Public Food Distribution System Using QR Code

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ABSTRACT

Public distribution system is also called as rationing distribution system is one the widely controversial issues that involves corruption and illegal smuggling of the grains and goods. All this happens because every job in this system involves manual working but nowadays there are high technologies to automate such job. Because of manual work there are various illegal activities occurs. The illegal activities are like, wrong entry in the database about the amount of products given to the people; sometimes there is a chance of distribution of low quality product than the actual one provided for poor people. In this paper we analyze the traditional PDS system, problem with such system and its upgraded version i.e. automated rationing system.

Index Terms - Tracking System, Messaging System, QR code, E-bill, GCM.

1. INTRODUCTION

Public distribution system (PDS) i.e. Rationing distribution system. Public Distribution System is an Indian food security system. It is established by the Government of India under Ministry of Consumer Affairs, Food, and Public Distribution and handled jointly with state governments in India. It is one of the widely controversial issues that involve corruption and illegal smuggling of goods. Goods mainly include wheat, rice, sugar etc.

It is very difficult to maintain this overall system under manuals without any supervised automated system. This present system works manually and there are no specific high-tech technologies to automate the job. So there are lots of chances of illegal activities to happen. In this paper we propose an automated system. This will help us to remotely monitor ration material till it reaches the storage areas and also the distribution at local people will be done centralize through this automated system. This will also provide the QR code for the authentication of the details of the ration shops as well as automate the billing of the purchased good by the ration shopkeepers.

In India the maximum population is in economical backward category. So there are different categories of beneficiaries are arranged by government. Those are APL (household above poverty line), BPL (household below the poverty line), Antyodaya Anna Yojana (AAY) and Pradhanya kutumb. In each month Maharashtra state allot approximately 11 corers Rupees for this public ration system. Each month Maharashtra state allot approximately 24 lack’s Rupees for this ration. But the ration not actually reaches to people who need it due to lot of malpractices. The system is proposed for preventing the malpractices and provides transparency.

In this system we have five modules namely, admin module, purchase module, incoming load module, responsive message system and tracking system.
2. EXISTING SYSTEM
Existing Public Food distribution i.e. is rationing system is totally carried out manually i.e. on paper. All the register like E (1), H and Stack are maintained on paper. But this system is very time consuming. In this system there is lot of wastage of the paper. In this system there is lot of corruption to avoid this new system is proposed.
### MFA—FORM H
(See Paragraph 15 (G))
Register of Permits
(Issues made from Godown)

<table>
<thead>
<tr>
<th>Godown: Kind and Variety of Grain</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>No.</th>
<th>Date/Time of Issue</th>
<th>Date/Time of Expiry</th>
<th>Description</th>
<th>Quantity</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note—Col. 7 will appear in the challan in the name of the office.

Forwarded to the Tahsildar of... Day...

Signature of Godown-keeper/Manager... Day...

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<table>
<thead>
<tr>
<th>Date</th>
<th>Batch No.</th>
<th>Exp.</th>
<th>Grain</th>
<th>Weight (Lb.)</th>
<th>Value</th>
<th>Kind &amp; Variety of Grain</th>
<th>Railway Storage</th>
<th>Road Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>01/01/87</td>
<td>10092</td>
<td>50</td>
<td>Oats</td>
<td>250</td>
<td>40.00</td>
<td>Grade A</td>
<td>1250</td>
<td>2500</td>
</tr>
<tr>
<td>01/01/87</td>
<td>10093</td>
<td>50</td>
<td>Wheat</td>
<td>300</td>
<td>40.00</td>
<td>Grade B</td>
<td>1500</td>
<td>3000</td>
</tr>
<tr>
<td>01/01/87</td>
<td>10094</td>
<td>50</td>
<td>Barley</td>
<td>225</td>
<td>40.00</td>
<td>Grade C</td>
<td>1000</td>
<td>2250</td>
</tr>
</tbody>
</table>

**Notes:**
- All entries are subject to verification by the appropriate authorities.
- Any discrepancies should be reported immediately.
- The information provided is for internal use only.
3. PROPOSED SYSTEM

DSO demands the quantity of grains from the government depending on the number of ration cards in that district. This food grains are stored in the FCI godown. The taluka officer will demand the quantity of grain from FCI godown depending on the number of ration cards in taluka. These demanded grains are transported by the vehicles from FCI godown to the taluka godown mean while the entry of the vehicle is made by the gatekeeper and all the details of the vehicles are stored in the it and in between if the vehicle is out of track then tracking system is used to track the vehicle and it give the detail location of the vehicle to the tahsilder and DSO by messaging system. These grains are stored in taluka godown. Here the E(1),Stack, H report are maintain, updated and viewed. These grains are further distributed in the ration shop depending on number of ration card then these grains are purchased by the ration shopkeeper in the tahasil office and the e-bill is generated in the office itself in the same office instead of the permit the QR code is generated then QR code is read in the taluka godown and then grains are purchased. User purchases the grain from the ration shop.

4. MODULES

Module 1: **Admin**-He is centralized person of the system for updating all the information.
   Sub module:
   1: Insert:-It will insert all the information in the reports i.e. H register, Stack register, E1 register. Information is inserted at equal interval of time in these registers.
   2: Delete:-It can delete information which is not in use, it can also delete the information and fill the corrected information.
   3: Update:-It adds the information whenever needed. It updates the report after equal interval of time.

Module 2: **Purchase**-Maintain the database for purchase the food grains according to demands.
   Sub module:
   1: DSO:-He monitors all the purchase. He can visit to any report at any time.
   2: DSO clerk:-He maintains all the information of the purchase. He inspects all the godowns in his area and gets all the information about quantity of grains, type of grains and accordingly he adds the information in purchase table.

Module 3. **Incoming Load**-This module design and maintain all databases of following.
   Sub module: All Register:
   1: Stack Register:-It will sort the quality of the grain according to the stacks. Each stack contain the all the sack of same quality of grains.
   2: H Register:-It will keep all the information to whom the grains are distributed, name of the shops and quantity of the grains allotted to that shop.
   3:E1 Register:- It calculate the difference between actual quantity of grain allotted by the FCI and the quantity of grain arrived at the destination.

Module 4: **Bill Generation**-It generate e-bill and QR code.
   Sub module:
   1: e-bill generation-When the ration shopkeeper goes to the tahasil office to purchase the grain e-bill is generated.
   2: QR Code-When this bill is shown to the tahasildar clerk then the QR Code is generated instead of the permit which contain all the details of the ration shop.
5. QR Code

This paper introduces the concept of QR images, an automatic method to embed QR Codes into color images with bounded probability of detection error. These embeddings are compatible with standard decoding applications can be applied to any color image with full area coverage. The QR information bits are encoded into the luminance values of the image, taking advantage of the immunity of QR readers against local luminance disturbances.

To mitigate the visual distortion of the QR image, the algorithm utilizes halfoning masks for the selection of modified pixels and nonlinear programming techniques to locally optimize luminance levels. A tractable model for the probability of error is developed and models of the human visual system are considered in the quality metric used to optimize the luminance levels of the QR image. To minimize the processing time, the optimization techniques proposed to consider the mechanics of a common binarization method and are designed to be amenable for parallel implementations. Experimental results show the graceful degradation of the decoding rate and the perceptual quality as a function the embedding parameters. A visual comparison between the proposed and existing methods is presented.
7. CONCLUSIONS
This Project will provide a safe, secure and efficient way of public distribution system. By using this QR code based automated PDS system, it solves the problem of manual process in public distribution system. This QR code based 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 information and public is benefited by this system.

8. REFERENCES


9. BIOGRAPHIES

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