Implementation of Automatic Ration Distribution Through Aadhaar Card

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ABSTRACT

The present traditional ration distribution system to every citizen is not as much as valuable in light the fact that in ration shop includes manual work. There is chance for getting corrupted in materials weights and illegal usage of products to other customers in the present conventional system. So to overcome this problem, we have proposed this paper on Aadhaar enabled automation ration distribution system using biometric system. In this system we are using a prototype Biometric model, using this system we can achieve the secure and interactive approach for automatic ration distribution. Aadhaar card contains biometric data of the customer. The customer points of interest will be put away in the administration database. In this framework we supplant the regular apportion card by unique Aadhaar distinguishing proof number of all relatives to get their amount of proportion each month.

Keywords: *Aadhaar Card, Biometric, Ration Distribution System.*

I. INTRODUCTION

Open conveyance framework was proposed in India on June 1997, around then the legislature gave a proportion card to every family to get basic consumer materials which is given by Government. The State Government will be give particular ration cards like yellow and white proportion card which depends on their yearly salary. The present proportion framework is having chiefly two disadvantages: 1. Weight of the material might be off base because of human mistakes.2.If the material isn't obtained by the client, toward the finish of the month the merchant will deal the material for his benefit without taking consent from government.

At present everything is digitalized, so in our project we are implementing Aadhaar card enabled ration distribution by using biometrics. In this system every ration shop will be having a biometric system to validate the user and we store the consumer fingerprint in the database by using his Aadhaar card number. In this system we will store the quantity of goods of the user in database so it will be accurate; when the fingerprint is detected GSM module will send OTP to customer mobile number, customer need to enter OTP through keypad. If entered OTP is correct then it will give the materials to the customer and it will reduce the human efforts and fraudness.

II. RELATED WORK

2.1. A.N.Madur, ShamNayse "Automation in rationing system usingARM-7" [1] this system is based RFID here RFID card is provided to the customer. In this system by using RFID card for authentication to match details with database after authentication then system shows the details of the person, user has to enter amount of kg he want to withdraw, then system will open valve, through valve grain will come & it will get weight by weight sensor after getting ration customer will get SMS of how much drawn.

2.2. S.Sukhumar proposed a concept to replace Ration distribution by "Automatic Rationing System Using Embedded System Technology". The apportion circulation framework is robotized by utilizing PLC, which works comparable as the ATM. This mechanized proportion framework replaces the traditional apportion card framework by utilizing the keen card. Notwithstanding that the unique finger impression sensor is additionally being submitted in the machine in request to check the client validness. On the off chance that the individual is validated, the following procedure happens and the information can be given in the LCD screen. When the info is entered, the items are gotten from the robotized proportion focus and the sum is pulled back from the record of the buyer. The implanted controller is pre-customized such that they play out those tasks.

2.3. Recently Vikram. al. [3] has proposed "Smart Ration Card System". The RFID tag is changed as ration card by dumping the code into Microprocessor chip introduce in the framework according to our prerequisite. This survey card conveys its particular data about the purchaser.

III. PROPOSED WORK

From fig.1 will show the block diagram, we are using Fingerprint sensor, Arduino Mega, GSM module and servo motors. At earlier the consumer needs to enroll his fingerprint in the database. Then his ID will be placed in the database. The consumer needs to check his finger to get his materials by utilizing unique finger impression sensor.
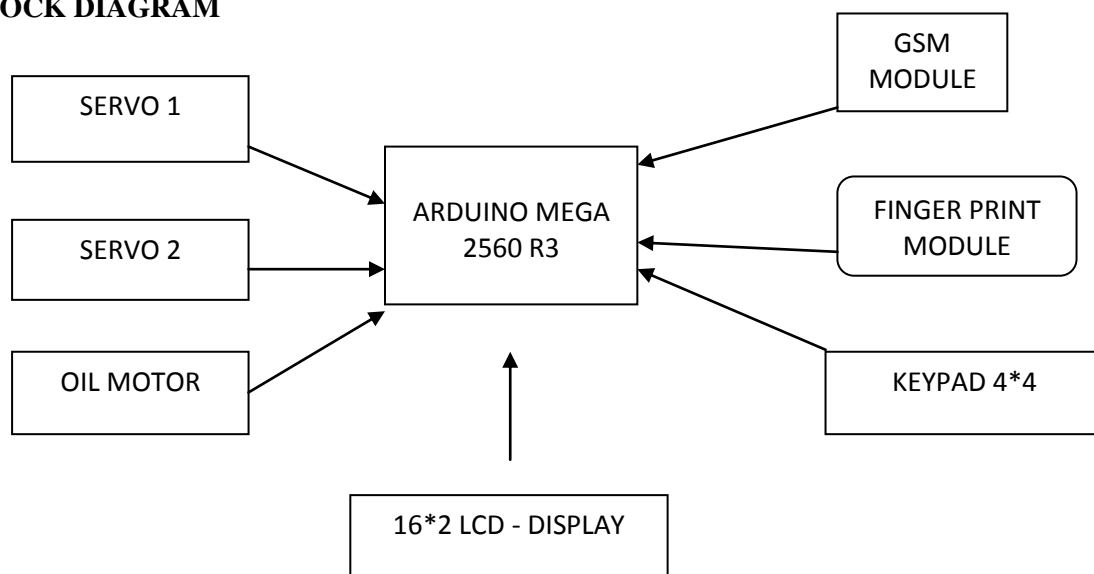
3.1 BLOCK DIAGRAM

Fig.1: Block Diagram of Aadhaar Card Enabled Ration Distribution

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If the fingerprint is matched with the fingerprint database, then the customer will get a onetime password (OTP) through GSM module to his registered mobile number. The customer needs to enter the OTP by using keypad, if the OTP is matched then the valve will be open for the materials and customer will get materials weighted by weight sensor. At last the person will get a detailed message how much quantity he has taken with the cost to be paid to the shop owner.

3.2 Arduino MEGA

The Arduino Mega 2560 R3 is a microcontroller works on the principle of ATmega2560. It has 54 computerized I/O sticks in which 16 are simple data sources, 4 UARTs, 15 can be utilized as PMW yields, a 16MHz gem oscillator and a USB controller to dump the code into the chip. It has a flash memory of 256kb out of which 8kb utilized by boot loader. It keeps running on clock speed of 16MHz.The applications of Arduino are having a larger code size.

3.3 GSM (global system for mobile communication)

The SIM800A demonstrate comprises a SIM800A GSM chip and MaxRS232 interface, it makes less demanding to associate USB to workstation to Serial screen or to the microcontroller utilizing the maximum RS232 to change over into TTL. SIM800 is having four bands in which works GSM 850MHz, DCS 800MHz and PCS 1900MHz. It permits one SIM card to interface.

Fig.2: GSM SIM800E

3.4 R305 fingerprint Model

This fingerprint sensor is having a unique UART which helps in interfacing with Microcontroller UART. The customer can store his novel unique finger impression check in the module and can outline it in 1:1 or 1: N mode for recognizing the person. The Fingerprint module needs very small voltage of 5Vcan be connected to Microcontroller. A Max232 is a level converter to interface with Laptop or PC USB port.it has a ability to capture fingerprint at 500dpi.

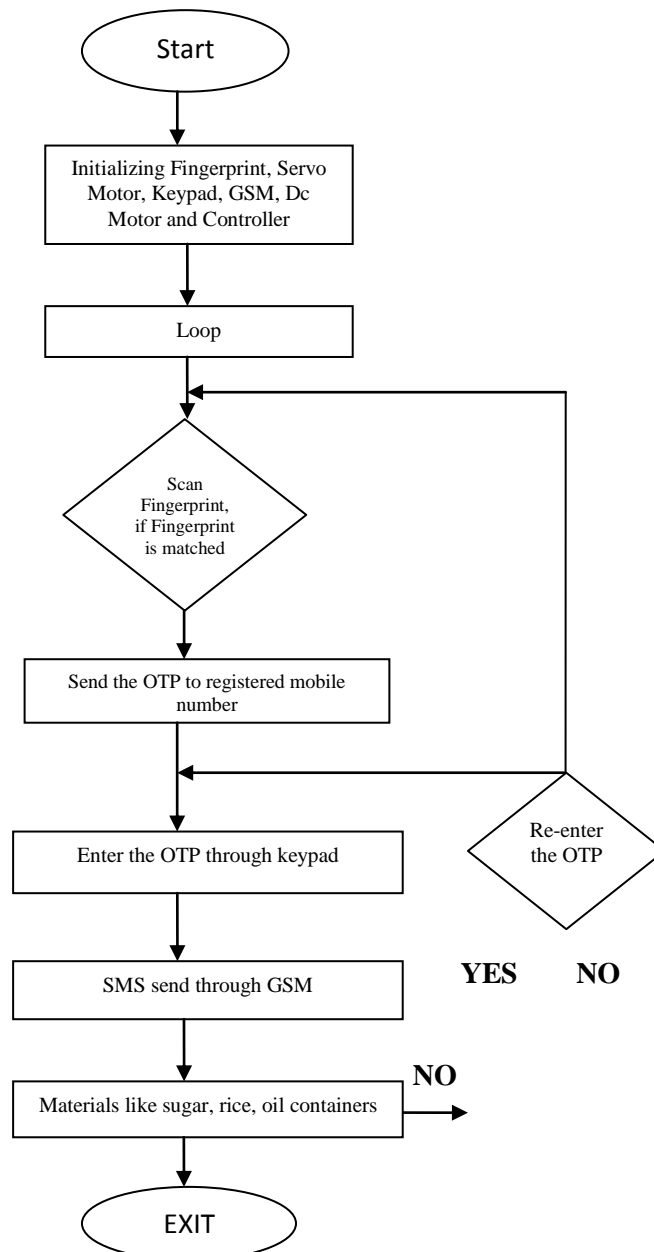**Fig.3: Fingerprint sensor**

3.5 FLOWCHART

Fig. 4: Flowchart of the Project

IV. RESULTS

Fig.5: when we switch on module.

Fig.6: when fingerprint is matched with the database it will display customer details

Fig.7: It will send the OTP message to Customer number through GSM module

Fig.8: Waiting for OTP to be entered by customer

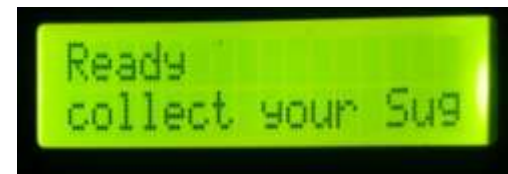Fig.9: enter OTP using keypad, If it is correct it will show this message.

Fig.10: if the OTP is matched, we can Collect our materials. Ready to Collect Sugar

V. CONCLUSION

By utilizing this modern system into the market, we can keep away from the unlawful supply of item. This proposition framework will supportive for government and the citizens of India to get away from unflawed in ration distribution. We can achieve the transparency between them. In this we use the fingerprint sensor device for authentication purposes. People will get their product in correct way, without their permission no one can access their information. In our System ration materials like sugar, rice and kerosene will be distributed through robotized mechanism without human interaction. After collecting the ration materials, GSM module will send a message how much the customer has taken from the ration shop through GSM innovation.

REFERENCES

[1] A N Madura, Sham Naise, "Automation in Rationing System Using Arm 7," International diary of inventive research in electrical, and instrumentation and control building, vol.1, Issue 4, Jul 2013.

[2] S.Sukhumar, K.Gopinathan, S.Kalpanadevi, P.Naveenkumar, N.SuthanthiraVanitha,"Automatic Rationing System Using Embedded System Technology", International Journal of Innovative Research In Electrical, Electronics, Instrumentation And Control Engineering Vol. 1, Issue 8, November 2013

[3] Rajesh C. Pingle and P. B. Boroley, "Automatic Rationing for Public Distribution System utilizing RFID and GSM Module to Prevent Irregularities" HCTL Open International Journal of Technology Innovations and Research, 2013, Vol. 2.

[4] Yogesh Kumar Sharma, K. B. Shiva Kumar, "Multi-Modality Biometric Assisted Smart Card Based Ration Distribution System" International Journal of Application or Innovation in Engineering and Management, 2014, Vol. 3, Issue 6, pp. 382-392.

[5] Godwin premi.M.S and Kuzhaloli.S, "Programmed apportion materials circulation in view of GSM and RFID innovation" global gathering of building, science and Administration, ISBN: 978-93-86171-32-0, seventeenth and eighteenth March 2017.

[6] Vijay sonwane, Girish Jaiswal, Swap nil hake, Puja Iskar, Trupthi kohl ," worldwide diary for examine in connected science and building innovation " ISSN: 2321-9653, volume-6, issue I, January, 2018.

[7] K.Balakarthik,"Closed-Based Ration Card System using RFID and GSM Technology,'' vol.2, Issue 4, Apr 2013.

[8] A.N Madhur "Computerization in Rationing System" Vol.1.Issue 4, July 2016, International Journal of Innovative Research in Electrical, Electronics Engineering.