**Database Design Laboratory SRS**

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1 Introduction

India’s social commitment for providing food security for the poor and needy is answered through the strong network of more than 4.5 Lac Fair Price Shops (FPS) across the country. More than 150 million families purchase ration shop commodities every year. The Public Distribution system in India is however plagued with several malpractices which prevent the benefits from reaching the intended beneficiaries and also result in revenue loss for the Government. There is leakage and pilferage of food grains at each point of the supply chain - from procurement until distribution. It has also been seen that issuance of multiple ration cards to a single person prohibits the proper allocation of food grains to deserved beneficiary.

2 Overall Description

The aim of the project is to developing a better, efficient ration card system using online authentication technology. Our project gives active participation in Step towards Digital India. Automation of distribution system at the ration shop as well as maintaining the database at one main control station and updating the database so that the shopkeeper does not cheat the poor people are what this project aims at achieving.

The main focus of this project is to bring order to the current system by eliminating all these problems and providing a secure environment for transactions to take place. It is also a prospect for Digital India. The automation of the current ration system will also speed up the process and thus help cope with increasing population.

3 Specific Requirements

3.1 Software Requirements

The product should run on Windows 7, 8, 10 for both 32-bit/x86 and 64-bit/x86 architectures. The software should be written in Python 3.7. The GUI implemented must use Python Django. MySQL and MongoDB must be used as the Database Management Systems used for the execution of this model.

3.2 Hardware Requirements

The computer running the model must have at least an Intel i5 Processor. The system must also have a minimum of 4GB RAM and at least 4 cores. The minimum storage capacity of the hard disk drive must be 250GB.

3.3 Functionality

3.3.1 Functional Requirements

## A Login for Ration card holders

The user will login by providing the Aadhar number and password, if the details are correct then he can proceed to main page else an error message will pop up.

## B Purchase module for Ration card holders

The ration distribution system is being made automatic by maintaining the database at one main control station and updating the database so that the shopkeeper does not cheat the poor people. Users have to enter the amount of ration to be withdraw. The system checks the user’s account, if the user has sufficient balance (ration quota) left he will get the required ration and the transaction details will be updated in the database. The user’s quota will reduce if he withdraws ration. The user will get a bill detailing the transaction made.

**C Stock module**

The FPS owner has a stock of food grains and other ration items to be distributed to the ration card holder’s family. The FPS owner will be able to modify the stock details. As ration card holders withdraw ration, the FPS stock will get modified.

**D Admin module**

In this module the officials working in the PDS department are able update/modify the details of ration card holders. The admin is able to add/remove distributors and ration card holders. The admin can access the reviews given by the users regarding the fair price shops. The admin can send circulars to ration card holders and FPS regarding any new announcements and changes to the system.

**E FPS owner module**

The FPS will login by providing the user-id (FPS number) and password. After successful login, the FPS owner will be able to view the details of the stock present in the FPS. The FPS owner will be able to view the transaction details of the shop. The FPS will be able to modify the stock details.

3.3.2 Non Functional Requirements

## A Performance Requirements

The stock needs to be updated within a day after it is loaded in the godown and when the card holder purchases the groceries the database must be updated instantaneously with a delay not more than 2 seconds.

## B Safety and Security Requirements

To ensure that none of the ration card users lose any data while using the website (due to a crash or a bug of some kind) the developer team must update the website regularly. The user’s transaction details should also be secured.

For the ration card users to login they will have to provide the details of their Aadhar card number and also the security pin they selected during the creation of their ration card. The details from the government database should not be made available to the public.