

INVENTORY MANAGEMENT SYSTEM FOR RETAILERS

(Online Organic Store Management)

Domain: Cloud Application Development

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1. INTRODUCTION:

Organic food products and other organic ingredients are grown without the use of pesticides, synthetic fertilizers, sewage sludge, or ionizing radiation. Conventional fruits and vegetables are often sprayed with pesticides. When you buy such fruits and vegetables, these stubborn chemicals remain on the food. Organic food is not easily available in the market. There are only some particular shops where organic food is available. E-commerce is a process of doing business through computer network. Online shopping is a form of electronic shopping store where the buyer is directly online to the seller's computer usually via the internet. To overcome the difficulty of organic food shopping.

1.1 PROJECT OVERVIEW:

We had build a best online organic store which provides organic foods by just sitting at home and follows E-commerce mode of shopping. This system has two modules namely, Admin and Customers. Admin has authority to add organic food list on the website, view products uploaded, view customers and view the customer's order. Customers can register and login using credentials. Customers has authority to view products, desire products and can add to cart and do payment for it, they can view their previous order history and also can track their order.

1.1 PURPOSE

The purpose of this project is to build an online organic store management for retailers which helps us to track goods throughout your entire supply chain, from purchasing to production to end sales. The retail inventory management software for organic store can cut short your in-store inventory process cycles through automation.

2. LITERATURE SURVEY

2.1 EXISTING PROBLEM

In traditional approach, Organic store management might face a lot of issues such as If you don't own commercial space, you would need to pay high rent for a good location, subject to the whims of your landlord/rent agreement. You will need to pay for utilities and staff, and store interiors. In case your store is not favourably placed, and does not receive regular traffic, your store would struggle tremendously and may not survive. You cannot get away with stocking the bare minimum because people will be able to see the dearth and would be discouraged to shop at your store. Therefore, you will need to stock your store

amply in order to attract consumers. This could lead to wastage of food items if they're not sold on time. Your sales are subject to time restrictions/pandemic/holidays, etc. You can only sell during open hours.

2.2 REFERENCES

1. Feldcher, K & Grandjean, P. 2017. Health benefits of organic food, farming outlined in new report. [Online article]. [Ref. 10 December 2020]. Available at: <https://www.hsph.harvard.edu/news/features/health-benefits-organic-foodfarming-report/>
2. Vietnam Briefing. 2019. Ecommerce logistics: Emerging opportunities in Vietnam. [Online article]. [Ref. 12 May 2021]. Available at: <https://www.vietnambriefing.com/news/e-commerce-logistics-emerging-opportunities-vietnam.html/>
3. Vu, M. 2020. How much does a website cost? (The full price guide). [Online article]. [Ref. 12 May 2021]. Available at: <https://agiletech.vn/how-much-doeswebsite-cost-guide-2020/>
4. IFOAM Organics international. 2020. The Four Principle of Organic Agriculture. [Online article]. [Ref. 6 November 2020] Available at: <https://www.ifoam.bio/why-organic/shaping-agriculture/four-principles-organic>
5. Good food is good medicine. 2019. Are organic foods really healthier? Two pedestrians break it down. [Online article]. [Ref. 10 December 2020]. Available at: <https://health.ucdavis.edu/good-food/blog/are-organic-foods-reallyhealthier.html>

6. Rodale Institute. Organic farming practices. [Online article]. [Ref. 4 December 2020] Available at: <https://rodaleinstitute.org/why-organic/organic-farmingpractices/>
7. Zoppi, L. 2019. Organic food health benefits. [Online article]. [Ref. 10 December 2020]. Available at: <https://www.news-medical.net/health/Organic-Food-HealthBenefits.aspx>

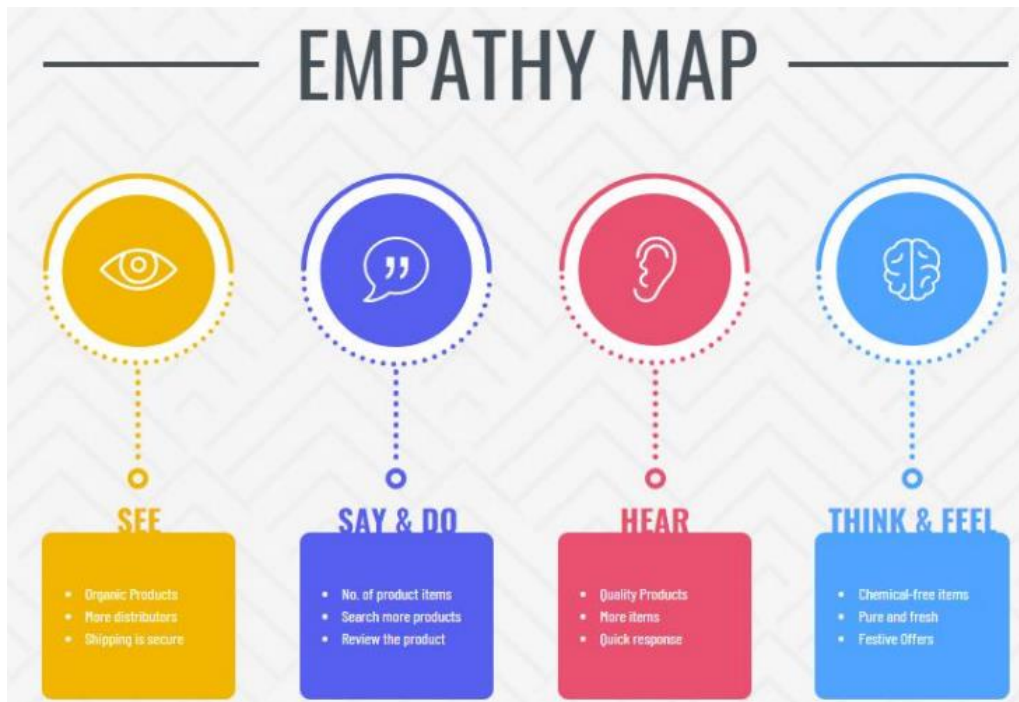
2.3 PROBLEM STATEMENT DEFINITION:

An offline store, if adequately located, could attract steady footfall and lead to robust revenues. But a good location costs good money unless you already own commercial property in a prime location. With the help of Online Organic Store Management You can operate your store from the comfort of your home if you like You can keep less staff or only part time staff. You only need to get your deliveries sorted. You can keep limited stock without appearing bereft, which you cannot do with an offline store. You don't even need to stock too many products-it's really up to you as to how many product categories you wish to keep You need not pay for shop utilities.

3. IDEATION AND PROPOSED SOLUTION:

3.1 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.



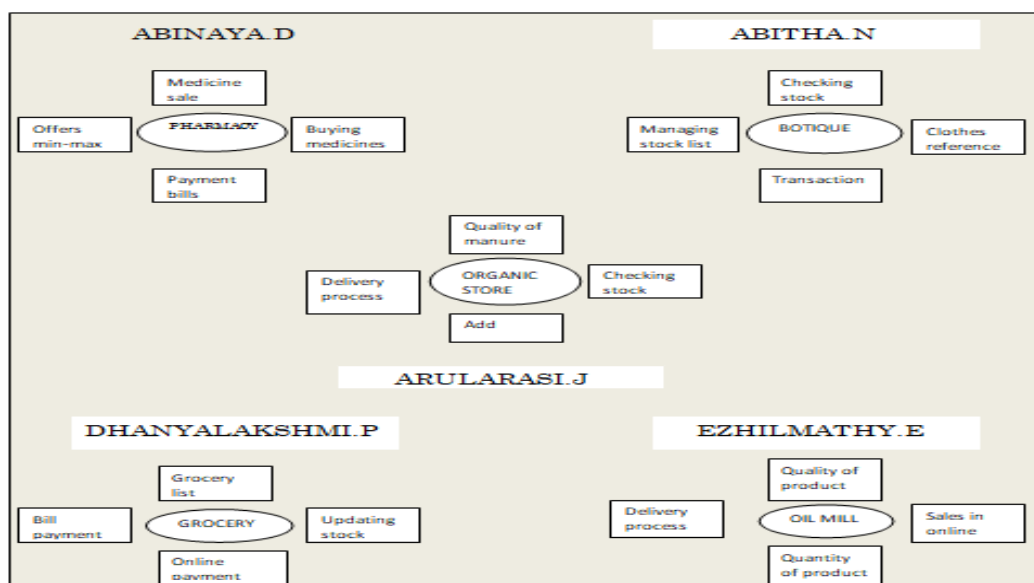
3.2 IDEATION AND BRAINSTORMING:

Step-1: Team Gathering, Collaboration and Select the Problem Statement

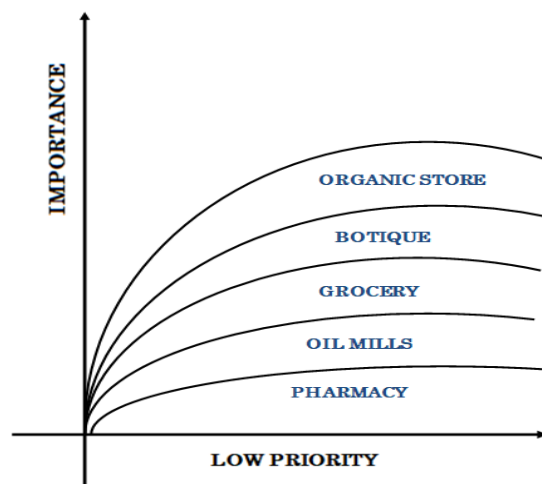
Problem Statement:

The problem faced by the company is they do not have any systematic system to record and keep their inventory data. It is difficult for the admin to record the inventory data quickly and safely because they only keep it in the logbook and not properly organized.

Step-2: Brainstorm, Idea Listing and Grouping



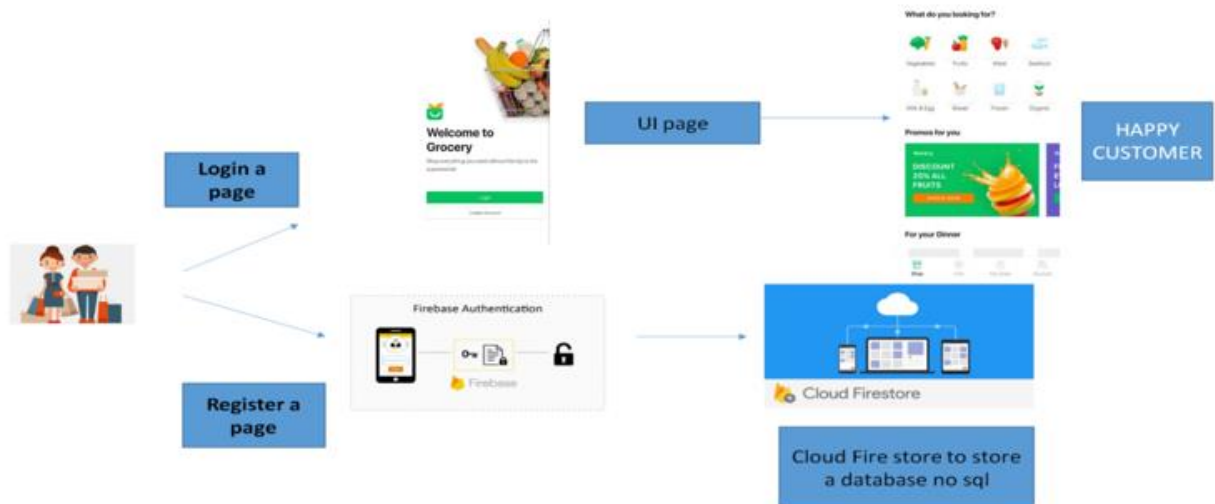
Step-3: Idea Prioritization



Online Organic Store management






1. Good Convenience
2. Efficient for all
3. Customers increment

3.3 PROPOSED SOLUTION:



S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The problem faced by the company is they do not have any systematic system to record and keep their inventory data. It is difficult for the admin to record the inventory data quickly and safely because they only keep it in the logbook and not properly organized.
2.	Idea / Solution description	To maintain the data in a efficient way through a app using a cloud and it keep the log data securely
3.	Novelty / Uniqueness	It is mainly for entrepreneur women. It is useful for home maker women.
4.	Social Impact / Customer Satisfaction	The social impact is to helpful for all women in the society.It can be develop the entrepreneurship.
5.	Business Model (Revenue Model)	The business model of our app gives great revenue to the company. In our country there are more home maker employees so they can use the app and get benefit .
6.	Scalability of the Solution	In this app, the scalability solution is delivered by software as a service

3.4 PROBLEM SOLUTION FIT:

Define CS, fit into CC	1. CUSTOMER SEGMENT(S) Who is your customer?  Both parents and adults. When they asked why they buy organic, parents note reasons such as better health and to avoid toxic, persistent pesticides and fertilizers.	6. CUSTOMER CONSTRAINTS What constraints prevent your customers from taking action or limit their choices of solutions?  1. Lack of awareness 2. High production cost 3. Good quality items	5. AVAILABLE SOLUTIONS Which solutions are available to the customers when they face the problem or need to get the job done?  Pros: Fewer pesticides Fresh Quantity Fast and secure shipping Cons: Sometimes product may damage Slow responses	Explore AS, differentiate
	2. JOBS-TO-BE-DONE / PROBLEMS Which jobs-to-be-done (or problems) do you address for your customers? There could be more than one; explore different sides. Sometimes, the items may get damage due to shipping. For this, we wish to offer options like replacement. The mistake can then be fixed. We're planning to attach an automatic chatbot to ask queries.	9. PROBLEM ROOT CAUSE What is the real reason that this problem exists? What is the back story behind the need to do this job?  The issue with existing apps is that some organic stores do not have interaction with customers, therefore we're creating a chatbot for to ask queries from customer. . Therefore, it will be easy to clarify the doubts of customers.	7. BEHAVIOUR What does your customer do to address the problem and get the job done? i.e. directly related: find the right solar panel installer, calculate usage and benefits; indirectly associated: customers spend free time on volunteering work (i.e. Greenpeace) Customers can compare the pricing to other organic store, which is directly related. Customers volunteer during their free time, which is indirectly related. 	

Focus on J&P, tap into BE, understand RC

Focus on J&P, tap into BE, understand RC

3. TRIGGERS What triggers customers to act? i.e. seeing their neighbour installing solar panels, reading about a more efficient solution in the news. <ul style="list-style-type: none"> Advertising is important . On the side of a customers quality and price is important . So include a good quality of product. Comparing the clothes and adding a extra features to the clothes 	10. YOUR SOLUTION 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 behavior.	8. CHANNELS of BEHAVIOUR 8.1 ONLINE What kind of actions do customers take online? Extract online channels from #7 Customers can use the chatbot for their doubts and queries as encrypted messages. 8.2 OFFLINE What kind of actions do customers take offline? Extract offline channels from #7 and use them for customer development. For offline , Customers want to take a cash payment and also get reviews from many people . Get transport for get a
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4. REQUIREMENT ANALYSIS:

4.1 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
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Account	Create account through username Create account through phone number
FR-4	User Profile	Create default user number Create default user photo

4.2 NON-FUNCTIONAL REQUIREMENTS:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	This is very useful to check the ease of access to the application which we had build.
NFR-2	Security	It encrypt the information of the users which we are giving for ordering products
NFR-3	Reliability	We are giving cent percentage of assurance for our company products
NFR-4	Performance	Our performance was good in products and packing items

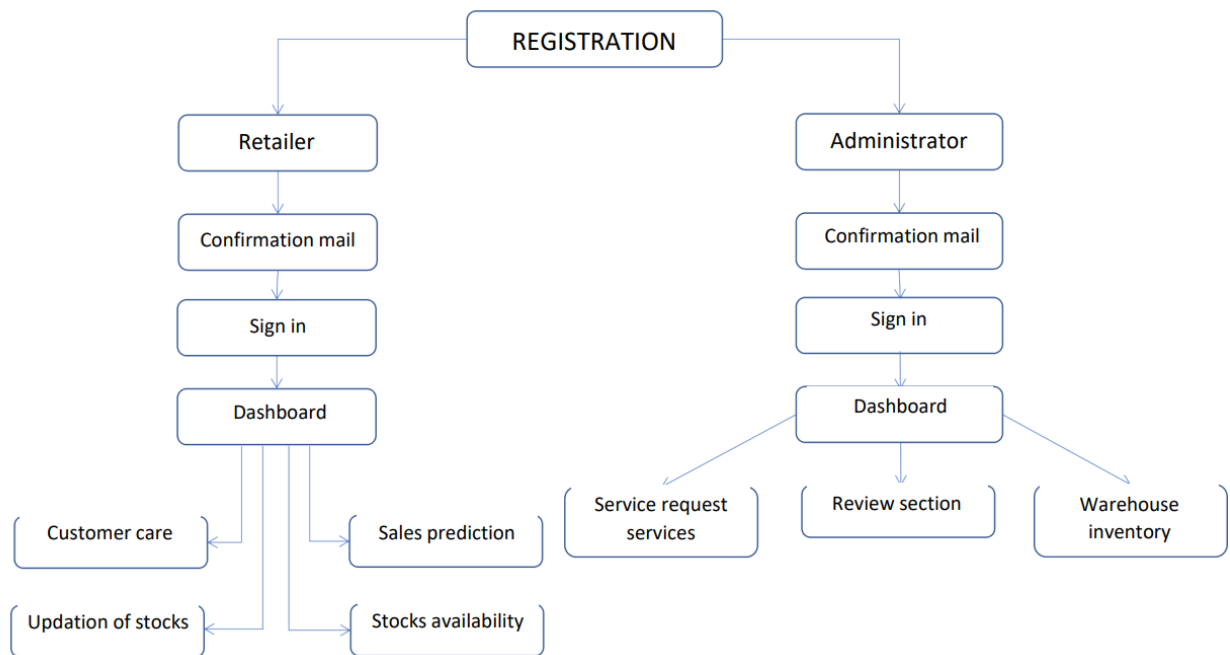
NFR-5	Availability	Our products stocks are always available. Offers are available in our products.
NFR-6	Scalability	Modularity, maturity of technology, network support, interface. A support idea can be adapted to a bigger scale than just the local context.

5. PROJECT DESIGN:

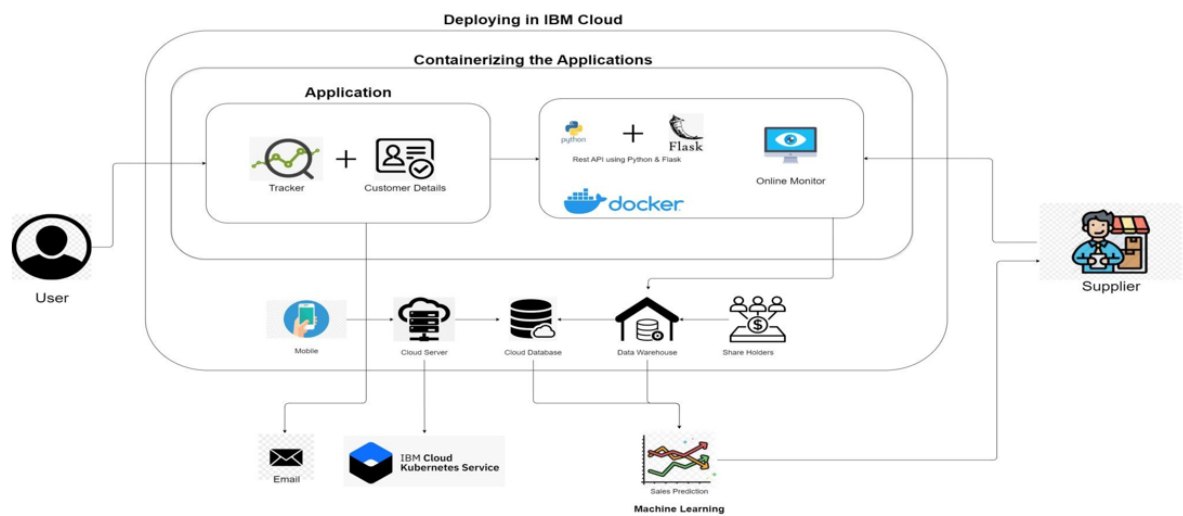
5.1 DATA FLOW DIAGRAM:

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.





5.2 SOLUTION AND TECHNICAL ARCHITECTURE:



5.3 USER STORIES:

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 my account / dashboard	High	Sprint-1
		USN-2	As a user, I can login through my E-mail	I can access my account / dashboard	Medium	Sprint-1
	Confirmation	USN-3	As a user, I can receive my confirmation email once I have registered for the application	I can get confirmation email for my account and create an authenticated account.	Medium	Sprint-1
	Login	USN-4	As a user, I can log in to the authorized account by entering the registered email and password	I can login with registered email and password.	High	Sprint-1
	Dashboard	USN-5	As a user, I can view the products that are available currently.	Inventory can be viewed once logged in.	High	Sprint-2
	Stocks updation	USN-6	As a user, I can add products which are not available in the inventory and restock the products.	When the products are not available, retailers can restock and update their inventory.	Medium	Sprint-2
	Sales prediction	USN-7	As a user, I can get access to sales prediction tool which can help me to predict better restock management of product.	The sales prediction tool should forecast the sales so that the users can order properly and retailers can predict the order to sell.	Low	Sprint-3
Administrator	Request for customer care	USN-8	As a user, I am able to request customer care to get in touch with the administrators and enquire the doubts and problems.	Users can contact customer support and get help and service from administrators.	Medium	Sprint-4
	Giving feedback	USN-9	As a user, I am able to send feedback forms reporting any ideas for improving or resolving any issues I am facing to get it resolved.	Users can give feedback of issues or improvements to the administrators.	Medium	Sprint-4

6. PROJECT PLANNING AND SCHEDULING:

6.1 SPRINT PLANNING AND ESTIMATION:

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	Abinaya D, Abitha N, Arularasi J, Dhanya Lakshmi P, Ezhilmathy E
Sprint-1	Confirmation mail sending	USN-2	As a user, I will receive confirmation email once I have registered for the application	1	High	Abinaya D, Abitha N, Arularasi J, Dhanya Lakshmi P, Ezhilmathy E
Sprint-2	Creating Account	USN-3	As a user, I can register for the application through Facebook	2	Low	Abinaya D, Abitha N, Arularasi J, Dhanya Lakshmi P, Ezhilmathy E
Sprint-3	Homepage	USN-4	As a user, I can register for the application through Gmail	2	Medium	Abinaya D, Abitha N, Arularasi J, Dhanya Lakshmi P, Ezhilmathy E
Sprint-4	Login and Dashboard	USN-5	As a user, I can log into the application by entering email & password	1	High	Abinaya D, Abitha N, Arularasi J, Dhanya Lakshmi P, Ezhilmathy E

6.2 SPRINT DELIVERY SCHEDULE:

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	3	6 Days	24 Oct 2022	29 Oct 2022	3	29 Oct 2022
Sprint-2	2	6 Days	31 Oct 2022	05 Nov 2022	2	05 Nov 2022
Sprint-3	2	6 Days	07 Nov 2022	12 Nov 2022	2	12 Nov 2022
Sprint-4	1	6 Days	14 Nov 2022	19 Nov 2022	1	19 Nov 2022

7. CODING AND SOLUTIONING:

app.py

```
from flask import Flask, render_template, request, redirect, session
import sqlite3 as sql
```

```
app = Flask(__name__)
app.secret_key = 'HIII'
```

```
@app.route('/')
def home():
    return render_template('retail.html')
```

```
@app.route('/about')
def about():
    return render_template('about.html')
```

```
@app.route('/signin')
def signin():
    return render_template('signin.html')
```

```
@app.route('/signup')
def signup():
    return render_template('signup.html')
```

```
'''@app.route('/list')
def list():
```

```
return render_template('list.html')'''
```

```
@app.route('/data',methods = ['POST', 'GET'])
```

```
def data():
```

```
    if request.method == 'POST':
```

```
        try:
```

```
            username = request.form['username']
```

```
            email = request.form['email']
```

```
            password = request.form['password']
```

```
            with sql.connect("student_database.db") as con:
```

```
                cur = con.cursor()
```

```
                cur.execute("INSERT INTO students
```

```
(username,email,password) VALUES
```

```
(?,?,?)",(username,email,password) )
```

```
                con.commit()
```

```
                msg = "Record successfully added!"
```

```
        except:
```

```
            con.rollback()
```

```
            msg = "error in insert operation"
```

```
    finally:
```

```
        return render_template("list.html",msg = msg)
```

```
    con.close()
```

```
@app.route('/list')
```

```
def list():
```

```
    con = sql.connect("student_database.db")
```

```
    con.row_factory = sql.Row
```

```
    cur = con.cursor()
```

```
    cur.execute("select * from students")
```

```
    students = cur.fetchall()
```

```
    return render_template("list.html", students = students)
```

```
if __name__ == '__main__':  
    app.run(debug = True)
```

8. TESTING:

Software testing is the process of evaluating and verifying that a software product or application does what it is supposed to do. The benefits of testing include preventing bugs, reducing development costs and improving performance.

9. RESULTS:

Online shopping is a form of electronic shopping store where the buyer is directly online to the seller's computer usually via the internet. To overcome the difficulty of organic food shopping. We have proposed a best online organic store which provides organic foods by just sitting at home and follows E-commerce mode of shopping. This system has two modules namely, Admin and Customers. Admin has authority to add organic food list on the website, view products uploaded, view customers and view the customer's order. Customers can register and login using credentials. Customers has authority to view products, desire products and can add to cart and do payment for it, they can view their previous order history and also can track their order.

10. ADVANTAGES AND DISADVANTAGES

ADVANTAGES:

- No exorbitant commercial space rental. You can operate your store from the comfort of your home if you like You can keep less staff or only part time staff. You only need to get your deliveries sorted.

- You can keep limited stock without appearing bereft, which you cannot do with an offline store. You don't even need to stock too many products- it's really up to you as to how many product categories you wish to keep. You need not pay for shop utilities.
- No need not spend on good looking store interiors to draw consumers in.
- Your sales are not subject to time restrictions, pandemic, holidays, etc. You can wake up in the morning discover that you sold out at night.
- You are not subject to geographical restraints. You can dispatch your products to other states

DISADVANTAGES:

- You have much more competition because you are now competing with hundreds if not thousands of e-commerce stores in the country as opposed to a brick and mortar store, wherein you only compete with outlets in your vicinity.
- You now need virtual footfall for which you will need to engage the services of an SEO expert/team. The future of your e-store now lies in the hands of this person/firm. The bills may be at par or more than what you would have paid in rent, depending on the quality/reputation of the firm engaged, and let us assume you're going to opt for the best. Furthermore, unlike in physical stores, where once you gain reputе, you can stop aggressive marketing, an online store can never expect to get off the marketing treadmill. So, this is a perennial cost-and one that will escalate with market rates.
- You need to pay a percentage of sales to the payment gateway you use
- Deliveries can be tricky. Expect more than a few headaches here.

- Packaging costs have now been added. And with the current consumer sentiment against plastic, you would need to opt for an eco-friendly alternative, which may or may not be budget friendly

11. CONCLUSION:

Nowadays everyone is opting for fitness and a better way of life. So, it is important for us to shift to organic food. Refer to the above points to understand the benefits of consuming organic food. Websites selling organic grocery products tend to provide the best quality. If you are buying organic groceries online, then you can be assured of getting the top-quality product. Online websites have some deals or offers on the roll. Online vegetable shopping can even save you some bucks.

12. FUTURE SCOPE:

A stable safety stock level: more stock means less or even no stockouts, but more importantly, you need a sweet spot for your safety stock level — so you don't end up with overstocks. More distribution centres (DCs): it's a no brainer; the more expansion omnichannel brings you, the more complex your stock management and distribution gets. So you need more DCs to match that level of complexity. A great inventory control tool: as keeping a close watch on inventory can't be manual, you need inventory software that alerts your operators stock levels; this way, you can better forecast future product demand and have the right stock levels.

13. APPENDIX:

SOURCE CODE:

retail.html

```
<html>
  <head>
    <title>retail consumer</title>
    <link rel="stylesheet"
href="C:\Users\Arularasi\Desktop\IBM-Project-28846-
```


1660117304-main\IBM-Project-28846-1660117304-main\Project
development phase\sprint 1\static_css\Main.css">

```
<link rel="stylesheet" href="">
</head>
<body>
  <div class="topnav">
    <a class="active" href="#home">Home</a>
    <a href="{about}">About</a>
    <a href="#contact">Contact</a>
    <input type="text" placeholder="Search..">
  </div>
  <div class="icon-bar">
    <a class="active" href="#"><i class="fa fa-
home"></i></a>
    <a href="#"><i class="fa fa-search"></i></a>
    <a href="#"><i class="fa fa-envelope"></i></a>
    <a href="#"><i class="fa fa-globe"></i></a>
    <a href="#"><i class="fa fa-trash"></i></a>
  </div>
  <ul id="myMenu">
    <li><a href="#">HTML</a></li>
    <li><a href="#">CSS</a></li>
    <li><a href="#">JavaScript</a></li>
    <li><a href="#">PHP</a></li>
    <li><a href="#">Python</a></li>
    <li><a href="#">jQuery</a></li>
    <li><a href="#">SQL</a></li>
    <li><a href="#">Bootstrap</a></li>
    <li><a href="#">Node.js</a></li>
  </ul>

</body>
</html>
```

Sign-up.html:

```
<!DOCTYPE html>
<html>
```

```
<head>
<meta name="viewport" content="width=device-width, initial-
scale=1">
<style>
body {
    font-family: Arial, Helvetica, sans-serif;
    background-color: rgb(241, 236, 236);
}

* {
    box-sizing: border-box;
}
/* Add padding to containers */
.container {
    padding: 16px;
    background-color: rgb(210, 228, 252);
}

/* Full-width input fields */
input[type=text], input[type=password] {
    width: 100%;
    padding: 15px;
    margin: 5px 0 22px 0;
    display: inline-block;
    border: none;
    background: #f1f1f1;
}

input[type=text]:focus, input[type=password]:focus {
    background-color: #ddd;
    outline: none;
}

/* Overwrite default styles of hr */
hr {
    border: 1px solid #f1f1f1;
    margin-bottom: 25px;
}
```

```

/* Set a style for the submit button */
.registerbtn {
    background-color: #04247e;
    color: white;
    padding: 16px 20px;
    margin: 8px 0;
    border: none;
    cursor: pointer;
    width: 100%;
    opacity: 0.9;
}

.registerbtn:hover {
    opacity: 1;
}

/* Add a blue text color to links */
a {
    color: dodgerblue;
}

/* Set a grey background color and center the text of the
"sign in" section */
.signin {
    background-color: #f1f1f1;
    text-align: center;
}
</style>
</head>
<body>
    <a href="/"><button >home</button></a>
<form action="/action_page.php">
    <div class="container">
        <h1>signup</h1>
        <p>Please fill in this form to create an account.</p>
        <hr>

```

```
<label for="email"><b>Email</b></label>
<input type="text" placeholder="Enter Email"
name="email" id="email" required>

<label for="psw"><b>Password</b></label>
<input type="password" placeholder="Enter Password"
name="psw" id="psw" required>

<label for="psw-repeat"><b>Repeat Password</b></label>
<input type="password" placeholder="Repeat Password"
name="psw-repeat" id="psw-repeat" required>
<hr>

<button type="submit"
class="registerbtn">Register</button>
</div>

</form>

</body>
</html>
```

Sqlite_db_setup.py

```
import sqlite3

conn = sqlite3.connect('student_database.db')
print("Opened database successfully")

conn.execute('CREATE TABLE students ( username TEXT, email
TEXT, password TEXT )')
print("Table created successfully")
conn.close()
```