

Faculty of Science School of Computer Science 2020-2021

A PROJECT REPORT ON

RATION DISTRIBUTION SYSTEM

BY Omkar Chavan Kiran Labhade Ganesh Tikar

IN PARTIAL FULFILLMENT OF MASTERS OF COMPUTER APPLICATIONS

Dr. Vishwanath Karad MIT- World Peace University, Pune.



Faculty of Science School of Computer Science Mini Project

CERTIFICATE

This is to certify that Mr. / Ms. OMKAR CHAVAN studying in S.Y MCA in MIT-WPU School of Computer Science has successfully completed the mini project work titled RATION DISTRIBUTION SYSTEM in partial fulfillment of requirement for the award of MCA prescribed by the MIT World Peace University, Pune from 22-02-2021 to 08-05-2021.

This project is the record of authentic work carried out by him / her out during the academic year 2020-2021.

Dr. Shankar Mali

Dr. Rajshree Khande

Dr. C. H. Patil

Dr. Shubhalaxmi Joshi

Internal Project

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This is to certify that Mr. / Ms. KIRAN LABHADE studying in S.Y MCA in MIT-WPU School of Computer Science has successfully completed the mini project work titled RATION DISTRIBUTION SYSTEM in partial fulfillment of requirement for the award of MCA prescribed by the MIT World Peace University, Pune from 22-02-2021 to 08-05-2021.

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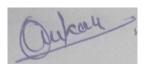
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DECLARATION

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Signature of the student

1132190345 PRN of the student

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Signature of the student

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PRN of the student

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Gas

Signature of the student

1132190323 PRN of the student

ACKNOWLEDGEMENT

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I wish to thank everyone in the organization that helped me during project development from time to time. I also express my honor and gratitude to **Dr. Shankar Mali** and constant encouragement for completing my project work successfully.

I also express my honor and gratitude to **Dr. Rajshree Khande** for giving us this opportunity.

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INDEX

Sr. No.	TITLE	Page No.
1.	INTRODUCTION	
1.1	Existing System and Need of the System	14
1.2	Purpose of the System	15
1.3	Scope of Work	15
1.4	Operating Environment: Hardware and Software	16
1.5	Description of Technology Used	17
2.	PROPOSED SYSTEM	
2.1	Proposed System	20
2.2	Objective of system	21
2.3	Analysis of system	21
2.4	User requirements	22
3.	ANALYSIS AND DESIGN	
3.1	Entity Relationship Diagram	22

3.2	Use Case Diagram	23
3.3	Activity Diagram	24
3.4	Data Flow Diagram	25
3.5	Screenshots	27
3.6	Table Specifications	38
4.	TESTING	
4.1	Testing & Characteristics of Testing	41
4.2	Test Cases	46
5.	DRAWBACKS AND LIMITATIONS	49
6.	PROPOSED ENHANCEMENTS	49
7.	CONCLUSIONS	50
8.	BIBLIOGRAPHY	50
9.	ANNEXURE (WEEKLY REPORT)	51

INTRODUCTION

The ration distribution system is established by the Government of India under Ministry of Consumer Affairs, Food, and Public Distribution to distribute grocery items to poor people at fair price. The existing conventional ration card system has numerous problems. These problems ranges from the basic issues of renewing the ration card every year by pasting excess leaves which has to be done manually by the employees to the malpractices done by Public Distribution System dealers like diverting food grains to open market to make profits.

There is another problem of irregularity in opening shops and false announcements of deficit in food grains. By using this system, the major problems like bribery, irregular distribution and other difficulties faced by the poor people are eliminated. Illegal activities in the PDS can be greatly reduced by this method. The distribution process is automated using centralized database and so the government facilities reach people properly. The corruption and bribery are the major problems in PDS which can be avoided using this system. The computerized database maintained avoids wrong entry of the product by the officials and provides authenticated transportation and distribution.

EXISTING SYSTEM AND NEED OF THE SYSTEM

The classical system of Public Distribution System (PDS) established by the Indian government for provides food security to the people. There are various ration shops in the entire nation where there are employees who give the people various commodities like food grains, oil, kerosene etc. The customer has to go the ration shop and ask the employee to give the commodity and the amount he needs. The employee then manually measures it and gives it to the customer. This transaction also needs to be added in to the ration card. This is the total interaction which takes place. This system faces with various problems. As there are many ration shops and the customers coming to buy from ration shops are normally believed to be below poverty line and illiterate, the customers are fooled to a large extent. There are complaints related to the quality of the product they receive, the quantity they receive is many a times less than the quantity demanded by them as the employees steal from it. Moreover, they end up paying more for the quantity they receive. Also, the quantity which is added in the ration card is wrong. So, they cannot buy more the next time they need. So, there is a lot of cheating and fooling of the customers that takes place.

OPERATING ENVIRONMENT

Hardware Requirements:

- Pentium-IV(Processor).
- 256 MB Ram
- 512 KB Cache Memory
- Hard disk 10 GB
- Microsoft Compatible 101 or more Key Board

Software Requirements:

• Operating System: Windows

• Front-End: HTML, CSS, JSP

• Back-End: MySQL, Java

• Web Server: Apache SERVER

DESCRIPTION OF TECHNOLOGY USED

HTML:

Hypertext Mark-up Language (HTML) is the standard mark-up language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets (CSS) and scripting languages such as JavaScript and VBScript.

Web browsers receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by *tags*, written using angle brackets.

HTML can embed programs written in a scripting language such as JavaScript which affects the behaviour and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

4 CSS:

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language like HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is designed to enable the separation of presentation and content, including layout, colours, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

Separation of formatting and content also makes it feasible to present the same mark-up page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.

The name *cascading* comes from the specified priority scheme to determine which style rule applies if more than one rule matches a particular element. This cascading priority scheme is predictable.

JSP:

JSP technology is used to create web application just like servlet technology. It can be thought of as an extension to servlet because it provides more functionality than servlet such as expression language, JSTL, etc.

A JSP page consists of HTML tags and JSP tags. The JSP pages are easier to maintain than servlet because we can separate designing and development. It provides some additional features such as Expression Language, Custom Tags, etc.

PROPOSED SYSTEM

The proposed system replaces the manual work in PDS. The main objective of the designed system is the automation of PDS to provide transparency. The proposed automatic system for public distribution system is based Aadhar number authentication technology that replaces conventional ration cards. Beneficiary's information along with the finger print impression of the head of the family and one of the family members is stored in the centralized database which is only updated or accessed by the government authority. Beneficiaries have to check the Aadhar number and then he/she should scan the fingerprint of his/her thumb against biometric, and then an appropriate fingerprint id checks for valid beneficiary's information in the database, after successful verification of the beneficiary, information is fetched onto the main interface, and beneficiary needs to enter type of commodity as well as quantity of commodity using keypad. After delivering proper commodity to him/her, the beneficiary is sent the SMS (Short Message Service) about the commodities bought by him.

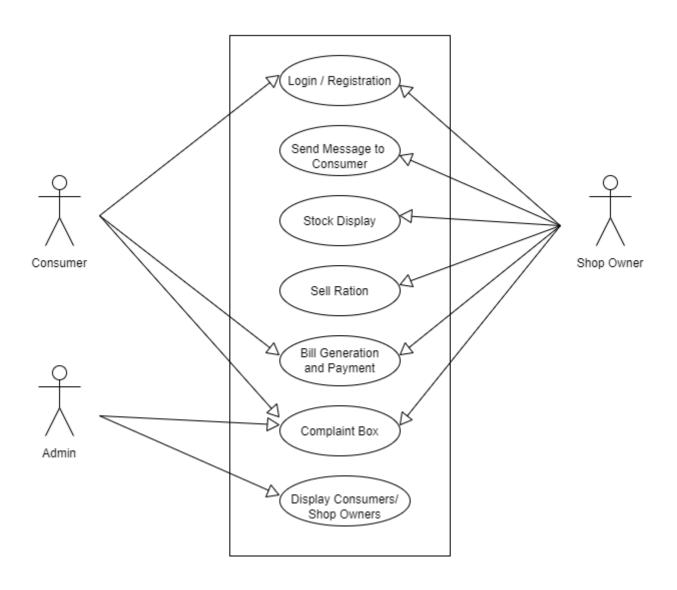
OBJECTIVE OF THE SYSTEM

The objective of the project is to automate the task of distribution of items efficiently. The project is aimed to stop corruption and discrepancies created in distribution shops. Here the system must perform the following.

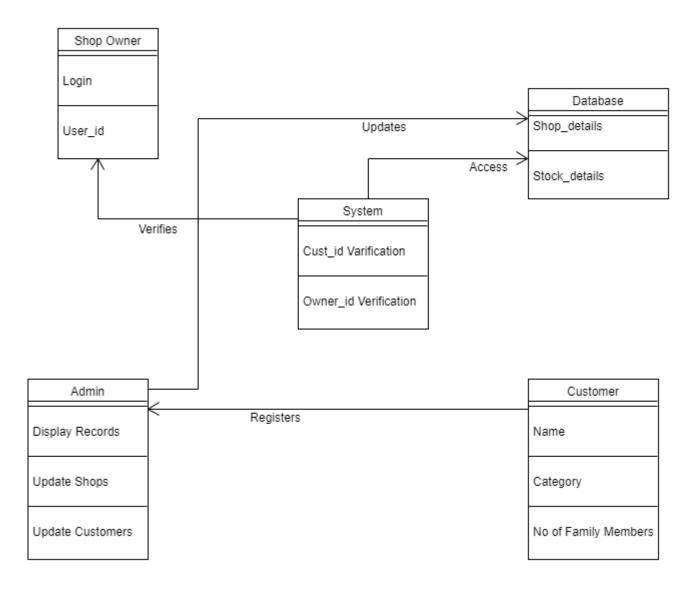
- Validate the ration smart card of the beneficiaries.
- Validate the right beneficiaries.
- Avoiding irregularities in distribution of grains.
- SMS notifications on the mobiles of the beneficiaries.
- Stock maintenance in the distribution center.

SYSTEM DESIGNING

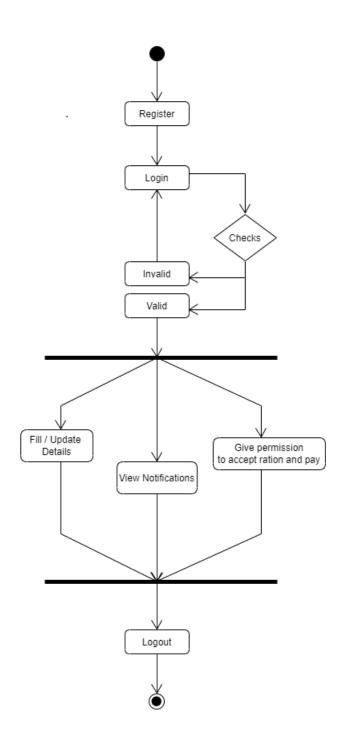
Use Case Diagram:



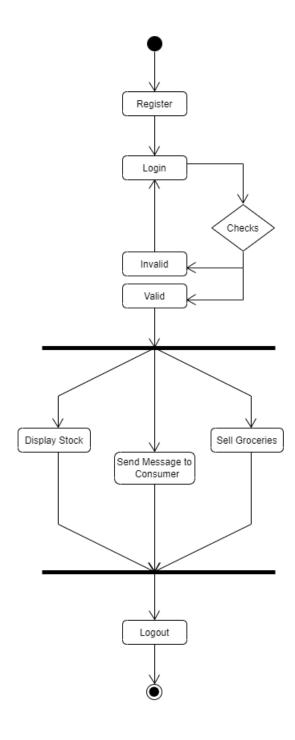
Class Diagram:



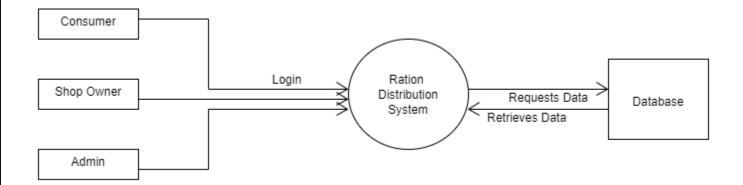
Activity Diagram (Customer):



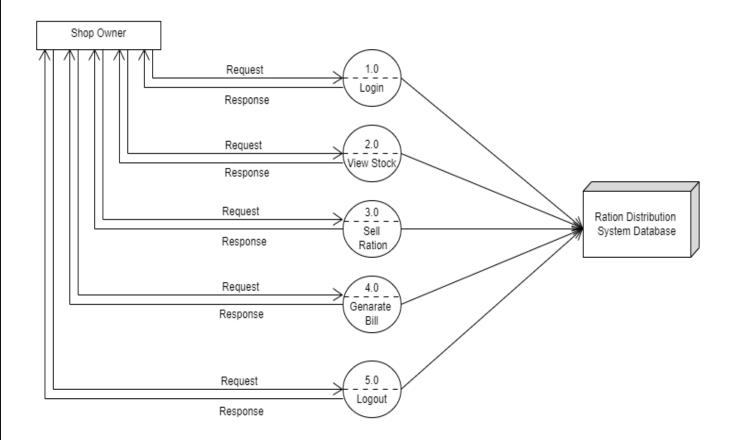
Activity Diagram (Owner):



Data Flow Diagram (Context Level):



Data Flow Diagram (First Level):

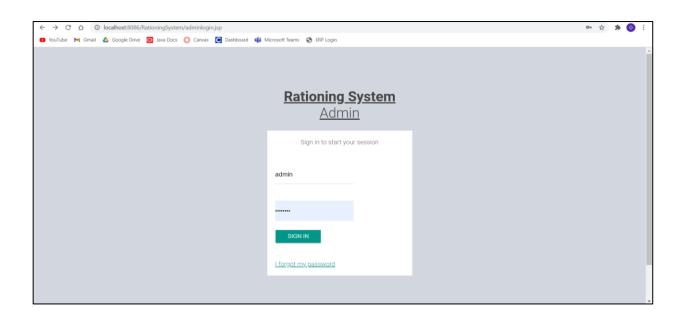


INPUT & OUTPUT SCREENS

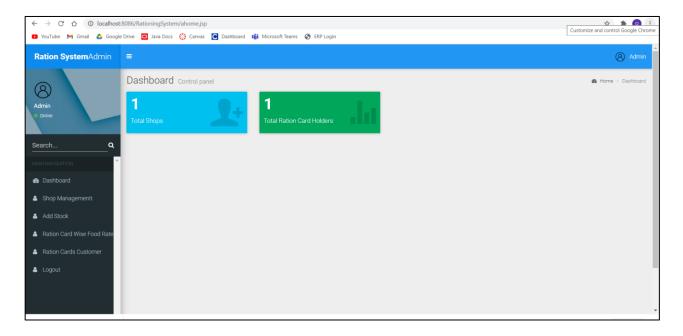
Home Page:



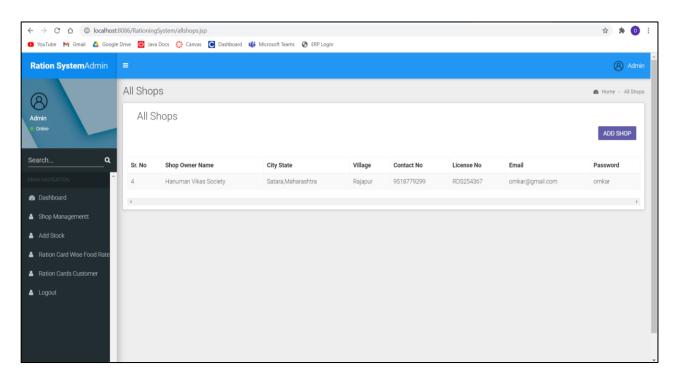
Admin Login:



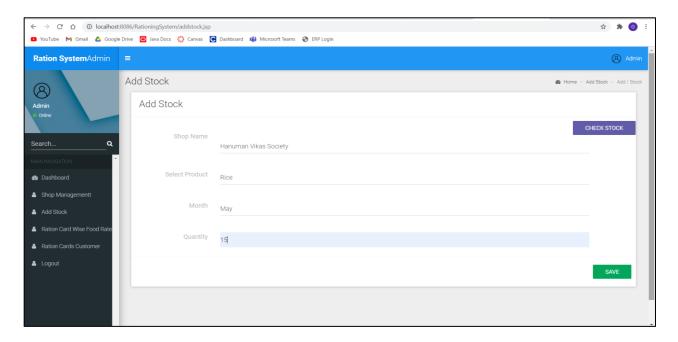
Admin Dashboard:



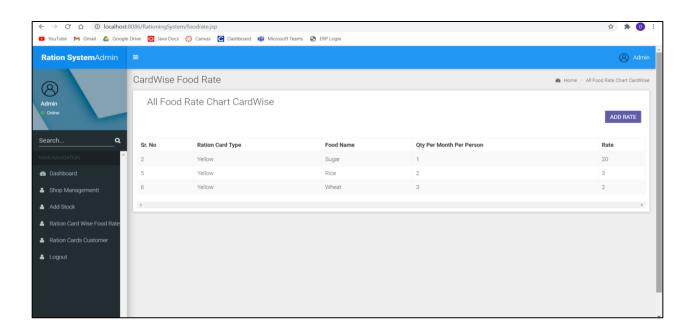
Add Shops:



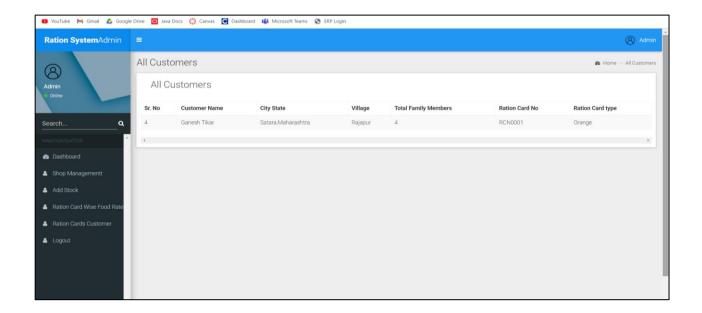
Add Stock:



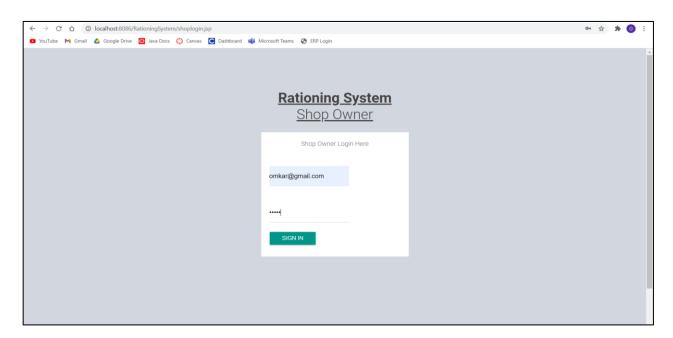
Ration Card Wise Food Rate:



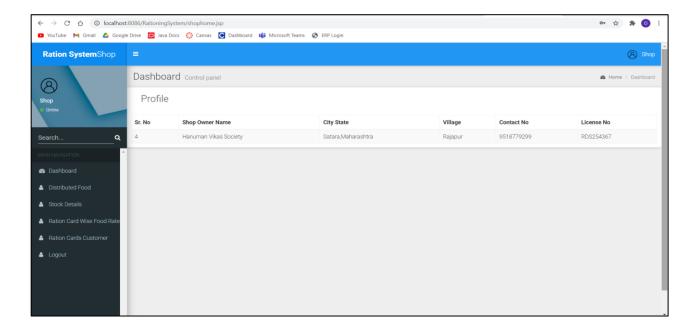
Registered Customers:



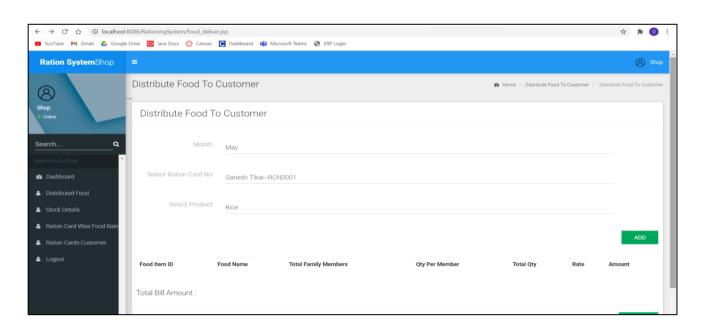
Shop Owner Login:



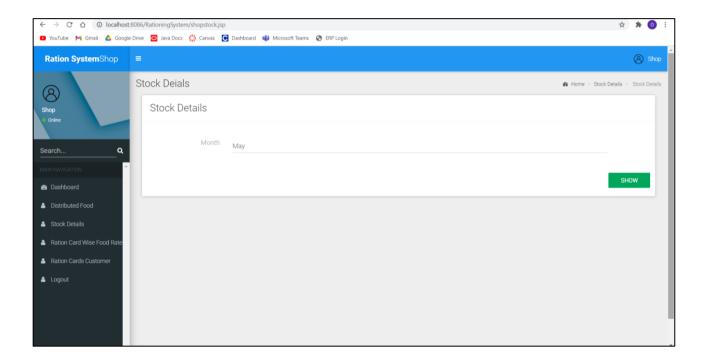
Shop Owner Dashboard:

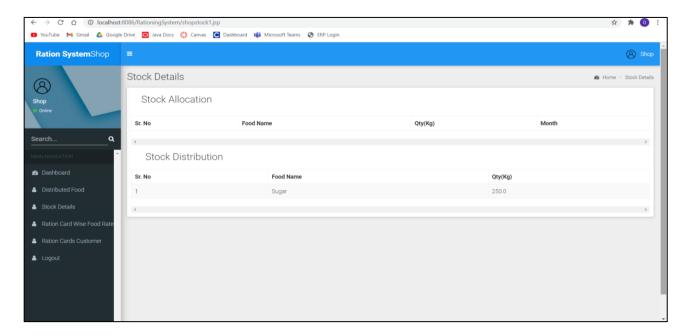


Result:

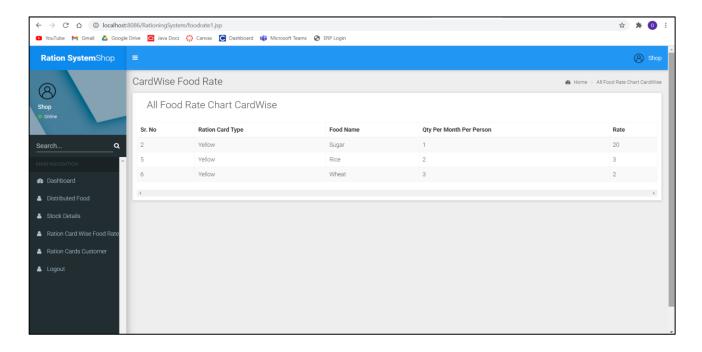


Stock Details:

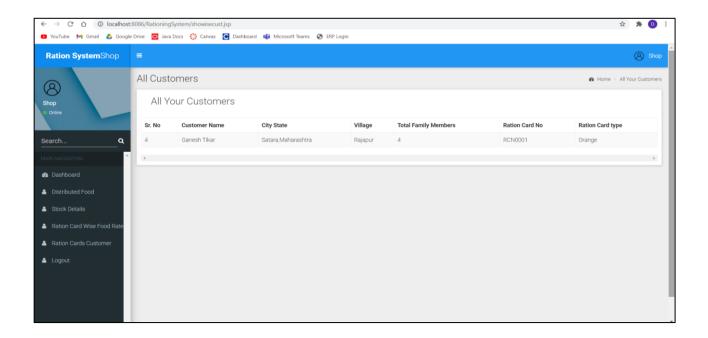




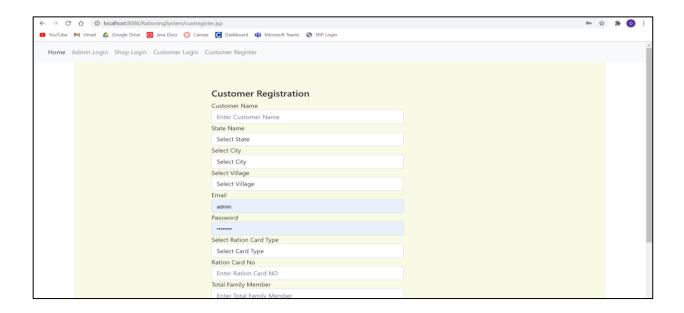
Ration Card Wise Food Rate:



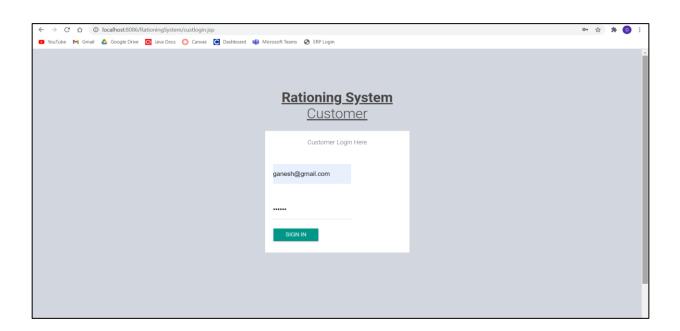
Ration Card Customers:



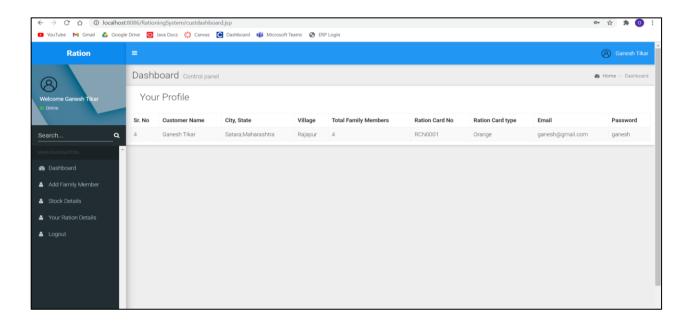
Customer Registration:



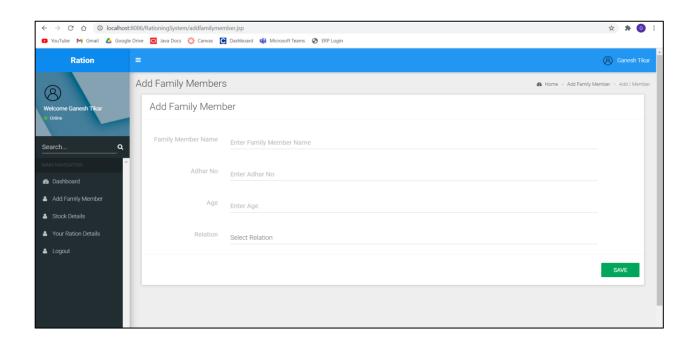
Customer Login:



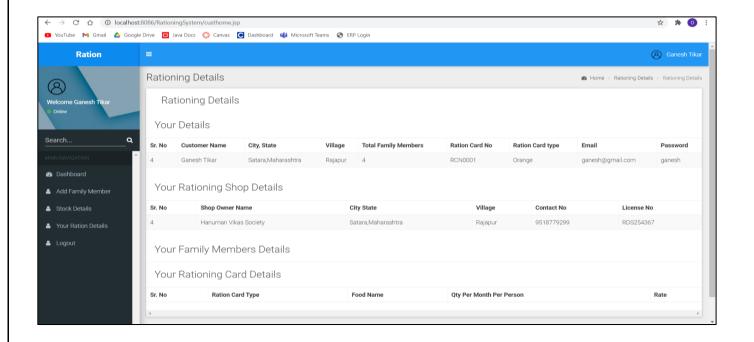
Customer Dashboard:



Add Family Members:



Ration Card Details:



DATABASE CONNECTIVITY

admin

Sr.No	Name	Туре
1	userid	int(32)
2	username	varchar(32)
3	email	varchar(32)
4	password	varchar(32)

city

Sr.No	Name	Туре
1	city_id	int(32
2	city_name	varchar(32)
3	state_id	int(32)

customer

Sr.No	Name	Type
1	cust_id	int(32)
2	customer_name	text
3	email	text
4	password	varchar(32)
5	rcard_type_id	int(32)
6	ration_card_no	varchar(32)
7	state_id	int(32)
8	city_id	int(32)
9	village_id	int(32)
10	total_famiy_memebr	int(32)
11	added_date	date

family_members

Sr.No	Name	Туре
1	member_id	int(32)
2	member_name	text
3	adhar_no	text
4	age	int(32)
5	relations	varchar(32)
6	cust_id	int(32)

food_item

Sr.No	Name	Туре
1	item_id	int(32)
2	item_name	varchar(32)

food_allocation

Sr.No	Name	Туре
1	id	int(32)
2	item_id	int(32)
3	rcard_type_id	int(32)
4	allocate_qty	varchar(32)
5	rate_per_keg	varchar(32)

ration_card_type

Sr.No	Name	Туре
1	rcard_type_id	int(32)
2	rcard_type	varchar(32)

ration_disrtibution

Sr.No	Name	Туре
1	dist_id	int(32)
2	shop_id	int(32)
3	ration_card_no	varchar(32)
4	added_date	date
5	month	varchar(32)

ration_dist_details

Sr.No	Name	Туре
1	rd_did	int(32)
2	dist_id	int(32)
3	item_id	int(32)
4	qty	varchar(32)

shops

Sr.No	Name	Туре
1	shop_id	int(32)
2	owner_name	text
3	state_id	int(32)
4	city_id	int(32)
5	village_id	int(32)
6	email	varchar(32)
7	password	varchar(32)
8	contactno	varchar(32
9	reg_date	date
10	license_no	text

states

Sr.No	Name	Туре
1	state_id	int(32)
2	state_name	varchar(32)

stock_allocation

Sr.No	Name	Туре
1	sid	int(32)
2	shop_id	int(32)
3	item_id	int(32)
4	qty	varchar(32)
5	added_date	date
6	month	varchar(32)

villeges

Sr.No	Name	Туре
1	village_id	int(32)
2	village_name	varchar(32)
3	city_id	int(32)

TESTING

Testing and Characteristics of Testing

After the implementation phase, the testing phase begins. Testing of software is critical, since testing determines the correctness, completeness and quality of the software being developed. Its main objective is to detect errors in the software.

The activities involved in testing phase basically evaluate the capability of the developed system and ensure that the system meets the desired requirements. It should be noted that testing is fruitful only if it is performed in the correct manner. Through effective software testing, the software can be examined for correctness, comprehensiveness, consistency and adherence to standards. This helps in delivering high-quality software products and lowering maintenance' costs, thus leading to more contented users.

Software testing is closely related to the terms verification and validation. Verification refers to the process of ensuring that the software is developed according to its specifications. For verification, techniques like reviews, analysis, inspections and walkthroughs are commonly used. While validation refers to the process of checking that the developed software meets the requirements specified by the

user. **Verification** and **Validation** can be summarized thus as given here.

Verification: Is the software being developed in the right way

Validation: Is the right software being developed?

Software testing is performed either manually or by using automated tools to make sure that the software is functioning in accordance with the user requirements. Various advantages associated with testing are listed below.

- It removes errors, which prevent software from producing outputs according to user requirements.
- ☐ It removes errors that lead to software failure.
- ☐ It ensures that the software conforms to business as well as user's needs.
- ☐ It ensures that the software is developed according to user requirements.
- ☐ It improves the quality of the software by removing maximum possible errors from it.

Characteristics of Testing:

There are several tests (such as unit and integration) used for testing the software. Each test has its own characteristics. The following points, however, should be noted.

High probability of detecting errors: To detect maximum errors, the tester should understand the software thoroughly and try to find the possible ways in which the software can fail. For example, in a program to divide two numbers, the possible way in which the program can fail is when 2 and 0 are given as inputs and 2 is to be divided by 0. In this

case, a set of tests should be developed that can demonstrate an error in the division operator.

□ **No redundancy:** Resources and testing time are limited in software development process. Thus, it is not beneficial to develop several tests, which have the same intended purpose. Every test should have a distinct purpose.

- Choose the most appropriate test: There can be different tests that have the same intent but due to certain limitations such as time and resource constraint, only few of them are used. In such a case, the tests, which are likely to find a greater number of errors, should be considered.
- Moderate: A test is considered good if it is neither too simp1e, nor too complex. Many tests can be combined to form one test case. However, this can increase the complexity and leave many errors undetected. Hence, all tests should be performed separately.

TEST CASES:

No	Data input	Excepted Output	Actual Output	Pass / Fail
1	All fields are empty	Error message:	Error message:	Pass
		please fill out this field	*please fill out this field*	
2	Password validity check	Error message: "Please match the requested Format"	Error message: "Please match the requested Format"	Pass
3	Duplicate Email check	Error message: "The email already associated with another account"	Error message: "The email already associated with another account"	Pass
4	Login	The System give an error and denied	Login should fail with an	Pass
		From Login	error 'Invalid Username and Password	

LIMITATIONS & DRAWBACKS

LIMITATIONS:

- Customer should give cash to the shop owner no online payment facility available.
- Admin needs to add other charges for different grains

DRAWBACKS:

- Online Payment facility is not available.
- It's hard for the customer to trust the online system because ration distribution not yet digitalized yet.

PROPOSED ENHANCEMENTS

For future enhancements:

- We will be expanding the scope of system.
- Introducing online payment facility.
- Gentle reminders on phone for the status of the ration.

CONCLUSIONS

- The project is very feasible for customers with basic computer knowledge so it is very
 - user friendly.
- Automation of the entire system improves the efficiency.
- It provides a friendly graphical user interface which proves to be better when compared to the existing system.
- It gives appropriate access to the authorized users of ration cards depending on their
 - permissions.
- Updating of information becomes so easier.
- The System has adequate scope for modification in future if it is necessary.

BIBLIOGRAPHY

- https://www.javatpoint.com
- https://www.w3schools.com
- https://html.com

ANNEXURE (WEEKLY REPORT)
ANNEAURE (WEEKET REFUNT)

Week: Start date and End Date: 4th March- 11th March

Project Title: Ration Distribution System

Team detail

Roll No	Name
209	Omkar Chavan
231	Kiran Labhade
252	Ganesh Tikar

Plan for the week (Last Week)

- To decide the flow of the project
- To draw a diagram

Outcome of the week

- We have a clear vision for flow of project
- Class Diagram is complete.

Skill Gained

- Analyzing about how a system works.
- Information gathering.

Major Challenges

• We faced problem to decide the flow because there is no similar existing website so it was task to decide the flow.

Plan for the Next week

- We plan to design the pages on paper for rough idea
- Design the database

Week: Start date and End Date: 11th March- 18th March

Project Title: Ration Distribution System

Team detail

Roll No	Name
209	Omkar Chavan
231	Kiran Labhade
252	Ganesh Tikar

Plan for the week (Last Week)

- Database Tables
- To draw a diagram

Outcome of the week

- Activity Diagram
- 0th and 1st level DFD
- Class Diagram
- Database Tables

Skill Gained

• To finding the entity and also about what type of attributes are used for an entity.

Major Challenges

• We faced problem to decide the relationships of tables

Plan for the Next week

• We plan to design the pages on paper for rough idea

Week: Start date and End Date: 19th March- 25th March

Project Title: Ration Distribution System

Team detail

Roll No	Name
209	Omkar Chavan
231	Kiran Labhade
252	Ganesh Tikar

Plan for the week (Last Week)

- Page Design of admin login page
- To draw a diagram

Outcome of the week

• Login Page of Admin Side

Skill Gained

- Bootstrap
- HTML/CSS /JavaScript

Major Challenges

• Page loading time takes so it is time consuming

Plan for the Next week

• We plan to design further the pages

Week: Start date and End Date: 25th March-1st April

Project Title: Ration Distribution System

Team detail

Roll No	Name	
209	Omkar Chavan	
231	Kiran Labhade	
252	Ganesh Tikar	

Plan for the week (Last Week)

To complete the front-end part of the admin side.

Outcome of the week

- We are completed with front-end designing of the admin module of the project.
- Also, we have started to learning the concepts of advance java for back-end functionalities of our project

Skill Gained

- HTML/CSS /JavaScript
- Advance concepts of Java EE

Major Challenges

• Attractive designing of pages was the major challenge for this week.

Plan for the Next week:

• We will complete our entire front end designing and we will start development of back-end.

Week: Start date and End Date: 1th April-8th April

Project Title: Ration Distribution System

Team detail

Roll No	Name
209	Omkar Chavan
231	Kiran Labhade
252	Ganesh Tikar

Plan for the week (Last Week)

• We planned to work on dynamic pages of admin side.

Outcome of the week

We have designed admin side dynamic pages.

Skill Gained

• We have gained the skill of designing dynamic pages.

Major Challenges

• We faced problem while inserting as well as fetching data from database.

Plan for the Next week

• Our plan for next week is to work on dynamic pages of user side.

Week: Start date and End Date: 8th April- 15th April

Project Title: Ration Distribution System

Team detail

Roll No	Name
209	Omkar Chavan
231	Kiran Labhade
252	Ganesh Tikar

Plan for the week (Last Week)

• We planned to work on dynamic pages of the customer side.

Outcome of the week

• We have designed some pages of the customer side.

Skill Gained

• We have gained the skill of designing dynamic pages.

Major Challenges

• We faced problem while inserting as well as fetching data from database.

Plan for the Next week

• Our plan for next week is to work on dynamic pages of user side.

Week: Start date and End Date: 16th April- 22th April

Project Title: Ration Distribution System

Team detail

Roll No	Name	
209	Omkar Chavan	
231	Kiran Labhade	
252	Ganesh Tikar	

Plan for the week (Last Week)

• We planned to work on dynamic pages of the customer side.

Outcome of the week

We have designed two pages of the customer side.

Skill Gained

• We have gained the skill of designing dynamic pages.

Major Challenges

• We faced problem while inserting as well as fetching data from database.

Plan for the Next week

• Our plan for next week is to complete whole project.

Week: Start date and End Date: 23rd April- 29th April

Project Title: Ration Distribution System

Team detail

Roll No	Name
209	Omkar Chavan
231	Kiran Labhade
252	Ganesh Tikar

Plan for the week (Last Week)

• We planned to complete the full project.

Outcome of the week

• We have designed the user side dynamic pages and admin side.

Skill Gained

• We have gained the knowledge about testing the project

Major Challenges

• We faced problem while adding and designing pages.