

RETAIL STORE STOCK INVENTORY ANALYSIS

Submitted by:

Gowtham Prakash S(195002040)
Hari Hara Sakthivel K(195002041)
Harish K(195002046)
Dinesh K(195002032)

PROJECT REPORT

1. INTRODUCTION

1.1 Project Overview

1.2 Purpose

2. LITERATURE SURVEY

2.1 Existing problem

2.2 References

2.3 Problem Statement Definition

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas

3.2 Ideation & Brainstorming

3.3 Proposed Solution

3.4 Problem Solution fit

4. REQUIREMENT ANALYSIS

4.1 Functional requirement

4.2 Non-Functional requirements

5. PROJECT DESIGN

5.1 Data Flow Diagrams

5.2 Solution & Technical Architecture

5.3 User Stories

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

6.2 Sprint Delivery Schedule

6.3 Reports from JIRA

7. CODING & SOLUTIONING

8. TESTING

8.1 Test Cases

8.2 User Acceptance Testing

9. RESULTS

9.1 Performance Metrics

10.ADVANTAGES & DISADVANTAGES

11.CONCLUSION

12.FUTURE SCOPE

13.APPENDIX

Source Code

GitHub & Project Demo Link

INTRODUCTION

1.1 PROJECT OVERVIEW

Retail inventory management is the process of ensuring you carry merchandise that shoppers want, with neither too little nor too much on hand. By managing inventory, retailers meet customer demand without running out of stock or carrying excess supply.

In practice, effective retail inventory management results in lower costs and a better understanding of sales patterns.

1.2: PURPOSE

Retail inventory management is the process of ensuring you carry merchandise that shoppers want, with neither too little nor too much on hand. By managing inventory, retailers meet customer demand without running out of stock or carrying excess supply.

In practice, effective retail inventory management results in lower costs and a better understanding of sales patterns. Retail inventory management tools and methods give retailers more information on which to run their businesses. Applications have been developed to help retailers track and manage stocks related to their own products. The System will ask retailers to create their accounts by providing essential details. Retailers can access their accounts by logging into the application.

Once retailers successfully log in to the application they can update their inventory details, also users will be able to add new stock by submitting essential details related to the stock. They can view details of the current inventory. The System will automatically send an email alert to the retailers if there is no stock found in their accounts. So that they can order for the new stocks.

LITERATURE SURVEY

2.1 EXISTING PROBLEM

An inventory management system focuses on a single supply chain process, unlike an ERP system. These inventory management systems often integrate with other systems you use throughout the course of business, such as point of sale system or POS software, shipping, and channel management, allowing your organization to build a personalized integration stack suited to the needs of your business.

2.2 REFERENCES

1. Coordination through quantity- incentive mechanism in a single-manufacturer-single-retailer supply chain

-January 2009

-International Journal of Services and Operations Management

Authors: Taebok Kim
Hanyang University, Y. Hong, Pohang University of Science

2. Inventory Record Inaccuracy and Store-Level Performance

-March 2021

-International Journal of Production Economics

Authors: Amir Shabani
Vrije Universiteit Amsterdam, Wageningen University

2.3 PROBLEM STATEMENT SOLUTION

This project is aimed at developing a desktop-based application named Inventory Management System for managing the inventory system of any organization. The Inventory Management System (IMS) refers to the system and processes to manage the stock of an organization with the involvement of a Technology system. This system can be used to store the details of the inventory, stock maintenance, update the inventory based on the sales details, and generate inventory reports weekly or monthly based. This project is categorized as individual aspects of the inventory management system. An inventory Management System is important to ensure quality control in businesses that handle transactions revolving around consumer goods. Without proper inventory control, a large retail store may run out of stock on an important item. A good inventory management system will alert

the retailer when it is time to record. An automated Inventory Management System helps to minimize errors while recording the stock.

IDEATION & PROPOSED SOLUTION

3.1 EMPATHY MAP CANVAS



2.2 IDEATION AND BRAINSTORMING



Brainstorm & idea prioritization

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

- 🕒 10 minutes to prepare
- 👥 1 hour to collaborate
- 👤 2-8 people recommended



Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

🕒 10 minutes

1. **Team gathering**
Define who should participate in the session and send an invite. Share relevant information or pre-work ahead.

2. **Set the goal**
Think about the problem you'll be focusing on solving in the brainstorming session.

3. **Learn how to use the facilitation tools**
Use the Facilitation Superpowers to run a happy and productive session.

[Open article](#) →



Define your problem statement

What problem are you trying to solve? Frame your problem as a How Might We statement. This will be the focus of your brainstorm.

🕒 5 minutes

🕒 10 min

How might we analyze
Retail. Share inventory
Stacked



Key rules of brainstorming

To run a smooth and productive session

- 🕒 Stay in topic. 🕒 Encourage wild ideas.
- 🕒 Defer judgment. 🕒 Listen to others.
- 🕒 Go for volume. 🕒 If possible, be visual.

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

10 minutes

Tip
You can select a sticky note and in the panel (click to select) you can start drawing!

Gowtham Prakash S

Stocks can be set up at different levels to meet customer demand.

Stock should be maintained on the basis of demand of the stock.

Five sticky notes can help to increase demand of stock, all sticky notes can help to increase demand of stock.

Monitor inventory of stock of various products based on the occurrence.

Harish K

Rely on suppliers who provide special offers.

Stock should not be dumped just because the items are easily available.

Life time of the product should be considered while buying stocks.

Trend of market should be tracked to keep up with growing business.

Revenue opportunities when the stock is low, when the price is low.

Tip
Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Dinesh K

Set Stocking up versus sales Benchmarks.

Stock of inventory products should be maintained based on the stock size.

With lower inventory cost, we can keep enough supply to meet customer demand.

Monitor inventory by keeping track of your inventory levels.

Har Hara Sathivel K

Monitor inventory of stock of various products based on the occurrence.

Five sticky notes can help to increase demand of stock, all sticky notes can help to increase demand of stock.

Monitor inventory of stock of various products based on the occurrence.

Monitor inventory of stock of various products based on the occurrence.

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

20 minutes



3

Group Ideas

Take turns sharing your ideas while clustering similar or related notes as you go. In the last 10 minutes, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

20 minutes

5

After you collaborate

You can export the mural as an image or PDF to share with members of your company who might find it helpful.

QUICK BOD-ONS

- Share the mural. Share a view link to the mural with stakeholders to keep them in the loop about the outcomes of the session.
- Export the mural. Export a copy of the mural as a PNG or PDF to attach to emails, include in slides, or save in your drive.

Keep moving forward

- Strategy blueprint**
Define the components of a new idea or strategy.
[Open the template →](#)
- Customer experience journey map**
Understand customer needs, motivations, and behaviors for an experience.
[Open the template →](#)
- Strengths, weaknesses, opportunities & threats**
Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.
[Open the template →](#)

[Share template feedback](#)

3.3 PROPOSED SOLUTION

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	<ul style="list-style-type: none"> ✓ In order to maintain the regular Customers and to make the New Customers to buy any product at anytime they want, Retailers should maintain the Stock available for them ✓ Retailers can make them fulfil by analysis and visualization of stock data ,She/he can meet customer's demand without running out of stock or carrying excess supply .
2.	Idea / Solution description	<ul style="list-style-type: none"> ✓ To help the Retailer, There is a Cognos Analytic Tool ,Which is used for helping in the Stock maintenance by seeing his/her Stock's. ✓ With the use of Stock Data analysis, he/she can also improve their Business with more profit than before.
3.	Novelty / Uniqueness	<ul style="list-style-type: none"> ✓ When there is a lot of Data's to be maintained by the Retailer, He/She can get confused sometimes. ✓ By making more efficient visualization using filters,like monthly wise,yearly wise,weekwise,comparision,etc.,

4.	Social Impact / Customer Satisfaction	<ul style="list-style-type: none"> ✓ The Retailers's product details are stored in cloud,so the user can access and bill the products using any devices which the usercan affordable. ✓ At the same time, Retailer can check his/her remaining Stock.
5.	Business Model (Revenue Model)	<ul style="list-style-type: none"> ✓ The Cloud provides enough services with its free subscription for theRetailers. ✓ When the Retailers wants to developtheir Store with a huge Business, they can Subscribe to Premium Cloud, In order to make their Business rise in an easy and efficientmanner. ✓ The required details is given to the Retailer, as per his/her request and they must be satisfied, as they usingpremium pack. ✓ In order to make Business grow fast, Retailer can make Advertisement an Give offers and more while he/she need to improvetheir business through subscription.
6.	Scalability of the Solution	<ul style="list-style-type: none"> ✓ The Cloud Cognos Analytics is not only for particular Members/Retailers . ✓ Retailers who holds Small/Big Store's are also getting satisfied withthe Stock analysing process provided as per their needs.

3.4 PROBLEM SOLUTION FIT

The Problem-Solution Fit simply means that we have found a problem with our customer and that the solution we have realized for it actually solves the customer's problem. It helps entrepreneurs, marketers and corporate innovators identify behavioral patterns and recognize what would work and why. The purpose is to solve complex problems in a way that fits the state of your customers and succeed faster and increase your solution adoption by tapping into existing mediums and channels of behavior.

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) CS Who is your customer? i.e. working parents of 0-5 y.o. kids <div>My Customer Here Is A Retail Shop Owner</div>	6. CUSTOMER CONSTRAINTS CC What constraints prevent your customers from taking action or limit their choices of solutions? i.e. spending power, budget, no cash, network connection, available devices. <div> <ul style="list-style-type: none"> Total shopping budget Expensive Lack of enough capita </div>	5. AVAILABLE SOLUTIONS AS <div> <ul style="list-style-type: none"> Create a process workflow of what should be done when we receives a customer query with the focus of handling it promptly and efficiently Making sure that the right products are available to the right people, at the right time, in their preferred shopping environment </div>	Explore AS, differentiate
	Focus on J&P, tap into BE, understand RC	2. JOBS-TO-BE-DONE / PROBLEMS J&P Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one, explore different sides. <div> <ul style="list-style-type: none"> Gaining insight into customer behavior Setting prices more effectively Better supply chain management Optimizing store layout Demand forecasting </div>	9. PROBLEM ROOT CAUSE RC What is the real reason that this problem exists? What is the back story behind the need to do this job? i.e. customers have to do it because of the change in <div> <ul style="list-style-type: none"> Neglecting Store Operations which in-turn causes them to neglect their customers Declining Quality Customer Service poor customer service is such a serious retail problem </div>	
Identify strong TR & EM		3. TRIGGERS TR <div> <ul style="list-style-type: none"> Send a personalized coupon Giving some ads Personnel service gestures </div> 4. EMOTIONS: BEFORE / AFTER EM How do customers feel when they face a problem or a job and afterwards? i.e. lost, insecure > confident, in control- use it in your communication strategy & design. <div> <ul style="list-style-type: none"> Before : Frustration, Helpless , Demotivated After : Satisfaction , Hapiness , Relaxed </div>	10. YOUR SOLUTION SL If you are working on an existing business, write down your current solution first, fill in the canvas, and check how much it fits reality. If you are working on a new business proposition, then keep it blank until you fill in the canvas and come up with a solution that fits within customer limitations, solves a problem and matches customer behaviour. <div> <ul style="list-style-type: none"> To improve store operations they should be present at the storefront and work to engage customers and employees You can improve your company's customer service by showing customers that you respect and value them Providing personalized in store experiences to the customer with a unique experiences in the field </div>	8. CHANNELS of BEHAVIOUR CH ONLINE What kind of actions do customers take online? Extract online channels from #7 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. <div> <p>Online :</p> <ul style="list-style-type: none"> Progressive Discounts Free Shipping <p>Offline :</p> <ul style="list-style-type: none"> Create pamphlets And Flyers Community Engagement </div>

REQUIREMENT ANALYSIS

4.1 FUNCTIONAL REQUIREMENTS

IDENTIFIER	REQUIREMENTS
1. Add stock details	This application will allow add stock details.
2. Delete stock details	This application will allow the delete stock details.
3. Categories of Stock	The categories of stock will be able to be separated using this application.
4. View of Dashboard	Application will allow user to view the dashboard containing stock details.
5. Mail Notification	This application will allow to send mail notification to retailers when the minimum stock limit is reached.
6. Tracking System	The stock can be tracked with this application.
7. Graph analysis	This application will demonstrate sales patternanalysis.
8. Identifying most valuable stock	The most valuable stock for each individual retailer will be shown via this application.
9. Identifying least valuable stock	The least valuable stock for each individual retailer will be shown via this application.
10. Display of expired stocks	This application will display the expired stocks to the particular retailer.
11. Passcode	This application has the option to set a passcode for security.
12. Add multiple accounts	This application has the option of creating multiple accounts for the users.
13. Selection of stock report duration	This application has the ability to select the duration for displaying the stock report.
14. Update account	This application will allow the user/retailer to update their profile.
15. Add account	This application will allow the user/retailer to add their profile.
16. Delete account	This application will allow the user/retailer to delete their profile.
17. PDF report	This application will generate the pdf report of sales pattern analysis.

4.2 NON-FUNCTIONAL REQUIREMENTS

Following are the non-functional requirements of the proposed solution.

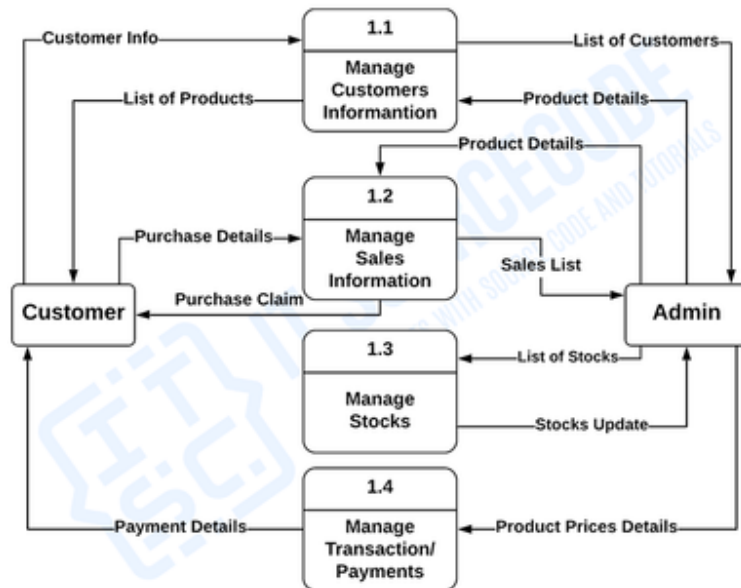
FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The website will utilise better user interface for easy navigation. The process of finding out the results will be smooth and easy for the user.
NFR-2	Security	The website will be protected against SQL injection, DDoS attacks and SHA are used making the website very safe for use.
NFR-3	Reliability	The tool will give accurate and reliable results most of the time.
NFR-4	Performance	The website will be well optimized which includes fast rendering of the pages, providing a bug-free, smooth and hassle-free experience for the user.
NFR-5	Availability	The tool will be available for users most of the time.
NFR-6	Scalability	The system will be scalable enough to support a lot of users at the same time while maintaining optimal performance.

PROJECT DESIGN

5.1 Data Flow Diagrams

A Data Flow Diagram (DFD) is a graphical representation of the flow of data in a business information system. It describes the processes that are involved in a system to transfer data from the input to the file storage and reports generation. It shows how data enters and leaves the system, what changes the information, and where data is stored.

INVENTORY MANAGEMENT SYSTEM



DATA FLOW DIAGRAM LEVEL 1

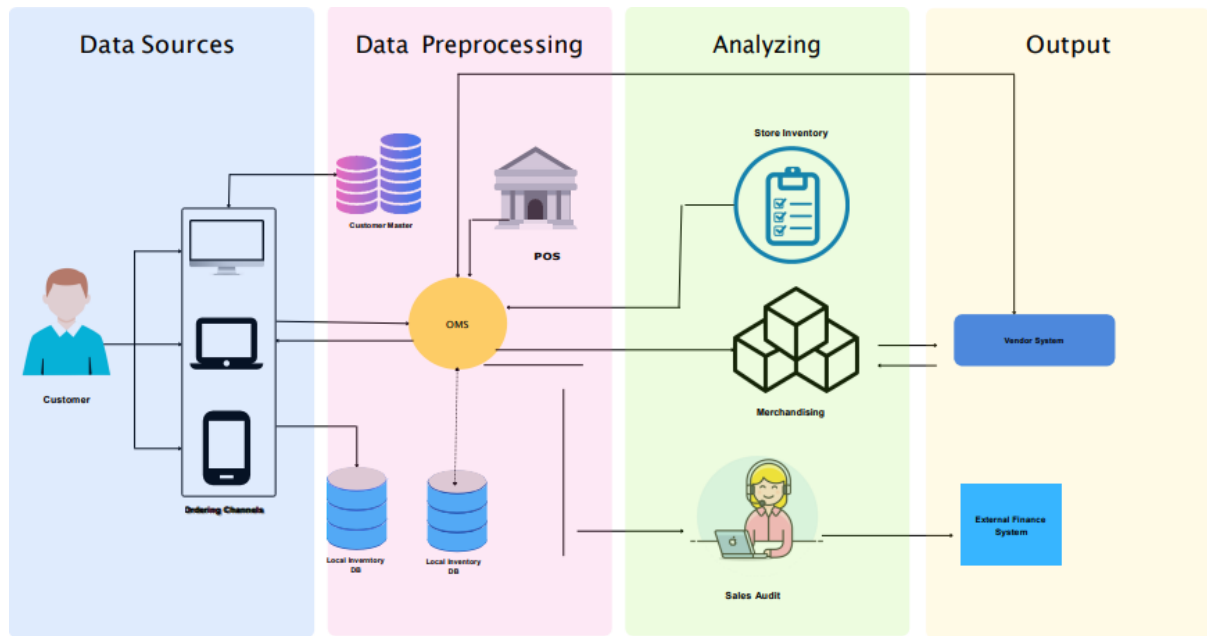
5.2 Solution and Architecture diagram:

Solution Architecture: Solution architecture is a complex process – with many sub-processes

– that bridges the gap between business

problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.



5.3 USER STORIES

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Patient)	Registration	USN-1	As a user, I can register by entering my email, phone number, Date of birth, password, and confirm password.	I can access my account / dashboard	High	Sprint-1
		USN-2	As a user, I will receive the confirmation message in my email once I have registered or OTP will be sent.	I receive confirmation email & click confirm. or by entering the OTP received	High	Sprint-1
		USN-3	As a user, I can register through Gmail		Medium	Sprint-1
	Login	USN-4	As a user, I can log in by entering email & password		High	Sprint-1
	Forgot Password	USN-5	As a user, if i forgot my password, by clicking forgot password an OTP is sent to	By entering the OTP sent via phone number or email.	High	Sprint-1

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
			my number or email,			
	Data collection	USN-6	As a user, I can upload the input data set to diagnose.		High	Sprint-1
Admin	Login	USN-1	As an admin, I can login by using email id and password.		High	Sprint-1
	Data collection	USN-2	As an admin, I can upload the data set to train the machine.		High	Sprint-1

PROJECT PLANNING & SCHEDULING

6.1 SPRINT PLANNING & ESTIMATION

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Use the below template to create product backlog and sprint schedule

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Login	USN-1	As a Retailer, I can log into the application by entering email & password (provided by developer)	1	High	Gowtham Prakash S Dinesh K Hari Hara Sakthivel K
Sprint-2	Add Product	USN-2	As a Retailer, I will be able to add the product by entering their details(product name, price and category).	8	High	Gowtham Prakash S Dinesh K
Sprint-2	Update product	USN-3	As a Retailer, I can able to update the product details by entering the product id(product id- Known by clicking view product button, generated by the system while adding)	1	Low	Harish K Hari Hara Sakthivel K
Sprint-2	Delete product	USN-4	As a Retailer, I can able to delete the product as it is no longer needed by entering the product id(product id- Known by clicking	1	Low	Gowtham Prakash S Hari Hara Sakthivel K

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
			view product button, generated by the system while adding)			
Sprint-2	View products	USN-5	As a Retailer I am able to view the list of products by clicking the view product button in the stocks tab.	3	High	Harish K
Sprint-1	Add category	USN- 6	As a Retailer I am able to add category by entering category details (Category name)	5	High	Harish K Dinesh K
Sprint-1	Update category	USN-7	As a Retailer, I am able to update the category details by selecting the category name.	3	Low	Gowtham Prakash S
Sprint-1	Delete category	USN-8	As a Retailer, I am able to delete the category details by selecting the category name as it is no longer needed.	2	Low	Gowtham Prakash S Hari Hara Sakthivel K
Sprint-2	Order product	USN-9	As a Retailer I am able to order the products by entering customer details, product id and quantity.	5	High	Gowtham Prakash S Dinesh K
Sprint-2	View Summary	USN-10	As a Retailer I can view the summary of the inventory such as total orders, stock details and sales details.	13	High	Harish K Hari Hara Sakthivel K
Sprint-2	View Bills	USN-11	As a Retailer I can view bills based on the amount, date and customer.	2	Medium	Gowtham Prakash S Hari Hara Sakthivel K
Sprint-3	Add Employee	USN-12	As a Retailer I can add employees by Entering their details.	3	High	Harish K
Sprint-3	Update Employee	USN-13	As a Retailer I can Update the employee details by entering their id.	1	Low	Harish K Hari Hara Sakthivel K

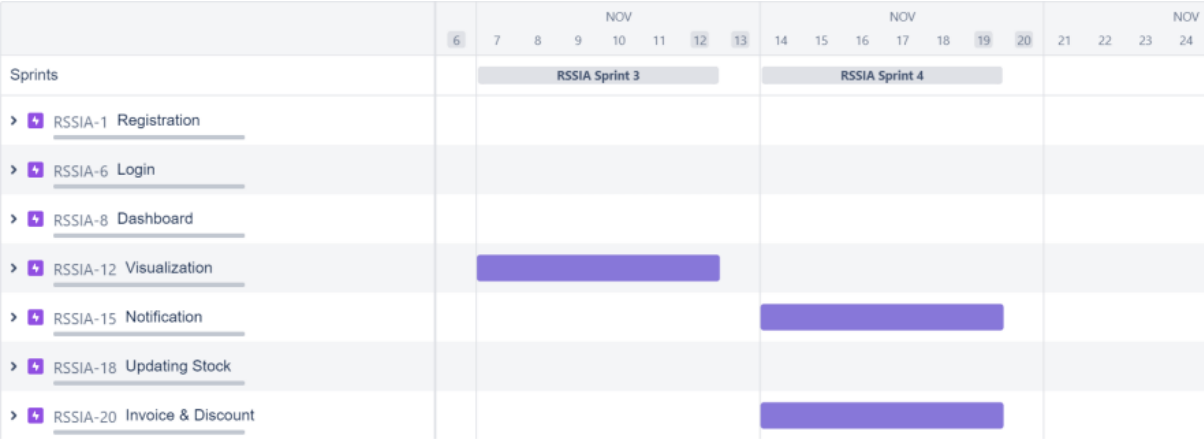
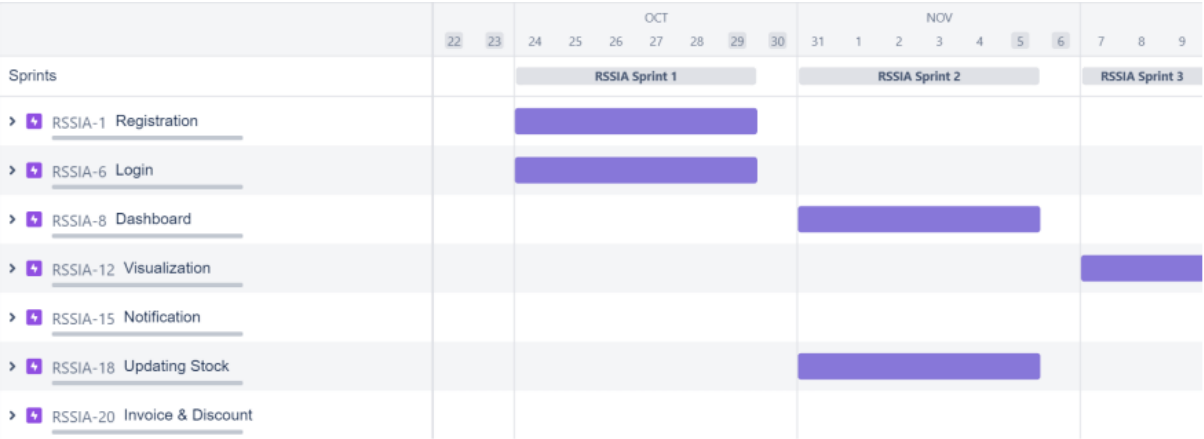
Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-3	Delete Employee	USN-14	As a Retailer I can Delete the employee as it is no longer needed.	1	Low	Dinesh K
Sprint-3	View profile	USN-15	As a Retailer I can View list of employees and their details by clicking the view profile button.	2	Medium	Gowtham Prakash S Dinesh K
Sprint-3	Notify on critical stock	USN-16	As a Retailer I can view the notification (due to understock and overstock) via mobilephone and dashboard(Home page).	8	High	Harish K Hari Hara Sakthivel K
Sprint-3	Add daily purchase.	USN-17	As a Retailer I can add the daily purchase by Entering the product Id and quantity.	5	High	Gowtham Prakash S Dinesh K
Sprint-1	Login	USN-18	As a Employee I can log into the application by entering email & password (provided by developer)	1	High	Harish K Hari Hara Sakthivel K
Sprint-4	Order product	USN-19	As an Employee I am able to order the products by entering customer details, productid and quantity.	5	High	Gowtham Prakash S Dinesh K
Sprint-4	View summary	USN-20	As an Employee I can view the summary of the inventory such as total orders, stock details and sales details.	8	High	Gowtham Prakash S Hari Hara Sakthivel K
Sprint-4	View Bills	USN-21	As an Employee I can view bills based on the amount, date and customer.	2	Medium	Harish K Hari Hara Sakthivel K
Sprint-4	Add daily purchase	USN-22	As an Employee I can add the daily purchase by Entering the product Id and quantity.	3	High	Gowtham Prakash S Hari Hara Sakthivel K

6.2 SPRINT DELIVERY SCHEDULE

Project Tracker, Velocity & Burndown Chart: (4 Marks)

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	12	6 Days	24 Oct 2022	29 Oct 2022	12	29 Oct 2022
Sprint-2	33	6 Days	31 Oct 2022	05 Nov 2022	33	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	18	6 Days	14 Nov 2022	19 Nov 2022	18	19 Nov 2022

6.3 REPORTS FROM JIRA



Jira Software

Your work

Projects

Filters

Dashboards

People

Apps

Create

retail store stock inven...
Software project

PLANNING

Roadmap

Backlog

Board

DEVELOPMENT

Code

Project pages

Add shortcut

Project settings

You're in a team-managed project
[Learn more](#)

Projects / retail store stock inventory analysis

Backlog

...

Q

SD

AN

B

SP

Epic

Insights

▼ RSSIA Sprint 1 24 Oct – 29 Oct (4 issues)

7 0 0 Start sprint ...

RSSIA-2 As a user, I can register for the application by entering my email, pas... REGISTRATION 2 TO DO 0

RSSIA-3 As a user, I can register for the application through Facebook REGISTRATION 2 TO DO 10

RSSIA-4 As a user, I can register for the application through Gmail REGISTRATION 2 TO DO 1

RSSIA-7 As a user, I can log into the application by entering email & password LOGIN 1 TO DO SP

+ Create issue

▼ RSSIA Sprint 2 31 Oct – 5 Nov (4 issues)

14 0 0 Start sprint ...

RSSIA-9 As a user, I can view my dashboard and can perform stock prediction a... DASHBOARD 2 TO DO 0

RSSIA-10 As a user I can view the list of categorized products and their details DASHBOARD 4 TO DO 10

RSSIA-11 As a user I can search through the product using barcode DASHBOARD 2 TO DO 1

Jira Software

Your work

Projects

Filters

Dashboards

People

Apps

Create

retail store stock inven...
Software project

PLANNING

Roadmap

Backlog

Board

DEVELOPMENT

Code

Project pages

Add shortcut

Project settings

You're in a team-managed project
[Learn more](#)

Projects / retail store stock inventory analysis

Backlog

...

Q

SD

AN

B

SP

Epic

Insights

▼ RSSIA Sprint 1 24 Oct – 29 Oct (4 issues)

7 0 0 Start sprint ...

RSSIA-2 As a user, I can register for the application by entering my email, pas... REGISTRATION 2 TO DO 0

RSSIA-3 As a user, I can register for the application through Facebook REGISTRATION 2 TO DO 10

RSSIA-4 As a user, I can register for the application through Gmail REGISTRATION 2 TO DO 1

RSSIA-7 As a user, I can log into the application by entering email & password LOGIN 1 TO DO SP

+ Create issue

▼ RSSIA Sprint 2 31 Oct – 5 Nov (4 issues)

14 0 0 Start sprint ...

RSSIA-9 As a user, I can view my dashboard and can perform stock prediction a... DASHBOARD 2 TO DO 0

RSSIA-10 As a user I can view the list of categorized products and their details DASHBOARD 4 TO DO 10

RSSIA-11 As a user I can search through the product using barcode DASHBOARD 2 TO DO 1

▼ RSSIA Sprint 3 7 Nov – 12 Nov (2 issues)

10 0 0 Start sprint ...

RSSIA-13 As a user I can generate reports based on product sales VISUALIZATION 3 TO DO 0

RSSIA-14 As a user I can predict out of stock and less stock for a product VISUALIZATION 3 TO DO 0

+ Create issue

CODING & SOLUTIONING

7.1 FEATURE 1

home page

```
<!DOCTYPE html>
<html lang="en">

<head>
  <meta charset="utf-8">
  <meta content="width=device-width, initial-scale=1.0" name="viewport">

  <title>Retail Store Stock Inventory Analytics - Index</title>
  <meta content="" name="description">
  <meta content="" name="keywords">

  <!-- Favicons -->
  <link href="assets/img/favicon.png" rel="icon">
  <link href="assets/img/apple-touch-icon.png" rel="apple-touch-icon">

  <!-- Google Fonts -->
  <link
href="https://fonts.googleapis.com/css?family=Open+Sans:300,300i,400,400i,600,600i,700,700i|Jost:300,300i,400,400i,500,500i,600,600i,700,700i|Poppins:300,300i,400,400i,500,500i,600,600i,700,700i" rel="stylesheet">

  <!-- Vendor CSS Files -->
  <link href="assets/vendor/aos/aos.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap/css/bootstrap.min.css" rel="stylesheet">
  <link href="assets/vendor/bootstrap-icons/bootstrap-icons.css" rel="stylesheet">
  <link href="assets/vendor/boxicons/css/boxicons.min.css" rel="stylesheet">
  <link href="assets/vendor/glightbox/css/glightbox.min.css" rel="stylesheet">
  <link href="assets/vendor/remixicon/remixicon.css" rel="stylesheet">
  <link href="assets/vendor/swiper/swiper-bundle.min.css" rel="stylesheet">

  <!-- Template Main CSS File -->
  <link href="assets/css/style.css" rel="stylesheet">

  <!-- =====
===== -->
</head>

<body>

  <!-- ===== Header ===== -->
  <header id="header" class="fixed-top">
    <div class="container d-flex align-items-center">

      <h1 class="logo me-auto"><a href="index.html">Retail Store Stock Inventory Analytics</a></h1>
      <!-- Uncomment below if you prefer to use an image logo -->
```

```
<!-- <a href="index.html" class="logo me-auto"></a>-->
```

```
<nav id="navbar" class="navbar">
  <ul>
    <li><a class="nav-link scrollto active" href="#hero">Home</a></li>
    <li><a class="nav-link scrollto" href="#about">About</a></li>
    <li><a class="nav-link scrollto" href="#services">Dashboard</a></li>
    <li><a class="nav-link scrollto" href="#portfolio">Report</a></li>
    <li><a class="nav-link scrollto" href="#team">Story</a></li>

    <li><a class="nav-link scrollto" href="#contact">Contact</a></li>
    <li><a class="getstarted scrollto" href="#about">Get Started</a></li>
  </ul>
  <i class="bi bi-list mobile-nav-toggle"></i>
</nav><!-- .navbar -->
```

```
</div>
</header><!-- End Header -->
```

```
<!-- ===== Hero Section ===== -->
<section id="hero" class="d-flex align-items-center">
```

```
  <div class="container">
    <div class="row">
      <div class="col-lg-6 d-flex flex-column justify-content-center pt-4 pt-lg-0 order-2 order-lg-1"
data-aos="fade-up" data-aos-delay="200">
        <h1>Better Analytics of your Retail Inventory</h1>
        <h2>Overview of your Stock</h2>
        <div class="d-flex justify-content-center justify-content-lg-start">
          <a href="#about" class="btn-get-started scrollto">Get Started</a>
        </div>
      </div>
      <div class="col-lg-6 order-1 order-lg-2 hero-img" data-aos="zoom-in" data-aos-delay="200">
        
      </div>
    </div>
  </div>
```

```
</section><!-- End Hero -->
```

```
<main id="main">
```

```
<!-- ===== Clients Section ===== -->
<section id="clients" class="clients section-bg">
  <div class="container">
```

```
</div>
```


</section><!-- End Cliens Section -->

<!-- ===== About Us Section ===== -->

<section id="about" class="about">

<div class="container" data-aos="fade-up">

<div class="section-title">

<h2>About Us</h2>

</div>

<div class="row content">

<div class="col-lg-6">

<p>

Here you can find the sales, stock, year and price of the products you handle and can Analytics their sales

by

</p>

<i class="ri-check-double-line"></i>Dashboard which shows the overview, sales and the price

<i class="ri-check-double-line"></i>Report which shows the sales result and the sales greater than 350

<i class="ri-check-double-line"></i>Story shows the overview and the Sales

</div>

<div class="col-lg-6 pt-4 pt-lg-0">

<p>

Dashboard which shows the overview, sales and the price. Report which shows the sales result and the sales greater than 350.

Story shows the overview and the Sales are shown below

</p>

</div>

</div>

</div>

</section><!-- End About Us Section -->

<!-- ===== Dashboard Section ===== -->

<section id="services" class="services section-bg">

<div class="container" data-aos="fade-up">

<div class="section-title">

<h2>Dashboard</h2>

</div>

<iframe

src="https://us1.ca.analytics.ibm.com/bi/?perspective=dashboard&pathRef=.my_folders%2FNew%2Bdashboard&action=view&mode=dashboard&subView=model000001848535d49d_00000000" width="1125" height="1000" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

```
</div>
</section><!-- End Dashboard Section -->
```

```
<!-- ===== Team Members Section ===== -->
<section id="cta" class="cta">
  <div class="container" data-aos="zoom-in">
```

```
    <div class="row">
      <div class="col-lg-9 text-center text-lg-start">
        <h3>Team Members
        <ul>
          <li>Hashaan Adeen</li>
          <li>Mohammed Iqram</li>
          <li>Mohammed Farhaan</li>
          <li>Mohammed Fawwaz</li>
        </ul>
      </h3>
```

```
</div>
```

```
</div>
```

```
</div>
</section><!-- Team Members Section -->
```

```
<!-- ===== Report Section ===== -->
<section id="portfolio" class="portfolio">
  <div class="container" data-aos="fade-up">

    <div class="section-title">
      <h2>Report</h2>
    </div>
    </img>
```

```
</div>
</section><!-- End ReportSection -->
```

```
<!-- ===== Story Section ===== -->
<section id="team" class="team section-bg">
  <div class="container" data-aos="fade-up">
```

```
    <div class="section-title">
      <h2>Story</h2>
    </div>
```

```
<iframe src
="https://us1.ca.analytics.ibm.com/bi/?perspective=story&id=i93CD8BF30404405780F8A4A351C7F
A3C&ui_appbar=true&options%5BdisableGlassPrefetch%5D=true&options%5Bcollections%5D%5Bca
nvasExtension%5D%5Bid%5D=com.ibm.bi.dashboard.canvasExtension&options%5Bcollections%5D%
5BfeatureExtension%5D%5Bid%5D=com.ibm.bi.dashboard.core-
features&options%5Bcollections%5D%5Bbuttons%5D%5Bid%5D=com.ibm.bi.dashboard.buttons&op
tions%5Bcollections%5D%5Bwidget%5D%5Bid%5D=com.ibm.bi.dashboard.widgets&options%5Bcoll
ections%5D%5BcontentFeatureExtension%5D%5Bid%5D=com.ibm.bi.dashboard.content-
features&options%5Bcollections%5D%5BsaveServices%5D%5Bid%5D=com.ibm.bi.dashboard.saveSe
rvices&options%5Bcollections%5D%5Btemplates%5D%5Bid%5D=com.ibm.bi.dashboard.templates&
options%5Bcollections%5D%5BvisualizationExtension%5D%5Bid%5D=com.ibm.bi.dashboard.visualiz
ationExtensionCA&options%5Bcollections%5D%5BboardModel%5D%5Bid%5D=com.ibm.bi.dashboar
d.boardModelExtension&options%5Bcollections%5D%5BcontentTypes%5D%5Bid%5D=com.ibm.bi.d
ashboard.contentTypes&options%5Bcollections%5D%5BserviceExtension%5D%5Bid%5D=com.ibm.b
i.dashboard.serviceExtension&options%5Bcollections%5D%5BlayoutExtension%5D%5Bid%5D=com.i
bm.bi.dashboard.layoutExtension&options%5Bcollections%5D%5BcolorSetExtensions%5D%5Bid%5D
=com.ibm.bi.dashboard.colorSetExtensions&options%5Bconfig%5D%5BliveWidgetExtras%5D%5B%5
D=reveal&options%5Bconfig%5D%5Bproduct%5D=CA&options%5Bconfig%5D%5BeditPropertiesLab
el%5D=true&options%5Bconfig%5D%5BenableCustomVisualizations%5D=true&options%5Bconfig%5
D%5BassetTags%5D%5B%5D=story&options%5Bconfig%5D%5BfilterDock%5D=true&options%5Bcon
fig%5D%5BshowMembers%5D=true&options%5Bconfig%5D%5Bupgrades%5D=dashboard-
core%2Fjs%2Fdashboard%2Fupgrades&options%5Bconfig%5D%5BassetType%5D=exploration&opti
ons%5Bconfig%5D%5BgeoService%5D=CA&options%5Bconfig%5D%5BsmartTitle%5D=true&options
%5Bconfig%5D%5BnavigationGroupAction%5D=true&options%5Bconfig%5D%5BenableDataQuality
%5D=false&options%5Bconfig%5D%5BmemberCalculation%5D=false&isAuthoringMode=true&boar
dId=i93CD8BF30404405780F8A4A351C7FA3C&objRef=i93CD8BF30404405780F8A4A351C7FA3C&sc
eneId=" width="1125" height="1000" frameborder="0" gesture="media" allow="encrypted-media"
allowfullscreen=""></iframe>
```

```
</div>
```

```
</section><!-- End Story Section -->
```

```
<!-- ===== Pricing Section ===== -->
```

```
<!-- ===== Frequently Asked Questions Section ===== -->
```

```
<section id="faq" class="faq section-bg">
```

```
<div class="container" data-aos="fade-up">
```

```
<div class="section-title">
```

```
<h2>Frequently Asked Questions</h2>
```

```
</div>
```

```
<div class="faq-list">
```

```
<ul>
```

```
<li data-aos="fade-up" data-aos-delay="100">
```

```
<i class="bx bx-help-circle icon-help"></i> <a data-bs-toggle="collapse" class="collapse"
data-bs-target="#faq-list-1">Is the dashboard only show the sales and price?<i class="bx bx-chevron-
down icon-show"></i><i class="bx bx-chevron-up icon-close"></i></a>
```

```
<div id="faq-list-1" class="collapse show" data-bs-parent=".faq-list">
```

```
<p>
```

```
The Dashboard can the entire detail about the sales and the price
```

</p>
</div>

<li data-aos="fade-up" data-aos-delay="200">
 <i class="bx bx-help-circle icon-help"></i> <a data-bs-toggle="collapse" data-bs-target="#faq-list-2" class="collapsed">Is the report only display the data? <i class="bx bx-chevron-down icon-show"></i><i class="bx bx-chevron-up icon-close"></i>
 <div id="faq-list-2" class="collapse" data-bs-parent=".faq-list">
 <p>
 The Report gives the entire analytics of the data
 </p>
 </div>

<li data-aos="fade-up" data-aos-delay="300">
 <i class="bx bx-help-circle icon-help"></i> <a data-bs-toggle="collapse" data-bs-target="#faq-list-3" class="collapsed">Is the Story only just display the content? <i class="bx bx-chevron-down icon-show"></i><i class="bx bx-chevron-up icon-close"></i>
 <div id="faq-list-3" class="collapse" data-bs-parent=".faq-list">
 <p>
 The Story gives the overview of the Inventory
 </p>
 </div>

</div>

</div>
</section><!-- End Frequently Asked Questions Section -->

<!-- ===== Contact Section ===== -->
<section id="contact" class="contact">
 <div class="container" data-aos="fade-up">

<div class="section-title">
 <h2>Contact Us</h2>

Github

</div>

</div>
</section><!-- End Contact Section -->

</main><!-- End #main -->

```
<!-- ===== Footer ===== -->
```

```
<div id="preloader"></div>
```

```
<a href="#" class="back-to-top d-flex align-items-center justify-content-center"><i class="bi bi-  
arrow-up-short"></i></a>
```

```
<!-- Vendor JS Files -->
```

```
<script src="assets/vendor/aos/aos.js"></script>
```

```
<script src="assets/vendor/bootstrap/js/bootstrap.bundle.min.js"></script>
```

```
<script src="assets/vendor/glightbox/js/glightbox.min.js"></script>
```

```
<script src="assets/vendor/isotope-layout/isotope.pkgd.min.js"></script>
```

```
<script src="assets/vendor/swiper/swiper-bundle.min.js"></script>
```

```
<script src="assets/vendor/waypoints/noframework.waypoints.js"></script>
```

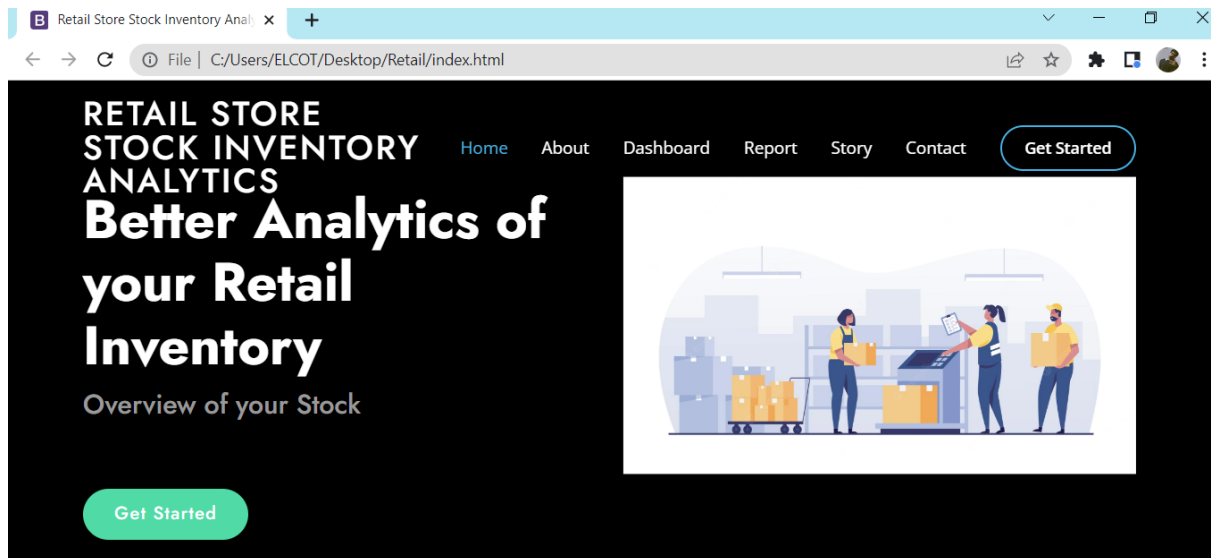
```
<script src="assets/vendor/php-email-form/validate.js"></script>
```

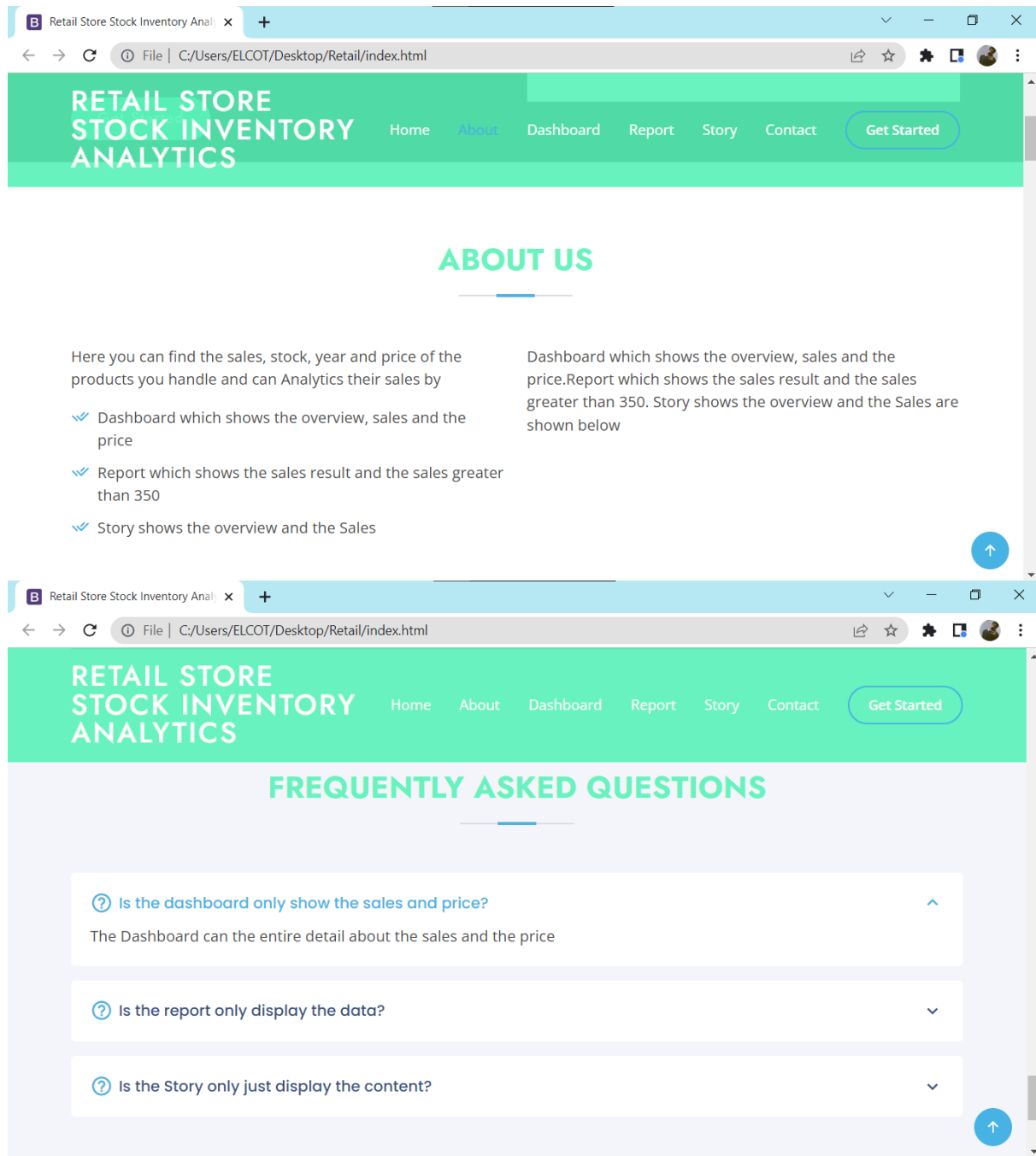
```
<!-- Template Main JS File -->
```

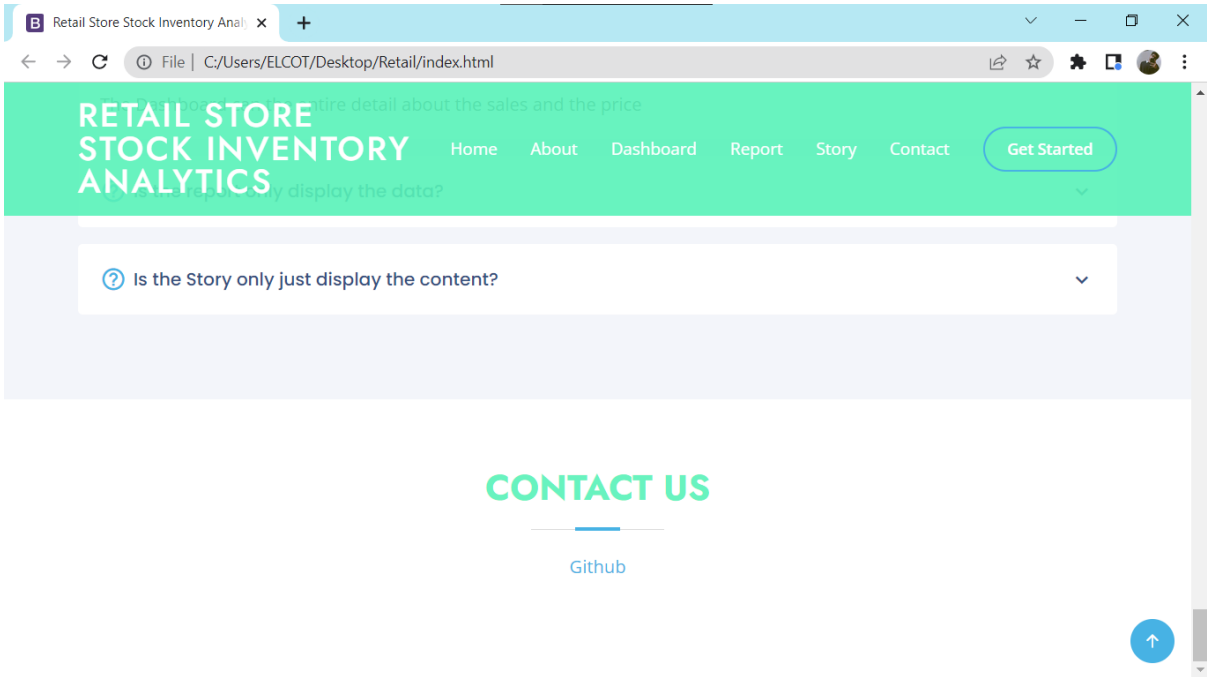
```
<script src="assets/js/main.js"></script>
```

```
</body>
```

```
</html>
```







TESTING

8.1 TEST CASES

TEST CASE NO.	TEST CASE	EXPECTED RESULT	ACTUAL RESULT
1.	Incorrect mail id given for registration	Not registered	Not registered
2,	Password not provided	Details not stored	Details not stored
3.	Login to the application	Successful Login	Successful Login
4.	Login to the application with incorrect password	Login failed	Login failed
5.	Database creation	Database created	Database created
6.	Show current user login	Current user displayed	Current user displayed
7.	Logout of the current account	Successful Logout	Successful Logout

8.2 USER ACCEPTANCE TESTING

1.Purpose of Document

The purpose of this document is to briefly explain the test coverage and open issues of the [ProductName] project at the time of the release to User Acceptance Testing (UAT).

2.Defect Analysis

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	10	4	2	3	20
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	11	2	4	20	37
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	14	13	26	77

3. Test Case Analysis

This report shows the number of test cases that have passed, failed, and untested

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	7	0	0	7
Client Application	51	0	0	51
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	9	0	0	9
Final Report Output	4	0	0	4
Version Control	2	0	0	2

RESULTS

9.1 PERFORMANCE METRICS

- i. Hours worked: 50 hours
- ii. Stick to Timelines: 100%
- iii. Stay within budget:100%
- iv. Consistency of the product: 85%
- v. Efficiency of the product: 85%
- vi. Quality of the product: 85%

ADVANTAGES & DISADVANTAGES

ADVANTAGES:

- Smooth User Interface
- Accuracy is achieved quickly

DISADVANTAGES:

Random forest can be used for both classification and regression tasks, but it is not more suitable for Regression tasks

CONCLUSION

This overview of the project conveys the idea that numerous methods have been investigated for retail store stock inventory analysis. Inventory management is a very complex but essential part of the supply chain. **An effective inventory management system helps to reduce stock-related costs such as warehousing, carrying, and ordering costs.**

FUTURE SCOPE

The future of retail includes **embracing ecosystems and the experience economy, reconfiguring stores, and preparing for Web3 and the metaverse.** Michaels, the arts and crafts chain, used to have employees teach art classes at some of the company's stores.

13. APPENDIX

SOURCE CODE

GITHUB AND PROJECT DEMO LINK

GitHub Link: <https://github.com/IBM-EPBL/IBM-Project-17060-1659627345>

Project Demo link:

