

IBM NALAYA THIRAN

INVENROTY MANAGEMENT SYSTEM FOR RETAILERS

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CHAPTER 1

INTRODUCTION

PROJECT OVERVIEW

Inventory, A structured, categorized and complete collection of items or objects that give clear insights about the qualitative and quantitative attributes of these objects. In this modern age where e-commerce websites are breaking the internet and consumption for most products have exponentially increased, it is of utmost importance to maintain a robust inventory system which is capable of maintaining record like products, quantities and various other transitive data needed to run a business smoothly. Hence, we have developed a robust Inventory management system which runs on flask and is connected to a MySQL database. The front end has been developed using bootstrap and connected to the back-end using flask. The system will be login enabled. The managers will be able to add, update, delete, retrieve it and display it on the front-end.

PURPOSE

The aim of this project is to showcase the versatility & pragmatics of utilizing Flask along with Remote MySQL to deliver a robust inventory management system. The Scope of the project is to deliver a system that will successfully accept the data from the user to insert, update, delete data from the Database.

CHAPTER 2

LITERATURE SURVEY

EXISTING PROBLEM

Businesses are quickly realizing that inventory control is absolutely necessary to run an efficient business and make money in the process. Especially in today's competitive marketplace, business owners simply can't afford to have money go down the drain.

1. High cost of inventory
2. Consistent stock outs
3. Low rate of inventory control
4. High amount of obsolete inventory
5. High amount of working capital

6. High cost of storage

7. Spreadsheet data-entry errors

8. Lost customers

S. no	Title	Author	Year	Methodology	Pros and Cons
1.	Inventory management for retail companies: A literature review and current trends.	Cinthy Vanessa Muñoz Macas, Jorge Andrés Espinoza Aguirre, Rodrigo Arcentales-Carrión Mario Peña	March, 2021	They focused on solving all the retail issues that happened from 2015 to 2019 through different systems and software.	Pros: They addressed almost 22 issues that retailers faced. Cons: All the software and methodologies they suggested were not cost effective and couldn't be used by small scale retailers.
2.	Inventory decision on the transportation system and carbon emissions under COVID-19 effects: A sensitivity analysis	Abu Hashan Md Mashuda, Suja n Miah, Yoef Dar yantoc, Ripon K. Chakraborty, S.M. Mahmudul Hasan, Ming-Lang Tseng	September, 2022	This study investigates how intensification of the COVID-19 affects the retailer's profit. <ul style="list-style-type: none">• Study about the interrelation of vaccination and covid outbreak in transportation.• This model provides the decision making one efficient uses of green technology.	Pros: This study considers product deterioration, time-dependent holding costs, price-dependent demands, and carbon emissions from vehicle operation and intend to establish a harmonious relationship among these attributes. Cons: This study failed to show how COVID-19 affects customers' purchases instead of the effects on the transportation system.

3.	Two-stage inventory management with financing under demand updates	Tianyun Li, Weiguo Fang, Melike Baykal-Gürsoy	February, 2021	The paper presents a recourse approach to solve the two-stage optimization problem and derive the optimal inventory/financing policies	Pros: This research incorporates the financial and operational decisions into demand updates, and brings new managerial results and insights. Cons: Due to the complexity of the objective function,
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					we do not have simple formulas for the optimal procurement policies, we provide the complete analytical description of the optimal solutions
4.	Internet of things for perishable inventory management systems: an application and managerial insights for micro, small and medium enterprises	Pratik Maheshwari, Sachin Kamble, Ashok Pundir, Amine Belhadi, Nelson Oly Ndubisi & Sunil Tiwari	2021	The study aimed to investigate the impact of IoT on existing operating parameters (holding cost, selling cost, deterioration rate, shortage cost, goodwill cost, unit purchase cost) and how it can increase the overall profit of retailers by reducing spoilage.	Pros: we formulated and analyzed IoT implementation costs in the retailer warehouse Cons: They only focused on retailer benefits. They only considered deterministic demand rates with zero lead time..
5.	DESIGN AND IMPLEMENTATION OF A COMPUTER BASED HOUSEHOLD INVENTORY SYSTEM	Laffnon Stop, Yonas Kebede	March, 2021	The research work embraces all activities of household inventory management valuation feasibility and liability but our study is narrowed down to the valuation of property as a way of bringing the work home	Pros: home. It is focus on valuation because the field area of household inventory is generated to acknowledge the importance of household inventory to individual and the society at large. The Cons: It doesn't support the small scale industry which couldn't afford a computer.

CHAPTER 3

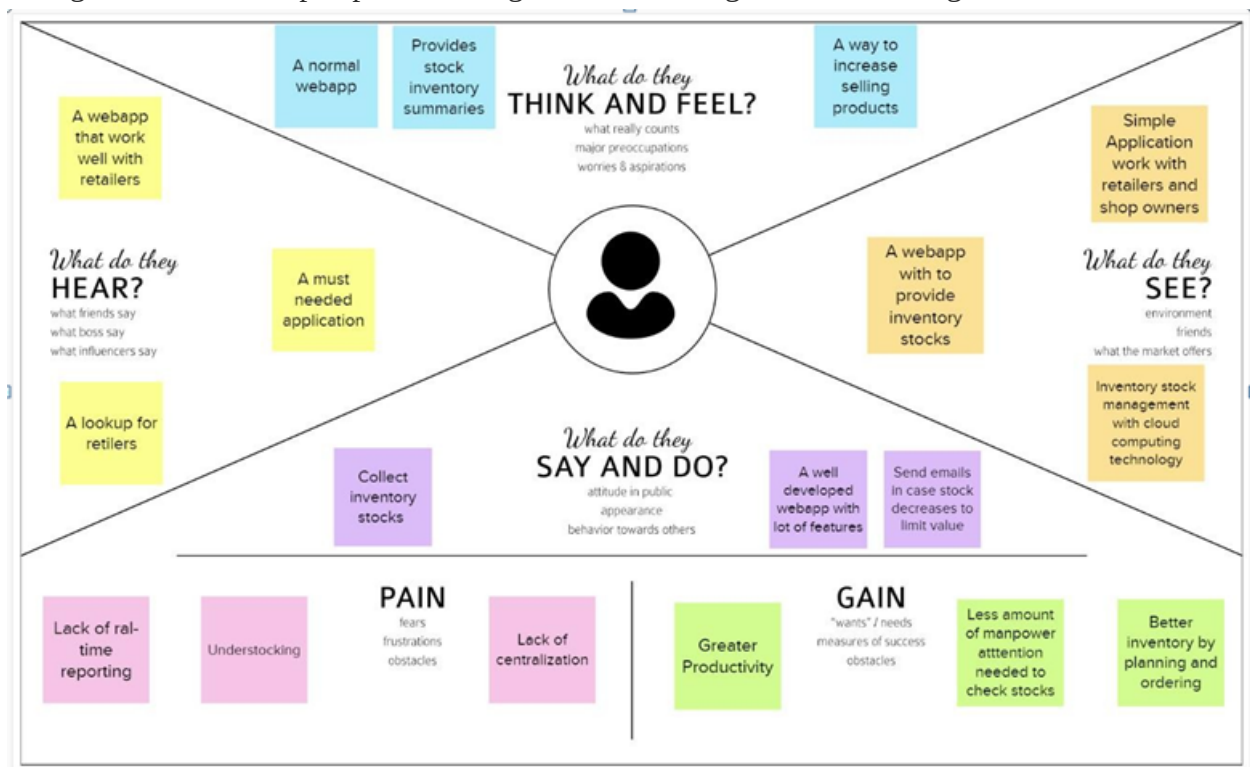
IDEATION & PROPOSED SOLUTION:

Empathy Map Canvas:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to help teams better understand their users.

Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



IDEATION AND BRAINSTORM



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

Share template feedback

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

1 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
Retail inventory management is the process of keeping up the stocks in the shops. By managing inventory, the retailers meet the customer demand without running out of stocks or carrying excess supply.



Key rules of brainstorming
To run an smooth and productive session

- Stay in topic.
- Defer judgment.
- Go for volume.
- Encourage wild ideas.
- Listen to others.
- 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 hit the green checkmark to attach it to the board.



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

Managing Process

Set product limit for the products available.

Set the limit for the products available.

TIP
Add customer tags to sticky notes to make it easy to find, share, organize, and compare customer tags to better understand your business.

Multiple Branch

Use a spreadsheet to manage all the products using cloud.

Use a spreadsheet to manage all the products using cloud.

Using Spreadsheet

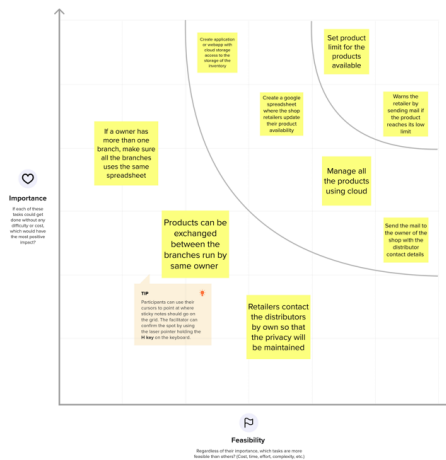
Use a spreadsheet to manage all the products using cloud.

Use a spreadsheet to manage all the products using cloud.

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



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 add-ons

- Show 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 PDF or PNG to attach to emails, include in slides, or save to 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 attitudes 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

PROPOSED SOLUTION

S. No.	Parameter	Description
1	Problem Statement	To solve the need that the shopkeepers doesn't have the systematic way to keep their record of inventory data.
2	Idea / Proposed Solution	An application which retailers successfully log in to the application, that 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 the stock reduced to the limited amount found in the inventory. So that they can order new stock.
3	Novelty / Uniqueness	With this inventory management system, the shopkeeper not only can fill the inventory but also reduce the wastage of goods. The users can register the stocks that they need by logging in from their account.
4	Social Impact / Customer Satisfaction	Customer Satisfaction is entirely depend on the services which they expected. If the retailer's system exceeds with customer's expectation, the customers will be satisfied.

5	Business Model	With the better inventory management system, Update the inventory without any need of manpower. Retailer can liveup withuser's need and be on the flow with current sale products and they can update the inventory with thatproducts.
6	Scalability of the Solution	To create a scalable inventory managementsystem, the retailer have to <ol style="list-style-type: none"> 1. Keeping low inventory levels as much as possible 2. Keep an eye on Sales Projections 3. Use ODM (On-Demand Manufacturing). ODM refers to manufacture or in thiscase, update the products which are highly indemand.

PROBLEM STATEMENT FIT

Define CS, fit into	1. CUSTOMER SEGMENT(S) CS Customer segmentation is an important marketing tool. Effective customer segmentation helps the enterprises increase profits and improve customer service level. On the other hand, due to possible detrimental consequences, supply disruptions have been receiving more and more attention.	6. CUSTOMER CONSTRAINTS CC limits on raw materials, machine capacity, workforce capacity, inventory investment, storage space, or the total number of orders placed.	5. AVAILABLE SOLUTIONS AS <ul style="list-style-type: none"> • Lift per store sales by 5% • 70% time saved in store audits • >97% accurate retail insights in real-time • Improved adherence to store compliance • Brand & SKU level competitive 	Focus on J&P, tap into BE, understand
	2. JOBS-TO-BE-DONE / PROBLEMS J&P <ul style="list-style-type: none"> • Inconsistent Tracking • Warehouse Efficiency • Inaccurate Data • Changing Demand • Limited Visibility • Manual Documentation • Problem Stock • Supply Chain Complexity 	9. PROBLEM ROOT CAUSE RC <ul style="list-style-type: none"> • Network issue • Server down • Data loss 	7. BEHAVIOUR BE <ul style="list-style-type: none"> • The data will be secure. • Check the stock regularly. • The process will be on time. 	
Identify	3. TRIGGERS TR Retail inventory management techniques help stores and ecommerce sellers satisfy customers, reduce costs and increase profits.	10. YOUR SOLUTION SL <ul style="list-style-type: none"> • Create a System to Get Accurate and Accessible Information 	8. CHANNELS of BEHAVIOUR CH Online: <ul style="list-style-type: none"> • Stock update 	Extract online

4. EMOTIONS: BEFORE / AFTER

Before:

Over work and stock unavailable

After:

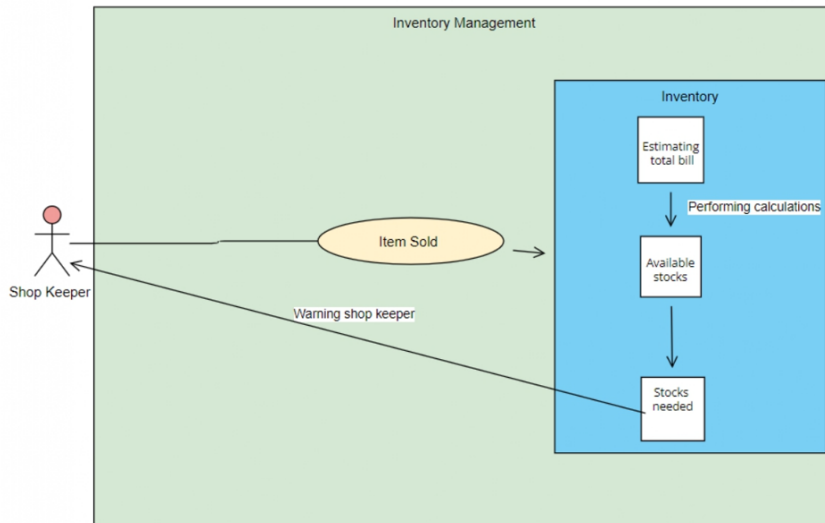
Easy work

EM

- Create a Unique Process Customized for Business Type.
- Keep an eye on Contemporary trends in the industry.
- Be prepared for fluctuations in supply and demand.

- Stock needed
- Maintaining the stock above the warning level
- Calculating the current stock by using the billing info

Solution Architecture



CHAPTER 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 FormRegistration throughEmail
FR-2	User Confirmation	Confirmation via EmailConfirmation via OTP
FR-3	Login	Log into the application by entering theEmail and Password
FR-4	Dashboard	View the products availability
FR-5	Add items to cart	Users they wishto buy products, theycanadd it to the cart.
FR-6	Stock Update	If the desiredproduct is unavailable, theycan update the products into the list for buying products.

Non-functionalRequirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	While usability determines how effectiveimplementing an inventory tracking system is in your business. If it takes hours for your staff to learn the ins and outs of the software, then it's probably not worth buying.
NFR-2	Security	The process of ensuring the safety and optimum management control of storedgoods. It is of central importance for optimum warehouse management because the performance of a companystands or falls with thesafety and efficiency of a warehouse.
NFR-3	Reliability	Relying on manual inventory counts to know what you have will only guaranteehigh inefficiencies and a loss of customers.
NFR-4	Performance	Creating systems to log products, receivethem into inventory, track changes whensales occur, manage the flow of goods frompurchasing to final sale and check stock counts.

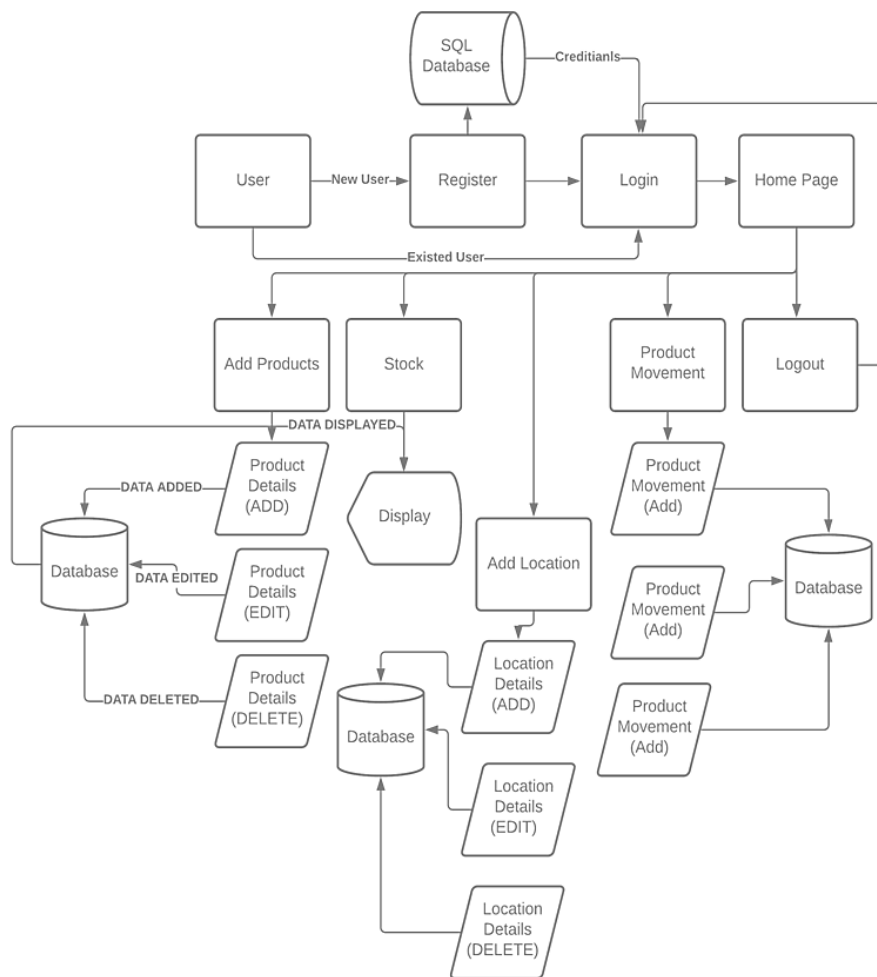
NFR-5	Availability	Whether a specific item is available for customer orders. Additional information provided by retailers may include the quantity available.
NFR-6	Scalability	They should use an automated inventory management system for inventory tracking. This will make your business much more scalable so that you can continue building consistent growth and take advantage of increased sales.

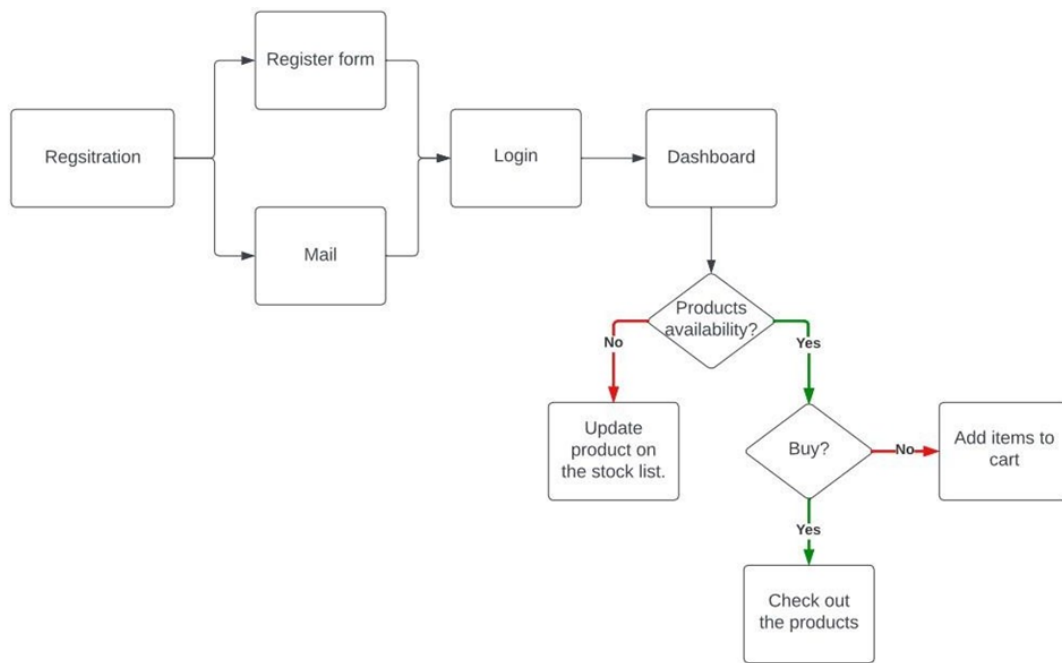
CHAPTER 5

PROJECT DESIGN

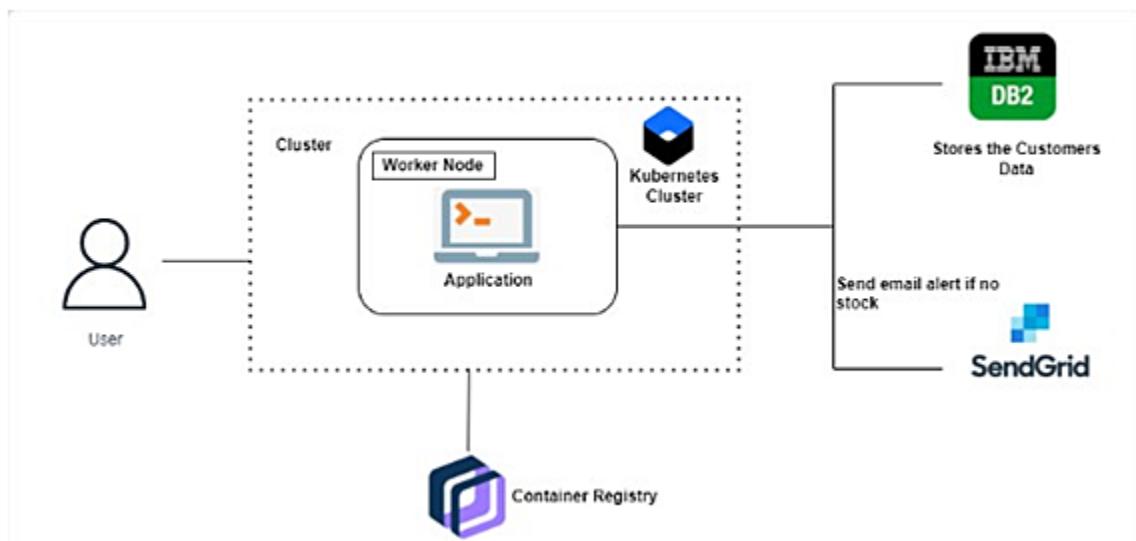
Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.





SOLUTION AND TECHNICAL ARCHITECTURE



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(Web user)	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access myaccount / dashboard	High	Sprint-1
		USN-2	As a user, I can register for the application through E-mail	I can access myaccount / dashboard	Medium	Sprint-1

	Confirmation	USN-3	As a user, I will receive confirmation email once I have registered for the application	I can get confirmation for my email and password and create authenticated account.	Medium	Sprint-1
	Login	USN-4	As a user, I can log into the application by entering email & password	I can log onto the application with verified email and password	High	Sprint-1
	Dashboard	USN-5	As a user, I can view the products which are available	Once I log on to the application, I can view products to buy.	High	Sprint-2

User Type	Functional Requirement (Epic)	User Story Number	User Story/ Task	Acceptance criteria	Priority	Release
	Add items to cart	USN-6	As a user, I can add the products I wish to buy to the carts.	As a user, I can buy any products or add it to my cart for buying it later.	Medium	Sprint-2
	Stock Update	USN-7	As a user, I can add products which are not available in the dashboard to the stock list.	If any of the products which are not available, as a user I can update the inventory and send mail to the owner.	Medium	Sprint-3
Customer Care Executive	Request to Customer Care	USN-8	As a user, I can contact the Customer Care Executive and request any	As a user, I can contact Customer Care and get support from them.	Low	Sprint-4

			services I want from thecusto mer care.			
Administrator	Contact Administrator	USN-9	I can be able to report any difficulties I experience as a report	As user, I can givemy support in my possible ways to administrat or and the administrati on.	Medium	Sprint-4

CHAPTER 6

PROJECT PLANNING AND SCHEDULING

SPRINT PLANNING AND ESTIMATION

Sprint	Functional Requirement(Epic)	User Story Number	User Story/Task	Story Points	Priority	Team Members
Sprint-1	Login	USN-4	As a user, I can log into the application by entering email & password or register with username email and password	2	High	4
Sprint-2	Dashboard	USN-5	As a user, I can view the total stocks, threshold for alert instant add or remove stocks.	4	High	4
Sprint-2	Add items to inventory	USN-6	As a user, I can increase the stocks available with the details of the stock.	5	Medium	4
Sprint-3	Stock Update	USN-7	As a user, I can add products which are not available in the dashboard to the stock list.	5	Medium	4
Sprint-4	Request to Customer Care	USN-8	As an user, I can contact the Customer Care Executive and request any services I want from the customer care.	5	Low	4
Sprint-4	Contact Administrator	USN-9	I can be able to report any difficulties I experience and report	5	Medium	4

VELOCITY

Sprints	Sprint Duration	Velocity	Actual Velocity
Sprint-1	6	7	0.85
Sprint-2	6	9	0.66
Sprint-3	6	5	1.2

Sprint-4	6	10	0.6
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REPORTS FROM JIRA

Project Tool: JIRA

Jira Software

Your work

Projects

Filters

Dashboards

People

Apps

Create

Inventory Management...

Software project

PLANNING

Roadmap

Backlog

Board

DEVELOPMENT

Code

Project pages

Add shortcut

Project settings

You're in a team-managed project

Learn more

Projects / Inventory Management System for Retailers

Backlog

Q

Epic

Insights

Epic

Issues without epic

Registration

Confirmation

Login

Dashboard

Add items to cart

Stock Update

Backlog to customer view

Create Epic

IMSFR Sprint 1 23 Oct – 29 Oct (4 issues)

2 1 1 Complete sprint

IMSFR-1 As a user, I can register for the application by entering my email, password, ... REGISTRATION 2 IN PROGRESS

IMSFR-4 As a user, I can log into the application by entering email & password LOGIN 2 IN PROGRESS

IMSFR-2 As a user, I can register for the application through E-mail REGISTRATION 1 IN PROGRESS

IMSFR-3 As a user, I will receive confirmation email once I have registered for the applicati... CONFIRMATION 2 TO DO

Create issue

IMSFR Sprint 2 31 Oct – 5 Nov (2 issues)

9 1 1 Start sprint

IMSFR Sprint 3 7 Nov – 12 Nov (1 issue)

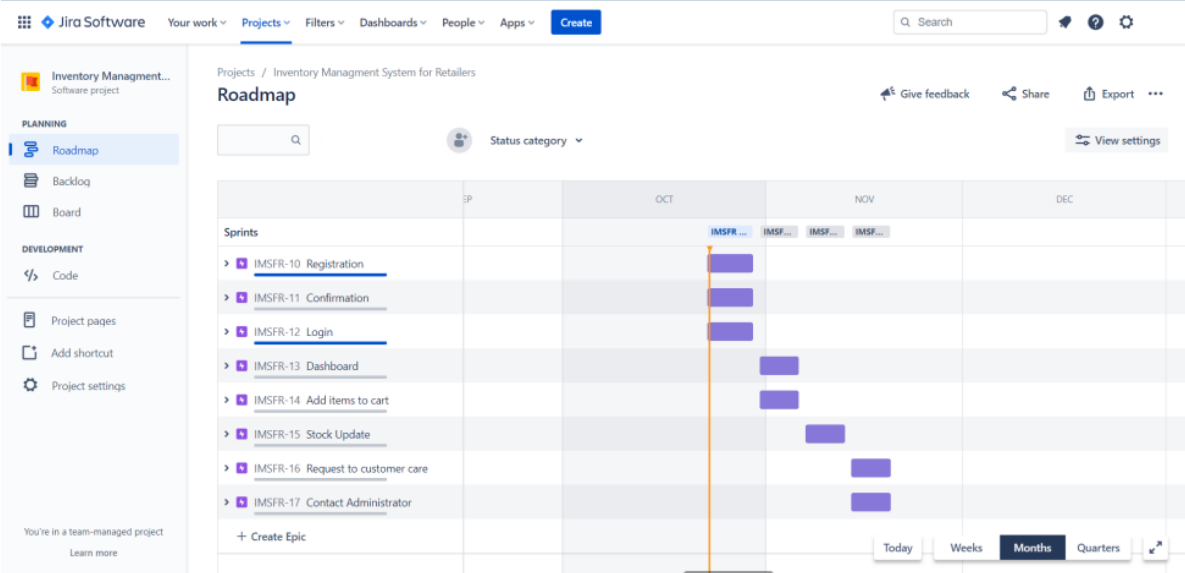
5 1 1 Start sprint

IMSFR Sprint 4 14 Nov – 19 Nov (2 issues)

10 1 1 Start sprint

Backlog (0 issues)

0 1 1 Create sprint



CHAPTER 7

CODING AND SOLUTIONS

a. Feature : Python

1. Python is a widely-used, interpreted, object-oriented, and high-level programming language with dynamic semantics, used for general-purpose programming. It's everywhere, and people use numerous Python-powered devices on a daily basis, whether they realize it or not.
2. Python was created by [Guido van Rossum](#), and first released on February 20, 1991.
3. Python is derived from many other languages, including ABC, Modula-3, C, C++, Algol-68, Smalltalk, and Unix shell and other scripting languages.
4. Python is copyrighted. Like Perl, Python source code is now available under the GNU General Public License (GPL)
5. It is easy to learn – the time needed to learn Python is shorter than for many other languages; this means that it's possible to start the actual programming fast
6. It is easy to use for writing new software – it's often possible to write code faster when using Python.
7. It is easy to obtain, install and deploy – Python is free, open and multiplatform; not all languages can boast that.
8. Programming skills prepare you for careers in almost any industry and are required if you want to continue to more advanced and higher-paying software development and engineering roles.
9. Python is now maintained by a core development team at the institute, although Guido van Rossum still holds a vital role in directing its progress.

b. Feature 2 : Flask

10. **Flask** is a micro web framework written in Python. It is classified as a microframework because it does not require particular tools or libraries.
11. It has no database abstraction layer, form validation, or any other components where pre-existing third-party libraries provide common functions. However, Flask supports extensions that can add application features as if they were implemented in Flask itself.
12. Extensions exist for object-relational mappers, form validation, upload handling, various open authentication technologies and several common framework related tools.
13. Applications that use the Flask Framework include pinterest and LinkedIn

c. Database Scheme

IBM Db2

14. DB2 is a database product from IBM.
15. It is a Relational Database Management System (RDBMS). DB2 is designed to store, analyze and retrieve the data

efficiently.

16. DB2 product is extended with the support of Object-Oriented features and non-relational structures with XML.
17. Provide a massively parallel processing (MPP) architecture Exploits Hive, HBase and Apache Spark concurrently for best-in class analytic capabilities.
18. Provides low latency support for ad-hoc and complex queries, high performance, and federation capabilities Understands dialects from other vendors and various products from Oracle, IBM® Db2® and IBM Netezza® Enables advanced row and column security.

Kubernetes

20. **Kubernetes** is also known as 'k8s'.
21. **Kubernetes** is an extensible, portable, and open-source platform designed by **Google** in **2014**.
22. It is mainly used to automate the deployment, scaling, and operations of the container-based applications across the cluster of nodes.
23. Kubernetes helps to manage containerised applications in various types of physical, virtual, and cloud environments.
24. Google Kubernetes is a highly flexible container tool to consistently deliver complex applications running on clusters of hundreds to thousands of individual servers

CHAPTER 8

TESTING

TESTING

1.It is the process of exercising software with the intent of ensuring that theSoftware system meets its requirements and user expectationand does notfail in an unacceptable manner.

2.There are various types of test. Each test type addresses a specific testing requirement

Test case ID	Feature Type	Component	Test Scenario	Steps To Execute	Test Data	Expected Result	Actual Result	Status	Comments	TC for Automation(Y/N)	BUG ID	Executed By
LoginPage_TC_OO1	Functional	Home Page	Verify user is able to see the Login/Signup popup when user clicked on My account button	1.Enter URL and click go 2.Scroll down 3.Verify login/Signup popup displayed or not	https://169.51.204.215:30106/	Login/Signup popup should display	Working as expected	PASS	Successful			Akinthya Hariharan Arumulan Baranie
LoginPage_TC_OO2	UI	Home Page	Verify the UI elements in Login/Signup popup	1. Enter URL and click go 2.Click on Signup button for User 3. Verify login/Signup popup with below UI elements: a.id text box b.password text box c.Login button d.New customer? Create account link e.Last password? Recovery password link	https://169.51.204.215:30106/	Application should show below UI elements: a.email text box b.password text box c.Login button with orange colour d.New customer? Create account link e.Last password? Recovery password link	Working as expected	PASS	Successful			Akinthya Hariharan Arumulan Baranie
LoginPage_TC_OO3	Functional	Home page	Verify user is able to log into application with Valid credentials	1.Enter URL(https://shopenter.com/) and click go 2.Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter valid password in password text box 5. Click on login button	ID: 5342 password: Testing123	User should navigate to user account homepage	Working as expected	PASS	Successful			Akinthya Hariharan Arumulan Baranie

LoginPage_TC_OO4	Functional	Login page	Verify user is able to log into application with Invalid credentials	1.Enter URL(http://169.51.204.215:30106/) and click go 2.Click on My Account dropdown button 3.Enter Invalid ID in ID text box 4.Enter valid password in password text box 5.Click on login button	ID: 5342 password: Testing123	Application should show 'Incorrect email or password' validation message.	Working as expected	PASS	Successful			Akinthya Hariharan
LoginPage_TC_OO5	Functional	Login page	Verify user is able to log into application with Invalid credentials	1.Enter URL(http://169.51.204.215:30106/) and click go 2.Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter Invalid password in password text box 5.Click on login button	ID: 5342 password: Testing123678686786876876	Application should show 'Incorrect email or password' validation message.	Working as expected	PASS	Successful			Arumulan Baranie
LoginPage_TC_OO6	Functional	Login page	Verify user is able to log into application with Invalid credentials	1.Enter URL(http://169.51.204.215:30106/) and click go 2.Click on My Account dropdown button 3.Enter Invalid ID in ID text box 4.Enter Invalid password in password text box 5.Click on login button	ID: 5342 password: Testing123	Application should show 'Incorrect email or password' validation message.	Working as expected	PASS	Successful			Arumulan Baranie

LoginPage_TC_OO7	Functional	Login page	Verify User is able to log into application with Valid Credentials	1.Enter URL(http://169.51.204.215:30106/) and click go 2.Click on My Account dropdown button 3. Enter Invalid ID in ID text box 4. Enter Invalid password in password text box 5. Click on login button	ID: 5434 password: Testing123	Application should show 'correct email or password' validation message.	Working as expected	PASS	Successful			Akinthya Hariharan
LoginPage_TC_OO8	Functional	Login page for ADMIN	Verify User is able to log into application with Valid Credentials	1.Enter URL(http://169.51.204.215:30106/) and click go 2.Click on My Account dropdown button 3. Enter Valid ID in ID text box 4. Enter valid password in password text box 5. Click on login button	ID: 1111 password: 5678	Application should show 'correct email or password' validation message.	Working as expected	PASS	Successful			Akinthya Hariharan
LoginPage_TC_OO9	UI	ADMIN PAGE	Verify all the Customer database is visible	1.Enter URL(http://169.51.204.215:30106/) and click go 2.Click on My Account dropdown button 3. Enter Invalid ID in ID text box 4. Enter Invalid password in password text box 5. Click on login button	http://169.51.204.215:30106/	Customer database is visible	Working as expected	PASS	Successful			Akinthya Hariharan

LoginPage_TC_O10	Functional	USER REGISTER	Verify Id sent to customer email address	1. Enter URL(http://169.51.204.21:530106/) and click go 1. Register the account by giving credentials 2. Click on button Submit	http://169.51.204.21:530106/	Email sent successfully	Working as expected	PASS	Successful			Akintuya Harizaran
LoginPage_TC_O11	Functional	AGENT REGISTER	Verify AGENT is able to log into application with Valid Credentials	1. Enter URL(http://169.51.204.21:530106/) and click go 2. Click on My Account dropdown button 3. Enter Invalid ID in ID text box 4. Enter Invalid password in password text box 5. Click on login button	http://169.51.204.21:530106/	ID sent successfully	Application should show 'correct email or password ' validation message.	PASS	Successful			Arunnalan Baranie
LoginPage_TC_O12	Functional	Login page for ADMIN	Verify User is able to log into application with Invalid Credentials	1. Enter URL(http://169.51.204.21:530106/) and click go 2. Click on My Account dropdown button 3. Enter Invalid ID in ID text box 4. Enter Invalid password in password text box 5. Click on login button	ID: 1111 password: 5678	Application should show 'Incorrect ID or password' validation message.	Working as expected	PASS	Successful			Arunnalan Baranie
LoginPage_TC_O13	UI	Home page for Agent	Verify user is able to see the agent home page when user finish on submitting Credentials	1. Enter URL(http://169.51.204.21:530106/) and click go 2. To the Agent Login page and submit Your Credentials	ID: 1111 password: 5678	AGENT Home Page popup should display	Working as expected	PASS	Successful			Akintuya Harizaran Arunnalan Baranie
LoginPage_TC_O14	UI	Home page for USER	Verify user is able to see the User home page when user finish on submitting Credentials	1. Enter URL(http://169.51.204.21:530106/) and click go 2. To the User Login page and submit Your Credentials	http://169.51.204.21:530106/	USER Home Page popup should display	Working as expected	PASS	Successful			Akintuya Harizaran Arunnalan Baranie
LoginPage_TC_O15	UI	Home page for ADMIN	Verify user is able to see the ADMIN home page when user finish on submitting Credentials	1. Enter URL(http://169.51.204.21:530106/) and click go 2. To the User Login page and submit Your Credentials	http://169.51.204.21:530106/	ADMIN Home Page popup should display	Working as expected	PASS	Successful			Akintuya Harizaran Arunnalan Baranie
LoginPage_TC_O16	Functional	AGENT PAGE	On delete Button the user Credentials will be deleted	1. Enter URL(http://169.51.204.21:530106/) and click go 2. To the Admin Page and select on User Credentials	http://169.51.204.21:530106/	ADMIN Home Page popup should display	Working as expected	PASS	Successful			Akintuya Harizaran Arunnalan Baranie

User Acceptance Testing

1. Purpose of Document

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

2. Defect Analysis

This report shows the number of 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	10	3	1	2	17
Duplicate	1	0	3	0	4
External	2	3	0	1	6
Fixed	11	2	4	20	40
Not Reproduced	0	0	1	0	1
Skipped	0	0	1	1	2
Won't Fix	0	5	2	1	8
Totals	24	13	12	25	78

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	8	0	0	8
Client Application	50	0	0	50
Security	2	0	0	2
Outsource Shipping	3	0	0	3
Exception Reporting	10	0	0	10
Final Report Output	6	0	0	6
Version Control	3	0	0	3

CHAPTER 9

RESULTS

9.1 Performance metrics

1. Project metrics are used to track the progress and performance of a project.
2. Monitoring parts of a project like productivity, scheduling, and scope make it easier for team leaders to see what's on track.
3. As a project evolves, managers need access to changing deadlines or budgets to meet their client's expectations

SIGNUP PAGE

Inventory management system

Welcome Back!

To keep connected with us please login with your personal info

SIGN IN

Create Account

Enter Your Username

Enter Your Email ID

Enter Your Password

Sign Up

SIGIN IN PAGE

Inventory Management System

Sign in

Enter Your email

Enter Your username

Enter Your Password

Sign In

Hello, Friend!

Enter your personal details and start managing your stocks

SIGN UP

STOCKS PAGE

INVENTORY			
<div><div>Rehman Administrator Online</div><div>General</div><div><div>Home</div><div>Products</div><div>Stock</div><div>Location</div><div>Product Movement</div><div>Logout</div></div></div>			
Product Name		Product QTY	
Washing Machine		10	
Computer		10	
Printer		10	
LG Fridge		10	
Air Conditioner		10	
Television		10	
Oven		10	
Cooler		10	
Fan		10	
Sofa		10	

LOCATION PAGE

INVENTORY

Rehman

Administrator

Online

General

Home

Products

Stock

Location

Product Movement

Logout

Location Information

ADD Location

Location id	Location name	Edit	Delete
1	Hyderabad	Edit	Delete
2	Delhi	Edit	Delete
3	Mumbai	Edit	Delete
4	Kolkata	Edit	Delete
5	Banglore	Edit	Delete

PRODUCT MOVEMENT PAGE

INVENTORY

Rehman

Administrator

Online

General

Home

Products

Stock

Location

Product Movement

Logout

Product Movement

ADD PRODUCT MOVEMENT

Movement id	Product name	Date_Time	From Location	To Location	Qty	Edit	Delete
1	LG Fridge	25/04/2021 : 4:52	Hyderabad	Banglore	5	Edit	Delete
2	Printer	4/28/2021 : 3:23	Delhi	Hyderabad	5	Edit	Delete

CHAPTER 10

ADVANTAGES AND DIS ADVANTAGES

ADVANTAGES:

1. Better Inventory Accuracy.
2. Reduced risk of overselling.
3. Cost Savings.
4. Avoiding stockouts and Excess stock.
5. More Productivity.
6. Increased Profits.
7. Better Customer Experience

DIS-ADVANTAGES:

1. Expensive for small businesses.
2. Risk of systemcrashes.
3. Malicious Hacks.
4. Works for only a singlecompany.

CHAPTER 11

CONCLUSION

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. Using the proposed inventory management application retailers can easily view and manipulate stocks. Thus with the help of this management application comes the ease of managing stocks which provides the ease of buissness.

CHAPTER 12

FUTURE SCOPE

1. Upgrading the UI that is more user-friendly which will help many users to access the website
2. Using elastic load balancer, it helps to handle multiple requests at the same time which will maintain the uptime of the website with negligible downtime.
3. Future work can be done to add a sales page and payments page to manage stocks and product sales simultaneously. The customers can buy products from the sales page with a secured payment gateway in order to avoid fraudulent and scams.

CHAPTER 13

APPENDIX

GITREPO : <https://github.com/IBM-EPBL/IBM-Project-3352-1658554918>

DEMOLINK:

<https://drive.google.com/file/d/1iTl0jZWNellAOSQ6SXpHZJb-T61tDFLA/view?usp=drivesdk>