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A Review on Automatic Rationing System by Using Controller

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Abstract- In this paper, the proposed concept is to replace the manual work in public distribution system. The ration distribution system is automated by using controller which is similar to the ATM. As soon as the input is given via keyboard, the products are obtained from the automated ration shop and the amount is taken from the bank account of the particular person. The controller is preprogrammed in such a way to perform the similar operations. In this automated ration shop government have control over all transaction that occurs in ration shop.

Index terms: GSM module, RFID reader, LCD, Arduino (UNO), etc.

1. INTRODUCTION

Our aim is to avoid corruption at ration shop. Because of too much corruption is taking place in government sector, the facilities given by government are not reach to the deserving people. Our main motive is to make all facilities must reach to the every deserved people without any malfunction in quality and quantity.

In present situation the facilities given by our government is not reaching properly to the deserved people due to the human involvement and interface. Especially this problem is while the time of distribution of food grains to the people, so by this project we can eliminate human involvement in food grains distribution process. By this process we can eliminate malfunction in quality and quantity. In this automated system we replace the convectional ration card by smart card in which all the details about users are provided including their "AADHAR" number which is used for user authentication. There will be a Smart card based ration card which will be used to identify the user by machine placed at ration shop.

The project consists of a User Card; based on a card as user card & an automated system interfaced with material dispensing mechanism. The project is also equipped with a microcontroller unit for the ease of message display and for easy future enhancements in the project. The Coded Card Security System is a novel approach to modern automated security management. This system helps in the field of Security Automation, by monitoring and managing the security of an industry, financial institution, commercial complex, hospitals, banks, storage rooms, military base, etc.

2. EXISTING METHODOLOGY

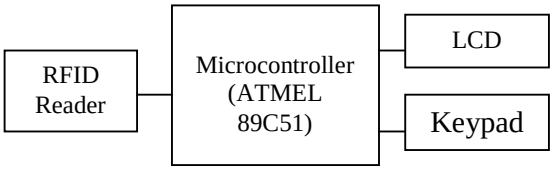

Fig.1: - Block diagram of Automated Ration Shop using Microcontroller (ATMEL 89C51)

The Microcontroller (ATMEL 89C51) is a low-power, high-performance CMOS 8-bit microcomputer by means of 4K bytes of Flash programmable and erasable read only memory (PEROM). The ATMEL 89C51 device is manufactured using Atmel's high-density nonvolatile memory technology and is well suited with the industry-standard MCS-51 order set and pin out. The on-chip Flash lets the program memory to be reprogrammed in system or by a predictable non-volatile memory programmer. By combining a versatile 8-bit CPU with Flash on a monolithic chip, the ATMEL 89C51 it is a powerful microcomputer which delivers reasonably an extremely elastic and cost-effective result to many embedded control applications. The ATMEL 89C51 deliver the following pattern sorts: 4K Bytes of Flash,

Automatic Ration Dispensary system using HAN Circuit Diagram Explanation bytes of RAM, 32 I/O lines, two 16-bit timer/counters, a negative vector two-level interrupt architecture, a occupied duplex serial port, on-chip oscillator and clock circuitry.

In addition, the 89C51 is intended with static logic for action down to zero frequency and provisions two software selectable power saving modes. The Idle Mode stops the CPU while permitting the RAM, timer/counters, serial port and break o_ system to remain working. The ATMEL 89C51 Power-down Mode saves the RAM contents.
Features of ATMEL 89C51 area as follows

1. 4K Bytes of In-System Reprogrammable Flash Memory.
2. Fully Static Operation: 0 Hz to 24 MHz.
3. 3-level Program Memory Lock.
4. 128 x 8-bit Internal RAM 32.
5. Programmable I/O Lines.
6. Two 16-bit Timer/Counters.
7. Six Interrupt Sources Programmable Serial Channel.
8. Low-power Idle and Power-down Modes 40-pin DIP.

The comparison of Arduino controller and ATMEL (89C51) are as follows

Arduino	ATMEL 89C51
It required low supply (5V).	It required more supply
It has high performance.	It has low performance.
There is clock speed of 16 MHZ	Clock speed for static operation is 0 to 24 MHZ
32 kb of flash memory for storing program.	4 kb of flash memory for storing program.

Table.1: comparison of arduino with ATMEL 89C51

3. ADVANTAGES

1. A communication environment can be shaped simply and at low cost.
2. Reduces heavy antennas and receiver like devices to carry.
3. Reduces many terms like illegal usage, hijacking of ration cards, over crowd, using bogus cards etc.
4. Easy to operate because processing speed is slow.
5. Reduces material theft at Ration shop.

4. DISADVANTAGE

1. Not valuable unless many people accept it.

5. CONCLUSION

This proposed method can provide a safe, secure and efficient way of public distribution system. By using this technique Microcontroller based automated ration shop; it solves the problem of manual process in public distribution system. This new technology gives solution and this research work will make a great change in public distribution system and provides benefit to the government by sending the current stock information to the government database via GSM and reduce the manpower.

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