

Retail Store Stock Inventory Analytics

Project Report

submitted By

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Project Report

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1.1 PROJECT OVERVIEW

Inventory management is one of the pillars of a successful retail operation. Retail store stock inventory management techniques help stores and ecommerce sellers satisfy customers, reduce costs and increase profits.

1.2 PURPOSE

The purpose of the Retail Store Stock inventory Analytics 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 store stock inventory management results in lower costs and a better understanding of sales patterns. Retail Store stock inventory analysis tools and methods give retailers more information with which to run their businesses, including:

- Product locations
- Quantities of each product type
- Which stock sells well and which doesn't, by location and sales channel.
- Profit margin by style, model, product line or item
- Ideal amount of inventory to have in back stock and storage
- How many products to reorder and how often
- When to discontinue a product
- How changing seasons affect sales

2. LITERATURE SURVEY

2.1 Existing problem

1.Customer segments(S)

- Retailer
- Distributor
- Wholesaler
- Manufacturer

2.Jobs-to-be-Done/Problems

- Help the customer face uncertainties in supply and demand.

- Prevent the customer from loss in both financial & ethical side.
- Keep the customer up-to-date about current market trends.
- Make small retailers also survey in the rapidly changing market

3. Triggers

- Problems that plague the customer's business.
- Advertisements and recommendations from colleagues who used our software.
- Tempted by competitors who have succeeded using our software.

4. Customer Constraints

- Inadequate of knowledge about current technological trend
 - Always depends on traditional approaches.
- Mistrust on using new methods

5. Problem Root Cause

- Most shopkeepers lose their customers due to insufficient supply.
- They also don't want to overstock a product.

2.2 References

- Agrawal, N., & Smith, S. A. (2003). Optimal retail assortments for substitutable items purchased in sets. *Naval Research Logistics (NRL)*, 50(7), 793-822.
- Alldredge, K., Brown, B. & Magni, M. (2016 June). Playing catch-up: How to partner with the retailer of the future. *McKinsey*. Retrieved from <https://www.mckinsey.com/>
- Bageria, V. (2018, April 6). Think Tank: New Age of Retailing and Big Data Analytics. Retrieved on 2018, August 23 from <https://wwd.com/business-news/retail/new-age-of-retailing-big-dataanalytics-think-tank-1202643944/>
- Bala, P. (2010). A Review on Retail Inventory Management with Purchase Dependency. *International J. Of Recent Trends In Engineering And Technology*, 3(2), 84-87.
- Bursa, K. (2015, September 29). "Curve Shifting" on the Efficient Frontier. Retrieved on 2018, August 23 from <https://www.logility.com/blog/karin-bursa/september->

2.3 Problem Statement Definition

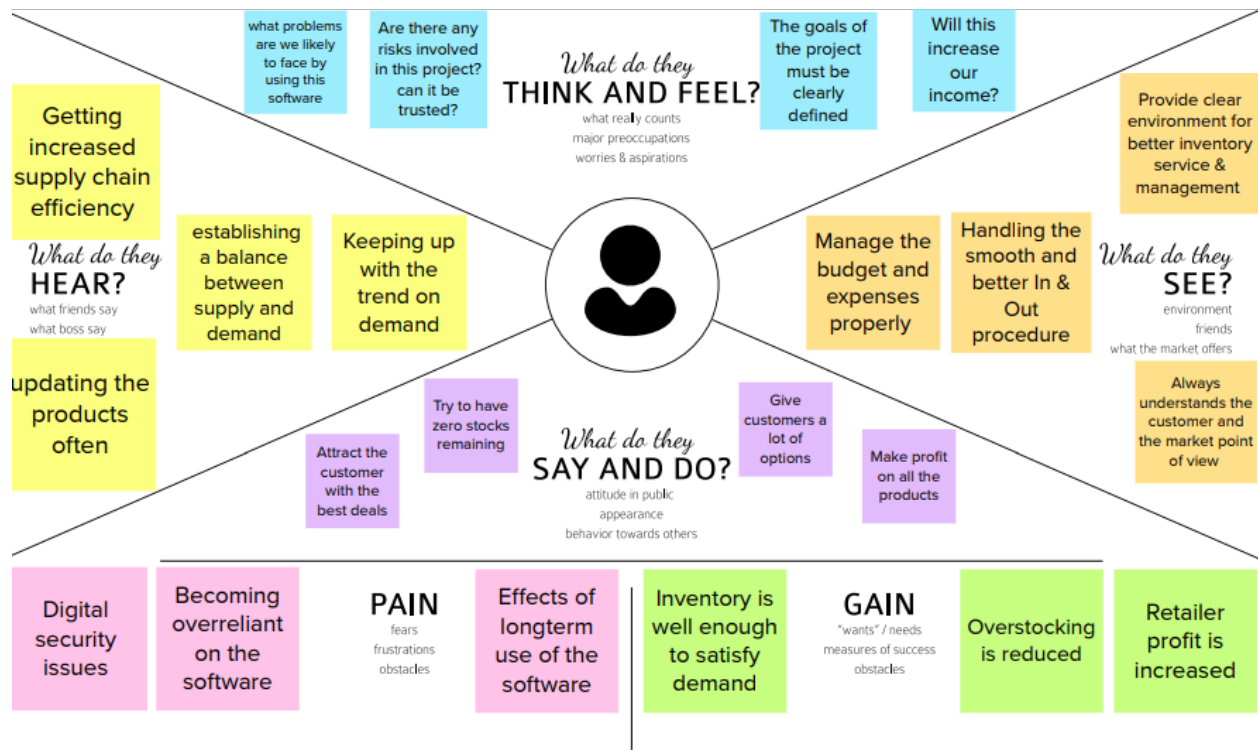
In most of the analytics generally insufficient access of/to information would lead to miscommunications issues. Every department of inventory needs to have access to data that is crucial to their analytics and development process. Because of the Impact of the lack of clear access is not limited to individual processes. But it also affects the complete retail inventory management.

We can simplify our accessibility issues with retail inventory management analytics. The analytics can efficiently manage access, which would, in turn, improve the quality of the process and productivity of the team

Retailers get clear ideas about the trending and demands that are currently exist. So, they will have more awareness about the future needs of customers .

3. IDEATION & PROPOSED SOLUTION

3.1 Empathy Map Canvas



3.2 Ideation & 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



Team gathering

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



Set the goal

Think about the problem you'll be focusing on solving in the brainstorming session.



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

PROBLEM

T is a Trader who wants to master inventory management so that he can serve the customer demand without running out of supply



Key rules of brainstorming

To run an smooth and productive session



Stay in topic.



Encourage wild ideas.



Defer judgment.



Listen to others.

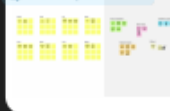


Go for volume.



If possible, be visual.

Share template feedback



Need some inspiration?

See a finished version of this template to kickstart your work.

[Open example](#) →

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 hit the arrow (indicated by a red dot) to add it to your cluster.

Person 1



Person 2



Person 3



Person 4



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.

10 minutes

TIP
Add representative tags to sticky notes to make it easier to find, remove, organize, and integrate important ideas as members within your team.

Customer Features



Recommendation



Product



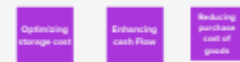
Inventory



Maintenance



Benefits



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



➔

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 add-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 obstacles 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

Project Design Phase-I
Proposed Solution Template

Date	20 September 2022
Team ID	PNT2022TMID33075
Project Name	Project – Retail Store Stock Inventory Analytics

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	In most of the analytics generally insufficient access of/to information would lead to miscommunications issues. Every department of inventory needs to have access to data that is crucial to their analytics and development process. Because of the Impact of the lack of clear access is not limited to individual processes. But it also affects the complete retail inventory management.
2.	Idea / Solution description	We can simplify our accessibility issues with retail inventory management analytics. The analytics can efficiently manage access, which would, in turn, improve the quality of the process and productivity of the team.
3.	Novelty / Uniqueness	Retailers get clear ideas about the trending and demands that are currently exist. So, they will have more awareness about the future needs of customers also. With use of IBM Cognos analytics tools, we can give clear and practical data about needs and trending.
4.	Social Impact / Customer Satisfaction	Because of the clear access of data retailers can give customer demands easily and retailers can provide products they demand. This leads to outstanding customer satisfaction
5.	Business Model (Revenue Model)	When the customer needs are satisfies, Retailers have generating financial income or revenue relatively. Retailers can identify which revenue source to pursue, how to price, and which kind of people going to purchase it.
6.	Scalability of the Solution	Our solution is suitable for all kind of people who have a retail store no matter whether they small or big in the market, because everyone needs clear access of the data and information

3.4 Problem Solution-Fit

Project Title : Retail Store Stock Inventory Analysis

Project Design phase -I(Problem-Solution Fit)

Team ID:PNT2022TMID3307

Define CS, fit into CC	1.Customer segments(S) CS <ul style="list-style-type: none"> •Retailer •Distributor •Wholesaler •Manufacturer 	6. CUSTOMER CONSTRAINTS CC <ul style="list-style-type: none"> • Inadequate of knowledge about current technological trend • Always depends on traditional approaches. • Mistrust on using new methods 	5. AVAILABLE SOLUTIONS AS <ul style="list-style-type: none"> • Predict demand and supply. • Maintain stock according to demand and supply. 	Explore AS, differentiate
	2.Jobs-to-be-Done/Problems J&P <ul style="list-style-type: none"> • Help the customer face uncertainties in supply and demand. • Prevent the customer from loss in both financial & ethical side. • Keep the customer up-to-date about current market trends. • Make small retailers also survey in the rapidly changing market. 	9. PROBLEM ROOT CAUSE RC <ul style="list-style-type: none"> • Most shopkeepers lose their customers due to insufficient supply. • They also don't want to overstock a product. 	7. BEHAVIOUR BE <p>Customer uses the time of year to calculate demand. E.g. selling fire crackers during Diwali</p>	

Identify strong TR & EM	3. TRIGGERS <ul style="list-style-type: none"> • Problems that plague the customer's business. • Advertisements and recommendations from colleagues who used our software. • Tempted by competitors who have succeeded using our software. 	10. YOUR SOLUTION <ul style="list-style-type: none"> • Create a software that can predict the demand. • Use customer business data that has been collected over the years to train and test the algorithm . 	8.Channels of behavior <p>1.ONLINE: Advertisements are posted in social media sites.</p> <p>2.OFFLINE: Good customer service helps gaining customer loyalty.</p>	Identify strong TR & EM
	4. EMOTIONS: BEFORE / AFTER <p>Before:</p> <ul style="list-style-type: none"> • Confused • Diffident <p>After:</p> <ul style="list-style-type: none"> • Clear • Confident 			

4. REQUIREMENT ANALYSIS

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form. Registration through Gmail. Registration through LinkedIn.
FR-2	User Confirmation	Confirmation via Email. Confirmation via OTP. Confirmation via Business whatsapp.
FR-3	User Login	Login with Email. Login with Username & Password. Login with OTP.
FR-4	User Profile	Personal information of user such as name, contact details. Professional information of user such as buying & selling details, profit & loss details.
FR-5	Data Gathering	Collect data from users, collect other resources from various platforms (E.g. Weather, Trending).
FR-6	Reviews	Getting commends and feedbacks from users.

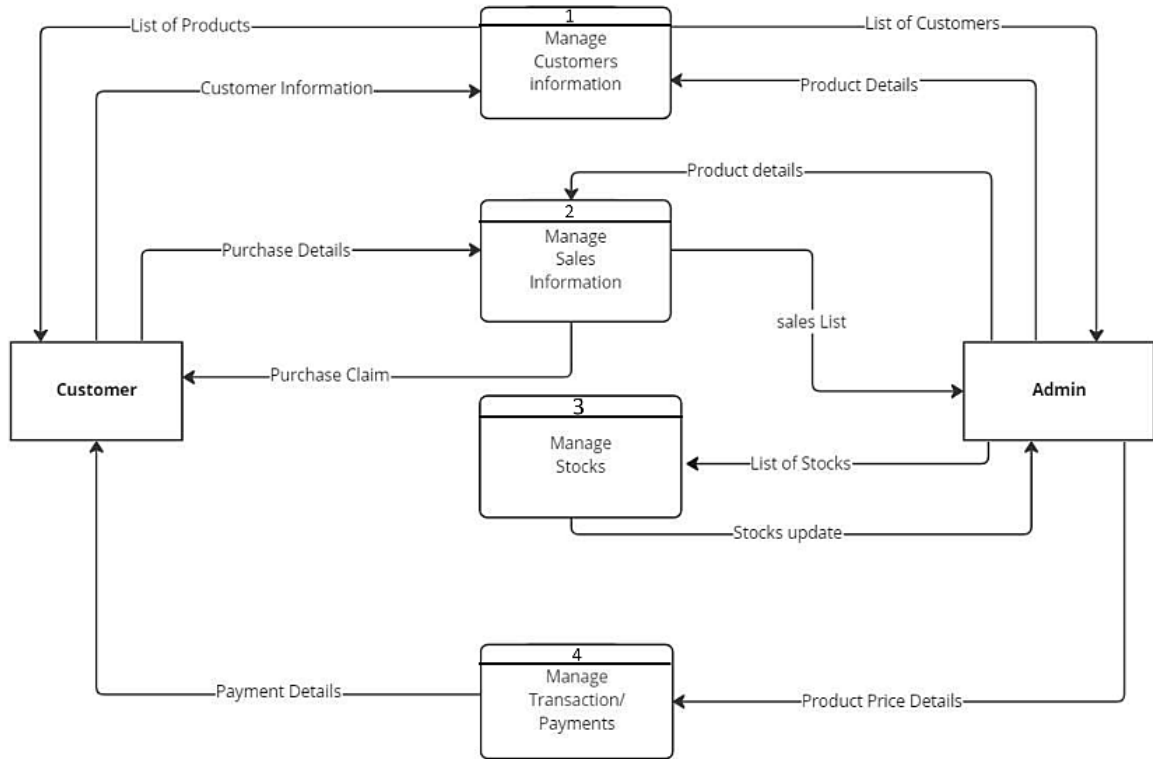
Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	Clear and intricacies User Interface, Unobtrusive responsiveness for all kind of users (small, big owners of retail stocking).
NFR-2	Security	Only authorized people can access the resources. Provide security for owner's details & data.
NFR-3	Reliability	Assured to Provide accurate information about products, so users don't want to suffer for overstocking & understocking.
NFR-4	Performance	The system can handle multi data about multi products of multi retailers. The system will be designed for capable of seamless performance.
NFR-5	Availability	The system can give information that user demand from the data they given. All time availability of information gives user more visibility about the stocks and other stock related information.
NFR-6	Scalability	System can support many number of users at the time. Also support very few users without any underwhelming.

5. PROJECT DESIGN

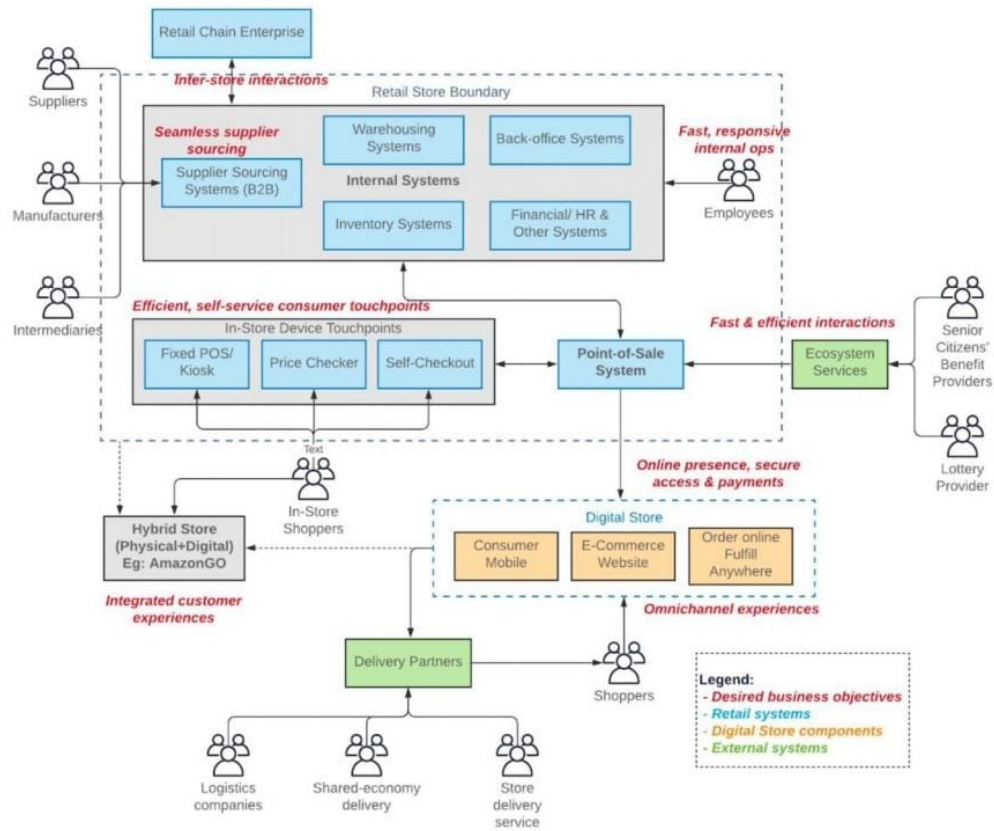
5.1 Data Flow Diagrams



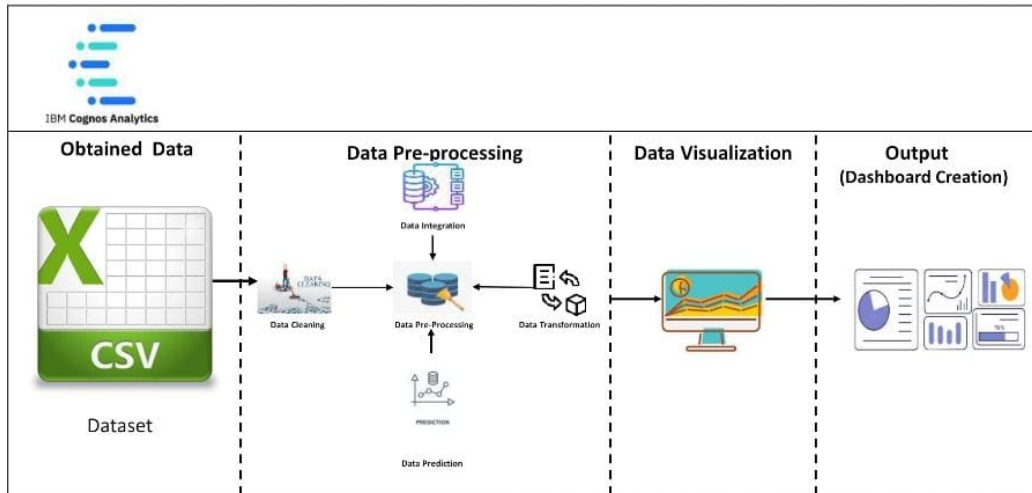
miro

5.2 Solution & Technical Architecture

Solution Architecture:



Technical Architecture



5.3 User Stories

User Stories:

User Type	Functional Requirement (Epic)	User Story Number	User Story/Task	Acceptance criteria	Priority	Release
Customer (Retailer)	Registration	USN-1	As a user I can register with the application using my mail-id , username and password	I can access my account	High	Sprint-1
	Confirmation	USN-2	As a user, I can confirm using WhatsApp/OTP/e-mail	I can confirm that I want to create an account log in	Low	Sprint-1
	Registration through Facebook	USN-3	As a user , I can register for the application using Facebook	I can register directly using Facebook	Low	Sprint-1
	Registration through Google	USN-4	As a user, I can register for the application using Google	I can register directly using Google	Medium	Sprint-1

User Type	Functional Requirement (Epic)	User Story Number	User Story/Task	Acceptance criteria	Priority	Release
Customer (Retailer)	Login	USN-5	As a user, I can login after confirmation	I can access my account/dashboard	High	Sprint-1
	Dashboard	USN-6	As a user, I can view dashboard	I can access my Dashboard	High	Sprint-2
	View list of stocks	USN-7	As a user I can view the list of categorized products and their details	I can view the new stocks	High	Sprint-2
	Search products	USN-8	As a user I can search through the product using barcode	I can search for products with more demand	Medium	Sprint-2
	Report generation	USN-9	As a user I can generate reports based on product sales	I can generate reports	High	Sprint-3
User Type	Functional Requirement (Epic)	User Story Number	User Story/Task	Acceptance criteria	Priority	Release
Customer (Retailer)	Stock Prediction	USN-10	As a user I can predict out of stock and less stock for a product	I can predict stock value	High	Sprint-3
	Notification system	USN-11	As a user I can view notification for expired and out of stock products	I can get notified the stock updates	High	Sprint-4
	Re-Ordering stock	USN-12	As a user I can reorder stocks based on predictions and notification	I can order more stocks	High	Sprint-4
	Updating stock	USN-13	As a user I can add/delete products	I can add/delete my products	High	Sprint-2
	Invoice generation	USN-14	As a user I can generate invoice calculating taxes, discount and calculate credits	I can generate a bill	High	Sprint-4

User Type	Functional Requirement (Epic)	User Story Number	User Story/Task	Acceptance criteria	Priority	Release
Customer (Retailer)	Discount system	USN-15	As a user I can provide discount based on credit points	I can provide discount to my customers	Medium	Sprint-4

6. PROJECT PLANNING & SCHEDULING

6.1 Sprint Planning & Estimation

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

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	2	High	Alan M Asiq Rahman A
Sprint-1	Confirmation	USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	Asiq Rahman A Balaji M
Sprint-1	Registration through Facebook	USN-3	As a user, I can register for the application through Facebook	2	Low	Alan M Balaji M
Sprint-1	Registration through Gmail	USN-4	As a user, I can register for the application through Gmail	2	Medium	Alan M Asiq Rahman A
Sprint-1	Login	USN-5	As a user, I can log into the application by entering email & password	1	High	Balaji M Michael Danieal N
Sprint-2	Dashboard	USN-6	As a user, I can view my dashboard and can perform stock prediction and analysis	3	High	Asiq Rahman A Balaji M Michael Danieal N
Sprint-2	View list of stocks	USN-7	As a user I can view the list of categorized products and their details	4	High	Alan M Balaji M
Sprint-2	Search products	USN-8	As a user I can search through the product using barcode	2	Medium	Alan M Balaji M
Sprint-3	Report generation	USN-9	As a user I can generate reports based on product sales	5	High	Alan M Balaji M

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-3	Stock Prediction	USN-10	As a user I can predict out of stock and less stock for a product	5	High	Asiq Rahman A Balaji M
Sprint-4	Notification system	USN-11	As a user I can view notification for expired and out of stock products	4	High	Alan M Balaji M
Sprint-4	Re-Ordering stock	USN-12	As a user I can reorder stocks based on predictions and notification	3	High	Asiq Rahman A Balaji M
Sprint-2	Updating stock	USN-13	As a user I can add/delete products	5	High	Balaji M Michael Danieal N Alan M Asiq Rahman A
Sprint-4	Invoice generation	USN-14	As a user I can generate invoice calculating taxes, discount and calculate credits	4	High	Alan M Balaji M
Sprint-4	Discount system	USN-15	As a user I can provide discount based on credit points	3	Medium	Asiq Rahman A Balaji M

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	6	6 Days	24 Oct 2022	29 Oct 2022	6	29 Oct 2022
Sprint-2	16	6 Days	31 Oct 2022	05 Nov 2022	16	05 Nov 2022
Sprint-3	10	6 Days	07 Nov 2022	12 Nov 2022	10	12 Nov 2022
Sprint-4	14	6 Days	14 Nov 2022	19 Nov 2022	14	19 Nov 2022

6.3 Reports from JIRA

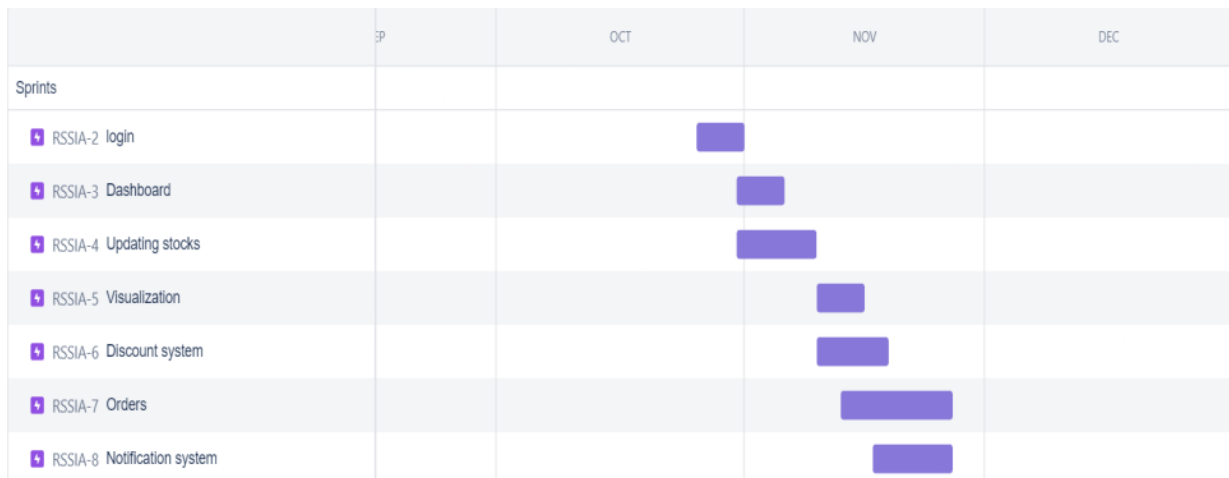
Burndown Chart:

A burn down chart is a graphical representation of work left to do versus time. It is often used in agile software development methodologies such as Scrum. However, burn down charts can be applied to any project containing measurable progress over time.

The screenshot shows a Jira project board for 'RSSIA Sprint 1'. The board is divided into three columns: 'TO DO 3 ISSUES', 'IN PROGRESS 2 ISSUES', and 'DONE'. The 'TO DO' column contains three issues: 'As a user, I can register for the application through Facebook' (RSSIA-11), 'As a user, I can register for the application through Gmail' (RSSIA-12), and 'As a user, I will receive confirmation email once I have registered for the application' (RSSIA-10). The 'IN PROGRESS' column contains two issues: 'As a user, I can register for the application by entering my email, password, and confirming my password' (RSSIA-9) and 'As a user, I can log into the application by entering email & password' (RSSIA-13). The 'DONE' column is empty. The board is titled 'RSSIA Sprint 1' and has a '13 days remaining' timer. A 'Quickstart' button is visible in the bottom right corner.

Project Planning Tool:

Roadmap:



Projects / RSSIA

Backlog

Search Epic Michael Daniele 034

RSSIA Sprint 1 Add dates (5 issues) Start sprint

- RSSIA-9 As a user, I can register for the application by entering my email, password, and confirming my password. TO DO
- RSSIA-10 As a user, I will receive confirmation email once I have registered for the application. TO DO
- RSSIA-11 As a user, I can register for the application through Facebook. TO DO
- RSSIA-12 As a user, I can register for the application through Gmail. TO DO
- RSSIA-13 As a user, I can log into the application by entering email & password. TO DO

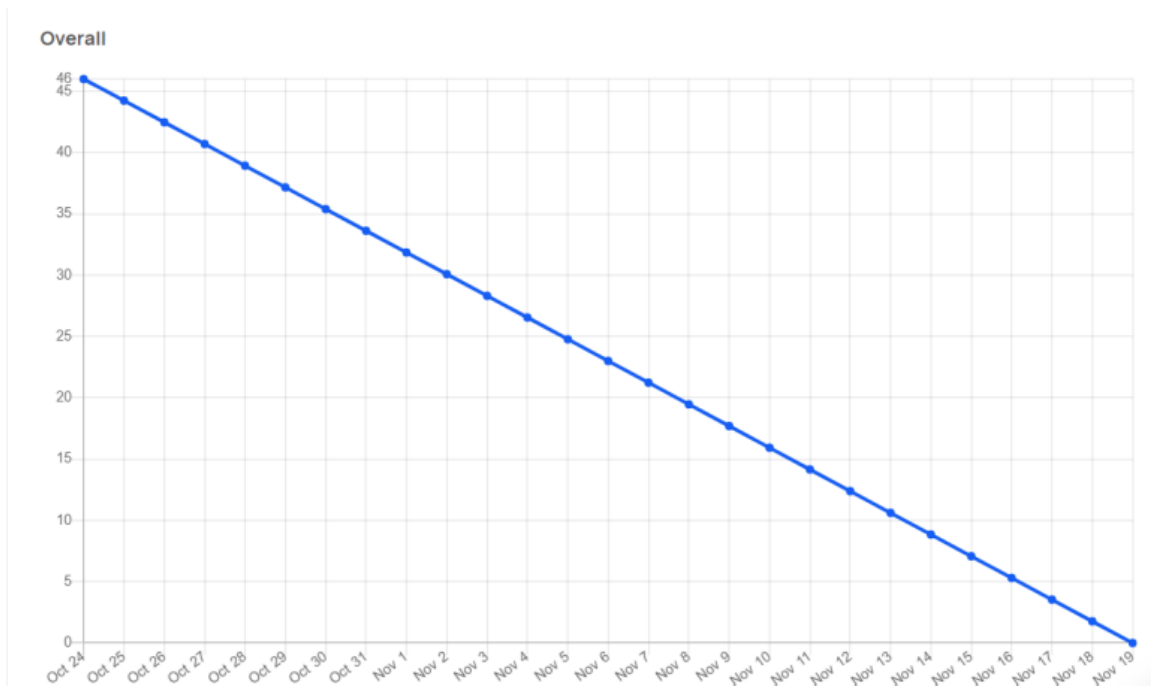
[+ Create issue](#)

RSSIA Sprint 2 Add dates (4 issues) Start sprint

- RSSIA-14 As a user, I can view my dashboard and can perform stock prediction and analysis. TO DO
- RSSIA-15 As a user I can view the list of categorized products and their details. TO DO

[Quickstart](#)

Overall burndown chart:



7. CODING & SOLUTIONING (Explain the features added in the project along with code)

7.1 Feature 1

```
<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="background_styles.css">
    <link rel="stylesheet" href="styles.css">
    <script src="script.js" defer></script>
    <title>Retail Store Stock Inventory Analysis</title>
  </head>
  <body>
    <nav class="navbar">
      <div class="brand-title">Retail Store Stock Inventory Analysis</div>
      <a href="#" class="toggle-button">
        <span class="bar"></span>
        <span class="bar"></span>
        <span class="bar"></span>
        <span class="bar"></span>
      </a>
      <div class="navbar-links">
        <ul>

          <li><a href="#dashboard">Dashboard</a></li>
          <li><a href="#report">Report</a></li>
          <li><a href="#story">Story</a></li>
          <li><a href="#about">About</a></li>

        </ul>
      </div>
    </nav>
    <article>

      <section id="dashboard">

        <center><b><h3>Dashboard:</h3></b></center>

        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&amp;pathRef=.public_folder
s%2Ffinal%2FProject%2BDashboard_&amp;closeWindowOnLastView=true&amp;ui_appbar=fals
e&amp;ui_navbar=false&amp;shareMode=embedded&amp;action=view&amp;mode=dashboard
```

&subView=model000001848eb8836d_00000000" width="1500" height="550"
frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

</section>

</article>

<hr>

<article>

<section id="report">

<center><h3>Report:</h3></center>

<iframe

src="https://us3.ca.analytics.ibm.com/bi/?pathRef=.my_folders%2FProject%2Breport&closeWindowOnLastView=true&ui_appbar=false&ui_navbar=false&shareMode=embedded&action=run&format=HTML&prompt=false" width="1500" height="650"
frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

</section>

</article>

<hr>

<article>

<section id="story">

<center><h3>Story:</h3></center>

<iframe

src="https://us3.ca.analytics.ibm.com/bi/?perspective=story&pathRef=.my_folders%2FProject%2Bstory&closeWindowOnLastView=true&ui_appbar=false&ui_navbar=false&shareMode=embedded&action=view&sceneId=model000001848a441856_00000000&sceneTime=2500" width="1500" height="550" frameborder="0" gesture="media"
allow="encrypted-media" allowfullscreen=""></iframe>

</section>

```

</article>

<hr>

<article>
    <section id="about">
        <center><b><h3>About</h3></b></center>
        <center>A simple and understandable representation of sales data that
helps the retailer
        determine the right amount of stock to keep on-hand to fill demand while
avoiding spending too much on inventory storage.
        </center>

        <center>
            Hope you Like our website<br>
            Thank you for guiding us
        </center>

        <center>
            <h3><b>Analysts:</b></h3>
        </center>
        <center>
            <table>
            <tr><td>Balaji M      :</td> <td>820419205011</td></tr>
            <tr><td>Asiq Rahman A  :</td> <td>820419205009</td></tr>
            <tr><td>Alan M        :</td> <td>820419205005</td></tr>
            <tr><td>Michael Danieal N :</td> <td>820419205034</td></tr>

            </table>
        </center>
        </section>

</article>

</body>
</html>

```

style.css


```
* {  
  box-sizing: border-box;  
}  
body {  
  margin: 0;  
  padding: 0;  
}.navbar {  
  display: flex;  
  position: relative;  
  justify-content: space-between;  
  align-items: center;  
  background-color: #1E90FF;  
  color: white;  
}.brand-title {  
  font-size: 1.5rem;  
  margin: .5rem;  
}.navbar-links {  
  height: 100%;  
}.navbar-links ul {  
  display: flex;  
  margin: 0;  
  padding: 0;  
}.navbar-links li {  
  list-style: none;  
}.navbar-links li a {  
  display: block;  
  text-decoration: none;
```

```

    color: white;
    padding: 1rem;
}.navbar-links li:hover {
    background-color: #555;
}.toggle-button {
    position: absolute;
    top: .75rem;
    right: 1rem;
    display: none;
    flex-direction: column;
    justify-content: space-between;
    width: 30px;
    height: 21px;
}.toggle-button .bar {
    height: 3px;
    width: 100%;
    background-color: white;
    border-radius: 10px;
}@media (max-width: 800px) {
    .navbar {
        flex-direction: column;
        align-items: flex-start;
    } .toggle-button {
        display: flex;
    }.navbar-links {
        display: none;
    }
}

```

```

        width: 100%;
    }.navbar-links ul {
        width: 100%;
flex-direction: column;
    } .navbar-links ul li {
        text-align: center;
    }.navbar-links ul li a {
        padding: .5rem 1rem;
    }.navbar-links.active {
        display: flex;
    }}

```

background_styles.css

```

@import url('https://fonts.googleapis.com/css?family=Raleway');

* {
    font-family: Raleway;
}

html {
    background-color: #DFDFDF;
}

```

script.js

```

const toggleButton = document.getElementsByClassName('toggle-button')[0]
const navbarLinks = document.getElementsByClassName('navbar-links')[0]

toggleButton.addEventListener('click', () => {
    navbarLinks.classList.toggle('active')
})

```

8. TESTING

8.1 Test Cases

Test case ID		no1		Test case description : Test the functionality of the created website				
Created by :		Michael Danieal N		Reviewed by :		Alan M	version:	1
Tester's Name :		Michael Danieal N		Date Tested :		November 19,2022		Test case(Pass/Fail) : Pass
S.NO	Prerequisites :			S.NO	Test data			
1	Connection to the internet			1	ID: alan			
2	Access to any browser			2	password: alan			
Test scenario :		verify the login details of a user when their details are entered						
S.NO	Step	Expected results	Actual results	Pass/Fail				
1	Enter Link	Site opens	Site opens	Pass				
2	Enter userID and password	Enter user details	AS Expected	Pass				
3	Click login	Log into the site	Logged in	Pass				

8.2 User Acceptance Testing

8.2.1.Purpose of Document

This document tells about the test coverage and open issues of the Retail Store Stock Inventory Analytics project at the time of the release to UserAcceptance Testing (UAT).

8.2.2.Defect Analysis

Some of the resolved or closed bugs at each severity level, and how they were resolved.

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By Design	2	0	0	0	2
External	3	0	0	0	3
Fixed	1	0	1	1	3
Duplicate	6	0	1	1	8
Skipped	0	1	0	0	1
Total	12	1	2	2	17

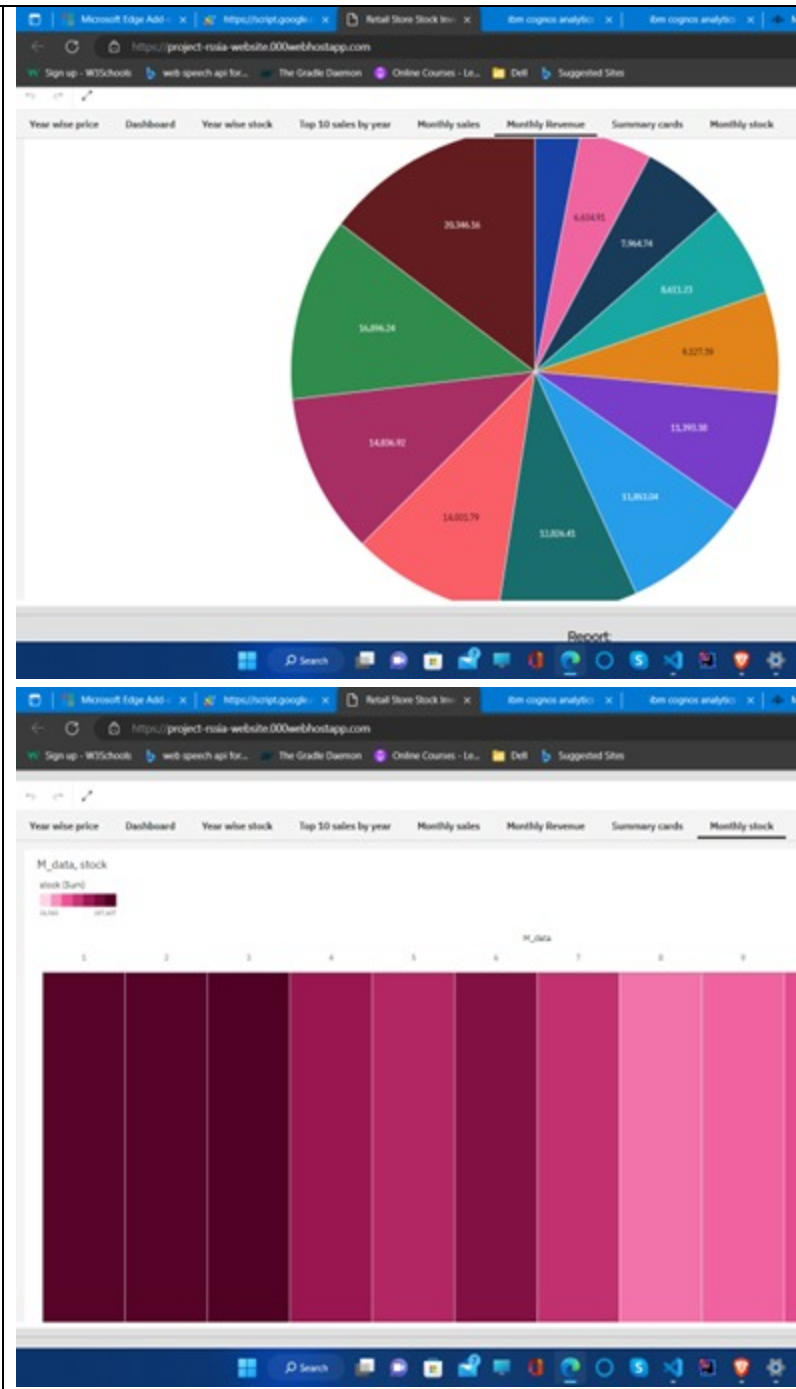
9.Result


9.1. Performance Metrics

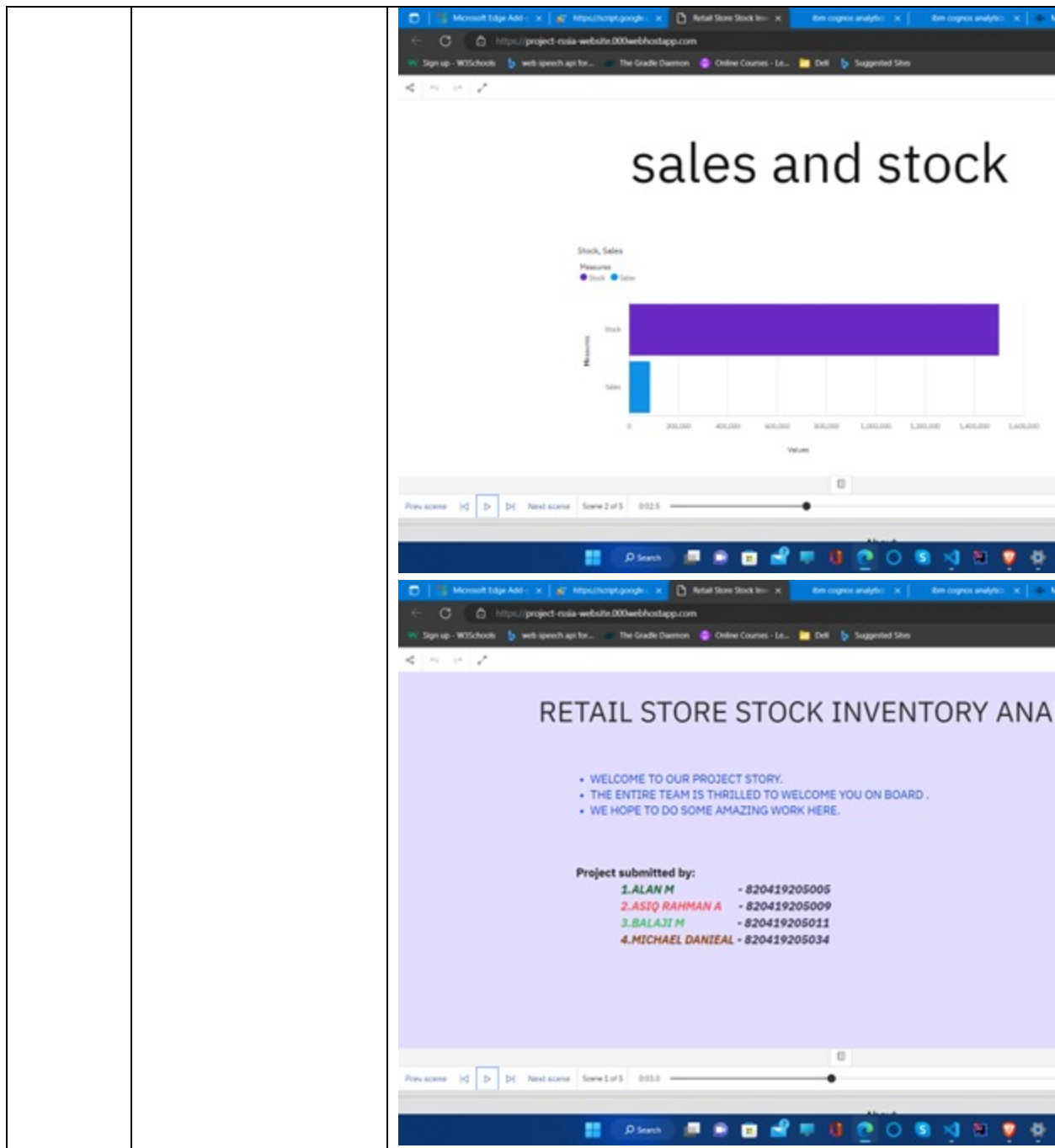
S.No	Parameter	Screenshot
------	-----------	------------

1

Dashboard Design



2	Descriptive reports	 <p>The screenshot displays a web application interface for a 'Retail Store Stock' report. The 'Report' section contains four main visualizations:</p> <ul style="list-style-type: none"> Pie Chart of Stock Sales price based on Year: A pie chart showing the distribution of sales across three years: 2024 (blue, 2,090,000,000,000), 2023 (yellow, 2,100,000,000,000), and 2022 (green, 2,000,000,000,000). Sales Based on Months: A scatter plot showing sales data for each month of 2024. The y-axis represents sales from 0 to 4,000. Data points are clustered for each month, with a legend indicating the month-year combination. Sales Based On Year: A line chart showing sales data for each month of 2024. The y-axis represents sales from 0 to 4,000. Multiple lines represent different months, showing fluctuations in sales over time. Waterfall model of sales based on year and months: A waterfall chart showing the cumulative sales for each month of 2024. The y-axis represents sales from 0 to 4,000. The chart shows a steady increase in sales over the months, with a legend indicating the column values (Increase, Decrease, Sum). <p>The 'Story' section below the charts is currently empty.</p>
3	Effective User Story	



10. Advantages & Disadvantages

Advantages

Centralized record-keeping:

Centralized record-keeping

Entering item and customer information repeatedly while creating a sales order or invoice is always frustrating. Our Inventory captures all of the sale information at once, eliminating double data entry and enabling comprehensive reporting.

Sort and analyze with item groups Sort and analyze with item groups

Grouping items that share common attributes allows them to be analyzed and tracked efficiently. With item groups, you can combine items based on their characteristics and see each group's performance in just one click.

Track movement and expiration dates

Identifying every item or batch with a unique code while you are adding it allows you to trace its movement and expiration date at any time. When you're creating a sales order, invoice, or item adjustment, you can scan items with a barcode scanner to auto-fill their individual codes.

Fulfill orders without hassles

Systemize every operation in your order management cycle. Create package slips from your confirmed sales orders, integrate with more shipping carriers, and send real-time status notifications to customers after shipping each package.

Automatic tasks and alerts

Set your mundane tasks on autopilot with automation rules. Get automatically reorder point notifications and avoid out-of-stock situations, or send personalized order confirmation emails to your regular customers.

Reports for better analysis

After you streamline your inventory process, it's important to monitor its performance. Run detailed reports with just a click to see your bestselling items, most valuable customers, or packing efficiency, so you can make quick, informed decisions every time.

Disadvantages

- Error in data fed to the application could give false results and predictions.
- As the prediction is based on past data ,the data given must be accurate.
- Customer should also trust his/her own commonsense.
- The data fed to the application must be checked every time for errors this is difficult when the data is too large.

11.Conclusion

The website helps the retailer evaluate and predict the required stocks at a very early time. Using the site properly with commonsense can help the retailer reap abundant profits.

12.Future Scope

- Auto cleaning of erroneous data
- Notifications on important events.
- Suggestions on possible profits.
- Risk analysis for the retailer.
- [Auto generation of data for future use .

13.Appendix

Source Code

[Index.html](#)

```

<!DOCTYPE html>
<html>
  <head>
    <link rel="stylesheet" href="background_styles.css">
    <link rel="stylesheet" href="styles.css">
    <script src="script.js" defer></script>
    <title>Retail Store Stock Inventory Analysis</title>
  </head>
  <body>
    <nav class="navbar">
      <div class="brand-title">Retail Store Stock Inventory Analysis</div>
      <a href="#" class="toggle-button">
        <span class="bar"></span>
        <span class="bar"></span>
        <span class="bar"></span>
        <span class="bar"></span>
      <div class="navbar-links">
        <ul>

          <li><a href="#dashboard">Dashboard</a></li>
          <li><a href="#report">Report</a></li>
          <li><a href="#story">Story</a></li>
          <li><a href="#about">About</a></li>

        </ul>
      </div>
    </nav>
    <article>

      <section id="dashboard">

        <center><b><h3>Dashboard:</h3></b></center>

        <iframe
src="https://us3.ca.analytics.ibm.com/bi/?perspective=dashboard&amp;pathRef=.public_folder
s%2Ffinal%2FProject%2BDashboard_&amp;closeWindowOnLastView=true&amp;ui_appbar=fals
e&amp;ui_navbar=false&amp;shareMode=embedded&amp;action=view&amp;mode=dashboard
&amp;subView=model000001848eb8836d_00000000" width="1500" height="550"
frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

      </section>

```

</article>

<hr>

<article>

<section id="report">

<center><h3>Report:</h3></center>

<iframe

src="https://us3.ca.analytics.ibm.com/bi/?pathRef=.my_folders%2FProject%2Breport&closeWindowOnLastView=true&ui_appbar=false&ui_navbar=false&shareMode=embedded&action=run&format=HTML&prompt=false" width="1500" height="650" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

</section>

</article>

<hr>

<article>

<section id="story">

<center><h3>Story:</h3></center>

<iframe

src="https://us3.ca.analytics.ibm.com/bi/?perspective=story&pathRef=.my_folders%2FProject%2Bstory&closeWindowOnLastView=true&ui_appbar=false&ui_navbar=false&shareMode=embedded&action=view&sceneId=model000001848a441856_0000000&sceneTime=2500" width="1500" height="550" frameborder="0" gesture="media" allow="encrypted-media" allowfullscreen=""></iframe>

</section>

</article>

<hr>

```

<article>
  <section id="about">
    <center><b><h3>About</h3></b></center>
    <center>A simple and understandable representation of sales data that
helps the retailer
    determine the right amount of stock to keep on-hand to fill demand while
avoiding spending too much on inventory storage.
    </center>

    <center>
    Hope you Like our website<br>
    Thank you for guiding us
    </center>

    <center>
    <h3><b>Analysts:</b></h3>
    </center>
    <center>
    <table>
    <tr><td>Balaji M      :</td> <td>820419205011</td></tr>
    <tr><td>Asiq Rahman A  :</td> <td>820419205009</td></tr>
    <tr><td>Alan M        :</td> <td>820419205005</td></tr>
    <tr><td>Michael Danieal N :</td> <td>820419205034</td></tr>

    </table>
    </center>
    </section>

  </article>

</body>
</html>

```

style.css

```

* {
  box-sizing: border-box;
}

```

```
body {  
  margin: 0;  
  padding: 0;  
}  
  
.navbar {  
  display: flex;  
  position: relative;  
  justify-content: space-between;  
  align-items: center;  
  background-color: #1E90FF;  
  color: white;  
}  
  
.brand-title {  
  font-size: 1.5rem;  
  margin: .5rem;  
}  
  
.navbar-links {  
  height: 100%;  
}  
  
.navbar-links ul {  
  display: flex;  
  margin: 0;  
  padding: 0;  
}
```

```
.navbar-links li {  
  list-style: none;  
}
```

```
.navbar-links li a {  
  display: block;  
  text-decoration: none;  
  color: white;  
  padding: 1rem;  
}
```

```
.navbar-links li:hover {  
  background-color: #555;  
}
```

```
.toggle-button {  
  position: absolute;  
  top: .75rem;  
  right: 1rem;  
  display: none;  
  flex-direction: column;  
  justify-content: space-between;  
  width: 30px;  
  height: 21px;  
}
```

```
.toggle-button .bar {
```

```
height: 3px;  
width: 100%;  
background-color: white;  
border-radius: 10px;  
}
```

```
@media (max-width: 800px) {  
  .navbar {  
    flex-direction: column;  
    align-items: flex-start;  
  }
```

```
.toggle-button {  
  display: flex;  
}
```

```
.navbar-links {  
  display: none;  
  width: 100%;  
}
```

```
.navbar-links ul {  
  width: 100%;  
  flex-direction: column;  
}
```

```
.navbar-links ul li {  
  text-align: center;
```

```

    }

    .navbar-links ul li a {
      padding: .5rem 1rem;
    }

    .navbar-links.active {
      display: flex;
    }
  }
}

```

background.css

```
@import url('https://fonts.googleapis.com/css?family=Raleway');
```

```

* {
  font-family: Raleway;
}

```

```

html {
  background-color: #DFDFDF;
}

```

Script.js

```

const toggleButton = document.getElementsByClassName('toggle-button')[0]
const navbarLinks = document.getElementsByClassName('navbar-links')[0]

toggleButton.addEventListener('click', () => {
  navbarLinks.classList.toggle('active')
})

```


Github & Project Demo Link

Github Link

<https://github.com/IBM-EPBL/IBM-Project-39388-1660410548>

Project Demo Link

<https://www.youtube.com/pfhekFtDVHQ>

Project Story Link

<https://www.youtube.com/kBfyK9SfRW4>