indian economy.

CONCLUSION AND FUTURE SCOPE:

Ration forgery is one of the most difficult challenges faced by the food distribution department. There may be chances where ration is delivered to the beneficiaries and false records are noted down, regarding the delivery by commission agent. And there is a probability of him (commission agent) selling the commodities in the open market with extra profit etc. Therefore, the proposed system is more secure and transparent then the normal existing system. Entry of fallacious data in the ration database can be avoided with the use of smart cards and additional security is provided by the biometric authentication. The commission agent is only responsible for entering the quantity of the commodities, whereas updating and deducting is solely handled by the server (food department). Maintaining the database is also helpful for sending messages to the beneficiaries about the ration delivery. It is anticipated that the proposed project will create transparency in the public distribution system as the work becomes automatic and also it makes the system free from irregularities.

REFERENCES:

1. Dhanashri Pingale, Sonali Patil, Nishigandha Gadakh, Reena Avhad, Gundal S.S "Web Enabled Ration Distribution and Corruption Controlling System", International Journal of Engineering and Innovative Technology (IJEIT), Volume Issue 8, February 2013.
2. Shivbhakt mhalsakant Hanmant, Suraj V.S, Moresh Mukhedkar, "Atomization of Rationing System", International Journal of Computational Engineering & Management (IJCEM), Volume 7, Issue 6, November 2014.
3. S.Sukhumar, K.Gopinathan, S.Kalpanadevi,, P.Naveenkumar, N.Suthanthira Vanitha,, "Automatic Rationing System Using Embedded System Technology",
4. S.Valarmathy, R.Ramani, Fahim Akhtar, S.Selvaraju, G.Ramachandran, "Automatic Ration Material Distributions Based on GSM and RFID Technology", International Journal of Intelligent Systems and Applications, Volume 5, pp 47-54, October 2013.