AUTOMATIC RATION DISTRIBUTION SYSTEM

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Abstract: This paper discusses the implementation of an automatic ration distribution system using RFID cards/tags. A monitoring system is proposed in which databases are to be linked with government offices, shopkeeper and the ration card holder. Distributing commodities manually takes a lot of time and there are chances of immoral activities, so to overcome this problem RFID technology can be used. In this paper RFID tags are introduced.

I. INTRODUCTION

Conventional current ration distribution system provides ration to the poor people of the society. The Government issues the ration cards. Present way of ration distribution paves an easy way to corruption. The shopkeepers mostly dupe the poor people of their assigned ration. For this reason we aim to provide a system that counters this problem, and this can be achieved with Automatic Ration Distribution System.

In Automatic Ration Distribution System, the primitive Ration Cards are replaced with RFID Tags. These tags will hold all the customer details which include name, address, phone number, number of family members, income. age, etc. So when the customer goes to a ration distribution store, he/her will simply need to carry the tag with them.

Also this Automatic Ration Distribution System includes transparency in such a way that every transaction will be made transparent to the customer. This is done by sending all the transaction details to the customer to their registered phone number and E-mail. Thus Automatic Ration Distribution System provides better handling of customer data and it provides a way to counter corruption as compared to the current primitive Rationing System.

II. PRESENT WORK

Central government gives the ration to state government to distribute the grains among the ration card holders. Ration Cards are documents which are issued by the Government of India for providing ration of food and fuel. Ration cards were issued for the sole purpose of helping out the unfortunate members of the society. The amount of food and fuel is distributed based on types or eligibility. Currently there are three types which are Blue, Orange and Yellow. Blue and Orange ration cards are meant for people above the poverty line but it varies on the their income. Yellow ration card is given to the people who are below poverty line. One family is assigned one Ration Card. We can also say that Ration Card is also a form of identification as it is issued by the Government.

Fig. 1 Conventional Ration Distribution System

III. PROPOSED WORK

In this system all the transactions are monitored by the government. Government is a part of the process and this is done by connecting their database to that of the ration store. Advantage of this is that the government as well as the consumer has all the up-to-date information of the ration. Thus there is transparency in the system.

The main objective of this system is to reduce or eliminate the manual work in the conventional ration distribution system and to provide efficiency. The database is maintained, controlled and updated at one main control station or server. Hence the store owner cannot cheat the customer or the government.

IV. SYSTEM ARCHITECTURE

The architecture consists of a RFID tag belonging to the customer and a reader at the distribution centre which will read the tags and display the customer information. Actuators are the components which will be used for dispensing the assigned amount to the customer, system will ON the respective actuators based on grain requirement. An AVR microcontroller is used because of its simple and easy to use features. Serial communication takes place between controller and the system. A log is maintained to store all customer transaction details. Log contains historical data with timestamp to view or summarize the transaction carried out.
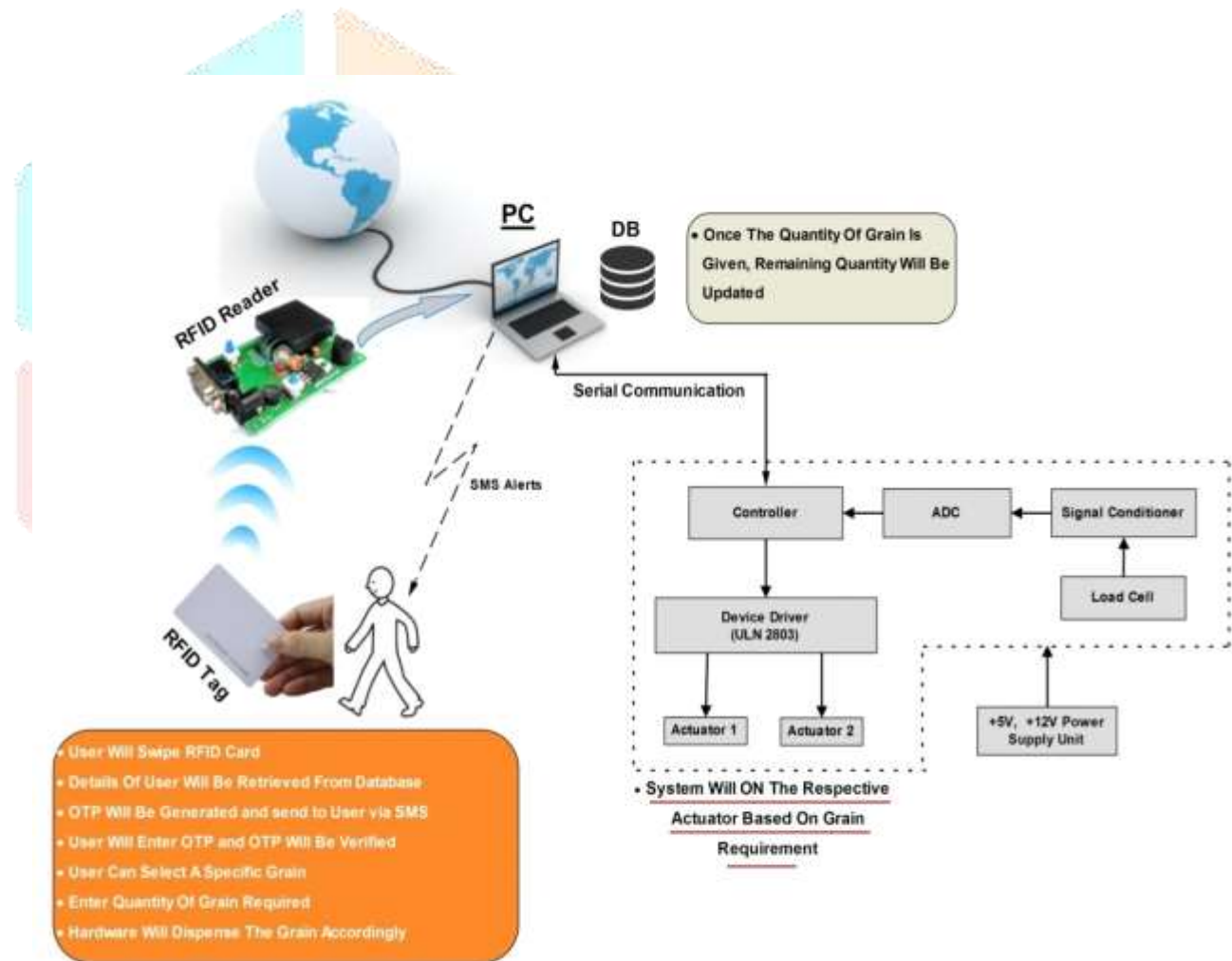

Fig. 2 System Architecture

V. SOFTWARE INTERFACES

NetBeans provides Modular framework. With this different modules are created regarding different functionalities and integrated together. The administrator module will add/manage the user information, add grain, update grain quantity. The client module will take the input from swiped RFID card and show the customer details to the administrator. OTP will be generated before dispensing to authenticate the customer. Grains are selected and quantity is entered. JDBC is used to communicate with the database. it is used

to add, delete and update data. The OTP is generated by the system sent to the customer's registered mobile number and email Id. Only after OTP is entered the further processing is carried out. After the transaction is complete all the information is sent to the customer. AWT/Swing packages provide classes for application program interface. The GUI can be styled according to the requirement. It provides easy way for modification in the system.

VI. HARDWARE INTERFACES

operating system provides the interface between hardware and software. Software will call the interface. This interface will be interpreted by the operating system as a instruction. This instruction will be given to the hardware to perform the action by the actuators. Grain is weighed by the load cell sensor . This value is converted to digital form by ADC and fed to the system. When the required amount is achieved the grains are dispensed.. The RFID reader identifies the customer by scanning their tags and information is retrieved from the database. RFID System is used for identification and tracking purposes with the help of small radio frequency identification devices. The RFID system includes a read/write device, tag and a host system application for collection of data, processing and transmission. A RFID tag(transponder) consists of a chip, some memory and an antenna.
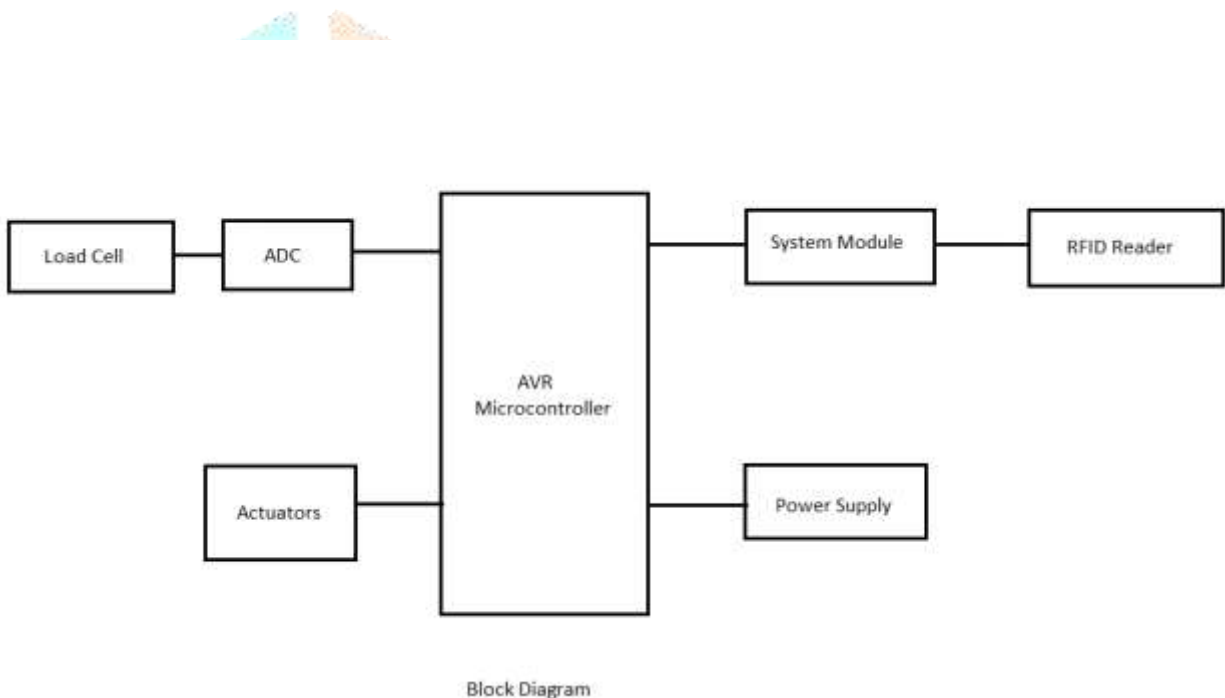

Fig 3. Block Diagram Of The Automatic Ration Distribution System

VII. CONCLUSION

Our system provides a way to minimize the corruption and provide transparency to the customer. The customer has to simply scan the RFID tag and collect the ration.

VIII. ACKNOWLEDGEMENT

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