LAB REPORT

Submitted by

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Under the Guidance of

Dr. Gouthaman. P

Assistant Professor, Department of Networking and Communications

In partial satisfaction of the requirements for the degree of

BACHELOR OF TECHNOLOGY
in
COMPUTER SCIENCE AND ENGINEERING

with specialization in CYBERSECURITY

SCHOOL OF COMPUTING

COLLEGE OF ENGINEERING AND TECHNOLOGY

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

KATTANKULATHUR - 603203

MAY 2023

COLLEGE OF ENGINEERING & TECHNOLOGY
SRM INSTITUTE OF SCIENCE & TECHNOLOGY
S.R.M. NAGAR, KATTANKULATHUE – 603 203
Chengalpattu District

BONAFIDE CERTIFICATE

Register No. RA2111030010098 Certified to be the bonafide work done by ANAMIKA JAIN of II Year/IV Sem B.Tech Degree Course in the **Practical Course – 18CSC206J - Software Engineering and Project Management** in **SRM INSTITUTE OF SCIENCE AND TECHNOLOGY,** Kattankulathur during the academic year 2022 – 2023.

SIGNATURE

Faculty In-Charge
Dr. Gouthaman. P
Assistant Professor
Department of Networking and Communications
SRM Institute of Science and Technology

SIGNATURE

HEAD OF THE DEPARTMENT
Dr. Annapurani Panaiyappan. K
Professor and Head,
Department of Networking and Communications
SRM Institute of Science and Technology

ABSTRACT:

This abstract describes CostXpress, online platform aiming to provide consumers with a wide range of products at a wholesale price. The platform aims to eliminate the traditional markup associated with retail products, allowing customers to save money on their purchases. The system is user-friendly and provide hassle-free experience for customers. For clients to obtain their goods quickly and effectively, the system is also outfitted with features like secure payment processing, and a dependable delivery network. The system aims to promote reduction in cost margin for customers while also supporting local businesses and suppliers. Overall, this online product delivery system offers a convenient and reliable way for customers to access a wide range of products at a wholesale price at their doorstep.

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LIST OF FIGURES

LIST OF ABBREVIATIONS

UI- User Interface

UX- User Experience

XSS- Cross Site Scripting

SQL- Structured Query Language

ER- Entity Relationship

DB- Database

API- Application Programming Interface

NGO- Non-Governmental Organization

IDE- Integrated Development Environment

CPU- Central Processing Unit

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School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	1
Title of Experiment	To identify the Software Project, Create Business Case, Arrive at a Problem Statement
Name of the candidate	K.HEMANTH REDDY
Team Members	G.KEERTHI , C.KARTHIK REDDY
Register Number	RA2111030010087, RA2111030010093, RA2111030010081
Date of Experiment	23/01/2023

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	5
2	Viva	5	5
	Total	**10**	10

Staff Signature with date

Aim

To Frame a project team, analyze and identify a Software project. To create a business case and Arrive at a Problem Statement for the <title of the project>

Team Members:

S. No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	**Lead/Rep**
2	RA2111030010081	C.KARTHIK REDDY	**Member**
3	RA2111030010087	K.HEMANTH REDDY	**Member**

PROJECT TITLE : FRESH FARMORG FOODS

PROJECT DESCRIPTION:

- We live in a digital age, and let's face it— An Online Agriculture Shopping app is a platform for buying and selling agricultural products and supplies.
- The app would allow farmers to sell their produce directly to consumers, bypassing traditional intermediaries and profits for farmers.
- The main objective of the Online Vegetable Store **is** to manage the details of Vegetables, Customer, ,Order, Transaction, Payment.
- It manages all the information about Vegetables, Stocks, Payment, Vegetables.
- The project is totally built at administrative end and thus only the administrator is guaranteed the access.

FRESH FARMORG FOODS SHOPPING TEMPLATE

DATE	
SUBMITTED BY	GURUGUBELLI KEERTHI (RA2111030010093)/Leader Team Mates : C.KARTHIK REDDY (RA2111030010081)/member K.HEMANTH REDDY (RA2111030010087)/member
TITLE / ROLE	**Project Title :**FRESH FARMORG FOODS **Role :**TO SELL THE FRESH FARM VEGETABLES AND FRUITS DIRECTLY FROM FARMERS TO PEOPLES USING ONLINE APP

THE PROJECT

- The fresh farmorg foods Project is an E-Commerce platform for buying and selling fresh farm vegetables and fruits .
- The main goal of the project is to create a platform for farmers, agribusinesses, and consumers to connect and transact directly without intermediaries.

THE HISTORY

- The Easton Farmers' Market is the oldest, continuously operating open-air market in the nation, and its location is the site of one of the only public readings of the Declaration of Independence.
- Farmers markets are a critical ingredient to our nation's food system.

DISADVANTAGES:

- **Technical Issues:** Technical issues such as slow loading, website crashes, and connectivity issues can disrupt the user experience and discourage people from using the app.
- **Data Security Concerns:** Shopping online requires sensitive information such as personal details, bank account numbers, and credit card details, which can make users wary of the security of their data.
- **Trust Issues:** Customers may not trust the app or its sellers to deliver the products as advertised or in a timely manner, leading to dissatisfaction with the shopping experience.

- **Limited Product Availability:** If the app only offers products from specific areas or suppliers, it may limit the availability of products for customers and make it difficult for them to find what they are looking for.
- **Poor User Experience**: If the app is difficult to navigate, confusing, or does not provide adequate information on products and services, users may become frustrated and abandon the app.
- **Delivery Delays**: Delivery delays can be a major problem for online shopping, particularly in rural areas where the delivery infrastructure is not well developed.
- **High Shipping Costs**: Shipping costs can be a major drawback for online shopping, as customers may have to pay more for shipping than they would in a physical store.
- **Poor Customer Service:** Poor customer service can result in dissatisfied customers who may leave negative reviews and discourage others from using the app.

APPROACH:

- Use email offers, text messages, or updates to promote your booth. Encourage customers to visit your farmer's market using quick location or sale notification updates.
- You can also host friendly games and invite your friends, neighbors, and family to enjoy a few meals of the foods you offer.

- Gather & analyze reliable market data. The first step to implementing an effective marketing campaign is to know who you're going after. ...
- Market to specific segments of farmers. ...
- Leverage data-targeted, omnichannel marketing.

.

BENEFITS:

- Find Seasonal Fruits & Veggies. ...
- Get the Freshest Produce Possible. ...
- Cut Your Ecological Footprint. ...
- Opt for Organic. ...
- Make Friends with Your Farmers. ...
- Get Expert Advice. ...
- Grow Awareness. ...
- Feel the Love.

Result :

Thus, the project team formed, the project is described, the business case was prepared and the problem statement was arrived.

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Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	2
Title of Experiment	Identification of Process Methodology and Stakeholder Description
Name of the candidate	K.HEMANTH REDDY
Team Members	C.KARTHIK REDDY, K. HEMANTH REDDY
Register Number	RA2111030010087, RA2111030010081,RA2111030010093
Date of Experiment	31/01/2023

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	5
2	Viva	5	4
	Total	**10**	9

Staff Signature with date

Aim

To identify the appropriate Process Model for the project and prepare Stakeholder and User —Description.

Team Members:

Sl No	Register No	Name	Role
1	RA2111030010093	G. KEERTHI	Rep/Member
2	RA2111030010081	C.KARTHIK REDDY	Member
3	RA2111030010087	K. HEMANTH REDDY	Member

Project Title: FRESH FARMORG FOODS

Selection of Methodology: AGILE METHODOLOGY

- For this project we select agile methodology because this methodology helps us to involves constant collaboration with stake holders because this project should be update constantly and it needs constant collaboration stake holders then only this project will be successful and in this methodology.
- We can change the plan and design by the review of the customers and to launch the new updates to project.

Stakeholder Name	Activity/ Area /Phase	Interest	Influence	Priority (High/ Medium/ Low)
OWNER	TO ACHIEVE GOALS AND TO INCREASE THE SALES MANAGE KEY RELATION SHIP IN THE COUNTRY	HIGH	HIGH	1
INVESTORS	TO PROVIDE FINANCIAL RESOURCES	MEDIUM	HIGH	1
SPONSOR	TO ATTRACT THE PEOPLE, BUY THE PRODUCTS AND PUBLICITY AND HELPS FOR THE FUNDING	MEDIUM	MEDIUM	3
SALES AND MARKETING	TO PROMOTE THE PRODUTS IN WIDE RANGE USING THE APP AND SOCIAL MEDIA	LOW	MEDIUM	3
GENERAL MANAGER	TO MAINTAIN A WORKFUL RELATIONSHIP BETWEEN SUPPLIERS AND DELIVERY PATRNERS	MEDIUM	HIGH	3
CUSTOMER	PURCHASING THE PRODUCT AND LEAVING A FEEDBACK ABOUT THE SERVICES	HIGH	HIGH	2
SUPPLIERS	TO SUPPLY THE REQUIRED PRODUCTS	HIGH	MEDIUM	4
DELIVERY PARTNERS	TO DELIVER THE ORDERED PRODUCTS TO THE CUSTOMER IN TIME	HIGH	MEDIUM	3

RESULT: Thus the Project Methodology was identified and the stakeholders were described

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Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	3
Title of Experiment	System, Functional and Non-Functional Requirements of the Project
Name of the candidate	HEMANTH REDDY.K
Team Members	G.KEERTHI, C.KARTHIK REDDY
Register Number	RA2111030010087,RA2111030010093,RA2111030010081
Date of Experiment	7/02/2023

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	5
2	Viva	5	4
	Total	**10**	9

14/2/2023
Staff Signature with date

Aim

To identify the system, functional and non-functional requirements for the project.

Team Members:

S No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	Rep/Member
2	RA2111030010087	K.HEMANTH REDDY	Member
3	RA2111030010081	C.KARTHIK REDDY	Member

TITLE OF THE PROJECT : FRESH FARMORG FOODS

SYSTEM REQUIREMENTS:

THE SYSTEM REQUIREMENTS FOR THE FRESH FARM ORG FOODS ARE AS FOLLOWS:

- **HARDWARE REQUIREMENTS:** The system should have a high performance computer with sufficient RAM and storage to support the application and database
- **SOFTWARE REQUIREMENTS**: The system should be built on a robust platform such as Java or Python, with a relational database management system such as MySQL or PostgreSQL.
- **NETWORK REQUIREMENTS**: The system should be connected to the internet with a fast and reliable connection to ensure smooth operation.
- **USER REQUIREMENTS:** The system should be accessible to customers through a web browser and also through a mobile app.
- **SECURITY REQUIREMENT**S: The system should have robust security measures in place, including SSL encryption, secure authentication, and authorization mechanisms.
- **PERFORMANCE REQUIREMENTS**: The system should be able to handle large amounts of traffic and transactions with minimal downtime.

- **RELIABILITY REQUIREMENTS**: The system should be highly available and provide seamless performance, even during high-traffic periods.
- **MAINTENANCE REQUIREMENTS**: The system should be easy to maintain and upgrade, with clear documentation and support for system administrators.
- **COMPATIBILITY REQUIREMENTS:** The system should be compatible with different operating systems, web browsers, and devices.
- **TECHNICAL SUPPORT REQUIREMENTS:** The system should have a reliable support system in place, including a help desk, online documentation, and knowledge base

- **<u>FUNCTIONAL REQUIREMENTS FOR FRESH FARMORG FOODS :</u>**
- User registration and login system for customers to place orders.
- Product catalog management system to display and manage the food items.
- Order management system to keep track of the orders placed by customers.
- Payment gateway integration to process online payments.
- Inventory management system to keep track of the available stock.
- Order tracking system to allow customers to track their orders.
- Delivery management system to manage the delivery of food items.
- Customer support system to handle customer inquiries and complaints.
- Reports generation system to track sales, inventory and customer behavior.
- Marketing and promotion management system to launch promotions and offer discounts.

➢ **NON FUNCTIONAL REQUIREMENTS OF THE FRESH FARMORG FOODS:**

- ➢ User interface must be user-friendly, easy to use and visually appealing.
- ➢ The system should be scalable to accommodate future growth.
- ➢ The system must have a high level of security to protect sensitive customer and business data.
- ➢ The system should have a fast response time and be available 24/7.
- ➢ The system should be compatible with different devices and platforms.
- ➢ The system must be able to handle high traffic volume
- ➢ The system must be tested and validated to ensure high-quality performance.
- ➢ The system should be easy to maintain and update.
- ➢ The system must comply with industry standards and regulations
- ➢ The system should provide real-time updates to all stakeholders.

RESULT: Thus the requirements were identified and accordingly described.

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Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	4
Title of Experiment	Prepare Project Plan based on scope, Calculate Project effort based on resources and Job roles and responsibilities
Name of the candidate	K. Hemanth Reddy
Team Members	G. Keerthi, C. Karthik Reddy
Register Number	RA2111030010093 RA2111030010087, RA2111030010081,
Date of Experiment	21/2/2023

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	5
2	Viva	5	3
	Total	**10**	8

P. Gowtham 22/2/2023

Staff Signature with date

Aim

To Prepare Project Plan based on scope, Calculate Project effort based on resources, Find Job roles and responsibilities

Team Members:

Sl No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	Lead
2	RA2111030010087	K.HEMANTH REDDY	Member
3	RA2111030010081	C.KARTHIK REDDY	Member

1. Project Management Plan

Focus Area	Details
Quality Management	Quality Assurance: Quality assurance will be managed including governance, roles and responsibilities, tools and techniques and reporting Quality Control: Specify the mechanisms to be used to measure and control the quality of the work products
Resource Management	Estimate and Manage the need People: People & Skills Required Finance: Budget Required Physical: Facilities, IT Infrastructure
Risk Management	Identifying, analysing, and prioritizing project risks

1)RISK MANAGEMENT:

RISK	Likelihood	Impact	Mitigation
Delayed Project Delivery Due to Technical Issues	Medium	High	Regular system and infrastructure audits, proactive identification of technical issues and their resolution, contingency planning
Security Breach or Data Theft	Medium	High	Implementation of robust security measures such as firewalls, encryption, and access controls, regular security audits and updates, regular employee training on security best practices
Inadequate User Adoption High	HIGH	Medium	Effective marketing and user outreach strategies, regular user feedback and analysis, continuous improvement of user experience
Regulatory and Compliance Issues	Low	High	Regular compliance audits and updates, staying up-to-date with regulatory requirements, maintaining transparency and accountability
Budget Overruns	Medium	High	Effective cost estimation and monitoring, proactive risk management, contingency planning, ongoing cost optimization
Talent Attrition	Low	Medium	Regular employee engagement and retention programs, backup resources and succession planning, ongoing employee training and development
Vendor Dependence	Low	Medium	Diversifying vendor partnerships, effective vendor management and communication, ongoing evaluation and review of vendor performance

2)RESOURCE MANAGEMENT:

Resource	Responsibilities	Allocation
Project Manager	Oversees the project, creates project plan and timeline, manages budget and resources, ensures project meets goals and objectives Full-time	Full-time
Business Analyst	Analyzes business requirements, defines functional and non-functional requirements, creates use cases and user stories, supports testing and quality assurance	Full-time
UX/UI Designer	Designs user interface and user experience, creates wireframes and prototypes, conducts user testing and feedback analysis	Full-time
Front-end Developer	Develops the front-end of the web application, implements user interface design, ensures cross-browser compatibility, supports testing and quality assurance	Full-time
Back-end Developer	Develops the back-end of the web application, creates database schema and API endpoints, ensures scalability and performance, supports testing and quality assurance	Full-time
Quality Assurance Engineer	Develops test plans and test cases, executes manual and automated testing, identifies and reports defects, supports continuous integration and delivery	Full-time
Technical Writer	Creates technical documentation, user manuals, and help files, ensures accuracy and completeness of documentation	Part time
Marketing Specialist	Develops marketing strategy and campaigns, conducts market research and analysis, creates content and advertising materials, manages social media accounts	Part-time
Customer Support	Representative Provides customer support via email, phone, and chat, resolves issues and complaints, maintains customer satisfaction	Part time

3) QUALITY MANAGEMENT:

Quality Management Component	**Description**
Project Objective	Clearly defined goals and objectives of the project, including any specific quality-related objectives
Quality Standards	Standards and guidelines for quality management that will be followed throughout the project, such as ISO 9001 or Six Sigma
Quality Planning	Developing a plan to achieve the quality objectives, including identifying the processes, procedures, and resources necessary
Quality Control	Monitoring and controlling processes and outputs to ensure they meet quality standards and addressing any issues that arise
Quality Assurance	Evaluating overall project performance to ensure that quality objectives are being met and identifying areas for improvement
Risk Management	Identifying and assessing potential risks that could affect the quality of the project and developing strategies to mitigate or manage them
Training and Development	Providing necessary training and development to team members to ensure they have the knowledge and skills to perform their roles effectively and efficiently
Continuous Improvement	Continuously evaluating and improving processes to enhance quality and increase efficiency

2) ESTIMATION

2.1. COST AND EFFORT ESTIMATION:

Development Phase	Estimated Effort	Estimated Cost
Planning and Design	300-400 hours	$30,000 - $40,000
Front-end Development	800-1000 hours	$80,000 - $100,000
Back-end Development	1000-1500 hours	$100,000 - $150,000
Mobile App Development	400-600 hours	$40,000 - $60,000
Testing and Quality Assurance	300-400 hours	$30,000 - $40,000
Deployment and Launch	100-200 hours	$10,000 - $20,000
Total	2900-4100 hours	$290,000 - $400,000

2.2. INFRASTRUCTURE /RESOURCE COST:

Resource	Description	Estimated Cost
Web hosting	A web hosting service is required to host the web application and manage the server infrastructure	$50-$100/month
Cloud storage	Cloud storage services such as Amazon S3 are required to store and manage user data and media files	$0.023/GB/month
Content Delivery Network (CDN)	A CDN service such as Cloudflare is required to deliver content efficiently to users across the world and improve website performance	$20-$200/month
Payment gateway	A payment gateway service such as PayPal or Stripe is required to process online payments securely	2.9% + $0.30/transaction
SMS gateway	An SMS gateway service such as Twilio is required to send SMS notifications to users	$0.0075-$0.01/message
Email service	An email service such as SendGrid or Amazon SES is required to send transactional emails and newsletters	Free up to a certain limit, then priced per email sent
Mobile app development	Development of a mobile app for iOS and Android platforms, including design, coding, testing, and deployment	$50,000-$200,000
Marketing and advertising	Advertising and marketing services to promote the app and acquire users, including social media marketing, paid advertising, and search engine optimization	$5,000-$50,000/month
Customer support	Advertising and marketing services to promote the app and acquire users, including social media marketing, paid advertising, and search engine optimization	$10-$50/hour

2.3. MAINTANCE AND SUPPORT COST:

Resource	Estimated Cost
Technical Support and Maintenance	$10,000 - $50,000 per year
Software and Hardware Upgrades	$5,000 - $20,000 per year
Security and Compliance	$5,000 - $20,000 per year
Bug Fixes and Issue Resolution	$5,000 - $20,000 per year
Regular Backups and Disaster Recovery	$2,500 - $10,000 per year
Total	$27,500 - $120,000 (annual cost)

3. PROJECT TEAM FORMATON

3.1. Identification Team Members

NAME	ROLE	RESPONSIBILITIES
G Keerthi	Key Business user, Technical lead	Provide clear Business and user Requirements.
K Hemanth Reddy	Mobile App Developer	Coding, Testing, Debugging, App Deployment ,Version control
C Karthik Naidu	Project Manager	Project planning and management, risk management, stakeholder communication, resource allocation, budget management.

RESPONSIBILITES ASSIGNMENT MATRIX:

Role/Task	Project manager	Business Analyst	Mobile App Developer	Backend Developer	Technical Writer	Customer Support Representative
Project Planning	R	C	I	I	I	I
Business requirements analysis	I	R	I	I	I	I
Mobile App Development	I	I	R	I	I	I
Backend Development	I	I	I	R	I	I
Technical Documentation	I	C	I	I	R	I
Customer Support	I	I	I	I	I	R

RESULT:

THUS THE PROJECT PLAN WAS DOCUMENTED SUCCESSFULLY

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Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	5
Title of Experiment	Prepare Work breakdown structure, Timeline chart, Risk identification table
Name of the candidate	K. Hemanth Reddy
Team Members	G. keerthi, G. Karthik Reddy
Register Number	RA2111030010081,RA2111030010093,RA2111030010087
Date of Experiment	27/2/2023

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	5
2	Viva	5	4
	Total	**10**	9

P. Santhana 28/2/2023

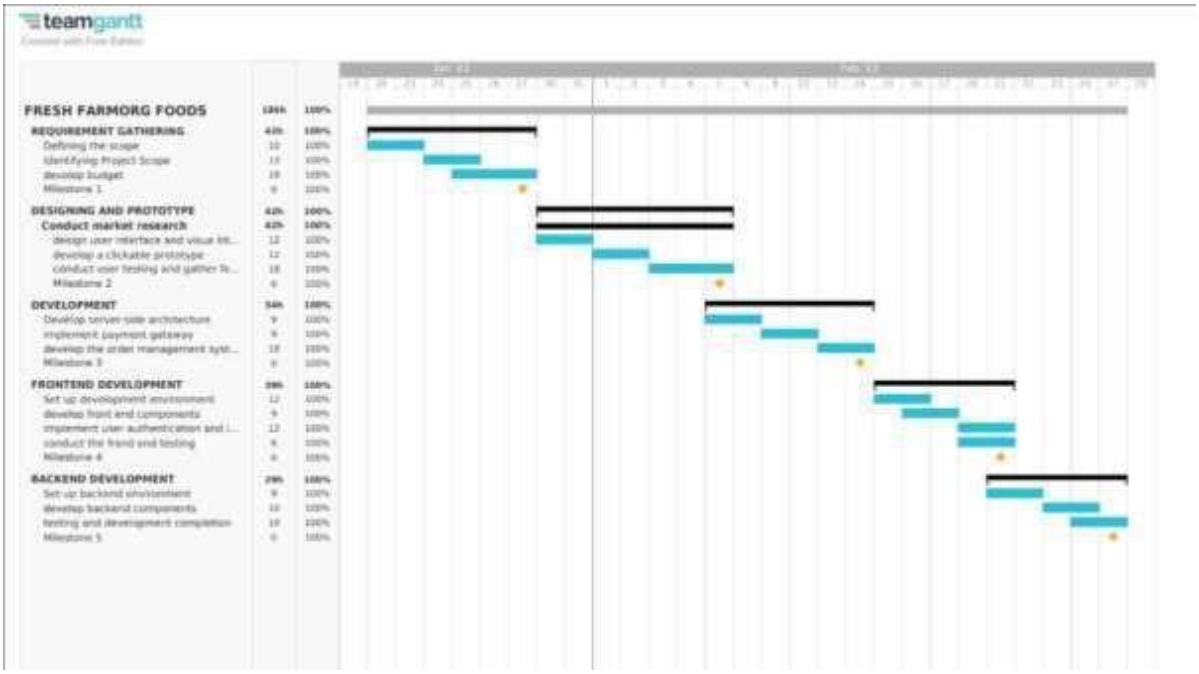
Staff Signature with date

WORK BREAKDOWN STRUCTURE (WBS) :

- **1 Project Management :**
  - 1.1 Define project scope
  - 1.2 Create project plan
  - 1.3 Assign project roles and responsibilities
  - 1.4 Develop project schedule
- **2 Requirements Gathering and Analysis**
  - 2.1 Conduct market research to determine customer needs and preferences
  - 2.2 Determine features and functionalities of the app
  - 2.3 Identify stakeholders and their requirements
  - 2.4 Analyze and document requirements
- **3 Design and Development**
  - 3.1 Develop wireframes and prototypes
  - 3.2 Design user interface and user experience
  - 3.3Develop the database schema and data models
  - 3.4 Implement front-end and back-end development
  - 3.5 Integrate payment gateway and third-party services
  - 3.6 Perform testing and quality assurance
- **4 Content Creation**
  - 4.1 Write product descriptions
  - 4.2 Create visual content for the app
  - 4.3 Develop marketing content for social media and email campaigns
- **5 Deployment and Maintenance**
  - 5.1 Deploy the app to production environment
  - 5.2 Monitor app performance and user feedback
  - 5.3 Address any bugs or issues
  - 5.4 Provide ongoing maintenance and updates
- **6 Customer Support**
  - 6.1 Establish customer support channels

6.2 Train customer support team
6.3 Respond to customer queries and feedback

TIMELINE-GANTT CHART:



RISK ANALYSIS-RMMM(RISK MITIGATION MONITORING MANAGEMENT):

RISK	RISK DESCRIPTION	IMPACT	MITIGATION
Internet and technology risks	Have a dedicated team to handle technical issuses and ensure prompt resolution of any problems	HIGH	Ensure robust and secure technology infrastructure and have a backup plan in case of technical issues
Perishable item spoilage risk	Have a dedicated team to manage inventory and monitor the freshness of the vegetables	MEDIUM	Implement a proper storage transportation system with proper temperature control to minimize spoilage
Competition risks	Continuously update and improve the app to stay ahead of the competition	HIGH	Offer competitive prices and promotions, as well as unique features and services to differentiate from competitors
Cybersecurity risks And data breaches	Have a dedicated team to handle security issues and ensure prompt resolution of any security breaches	HIGH	Implement robust security measures to protect customer data, including encryption and secure payment gateways
Fluctuations in vegetable prices	Develop a contingency plan for sudden price increases or decreases	HIGH	stablish contracts with suppliers to ensure consistent pricing
Changes in government Regulations related to online food delivery	Have a dedicated team to handle any regulatory issues or changes	MEDIUM	Stay up-to-date on regulatory changes and ensure compliance

Negative reviews or publicity on social media and review sites	Have a dedicated team to handle customer complaints and feedback	HIGH	Have a dedicated team to handle customer complaints and feedback

Resulte:

Thus, the work breakdown structure with timeline chart and risk table were formulated successfully

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SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	6
Title of Experiment	Design a System Architecture, Use Case and Class Diagram
Name of the candidate	K.HEMANTH REDDY
Team Members	C.KARTHIK REDDY,G.KEERTHI
Register Number	RA2111030010081,RA2111030010087,RA2111030010093
Date of Experiment	28/02/2023

Mark Split Up

S.No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	4
2	Viva	5	4
	Total	**10**	8

Staff Signature with date 15/3/2023

Aim

To Design a System Architecture, Use case and Class Diagram

Team Members:

Sl No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	Rep
2	RA2111030010081	C.KARTHIK REDDY	Member
3	RA2111030010087	K.HEMANTH REDDY	Member

SYSTEM ARCHITECTURE FOR FRESH FARMORG FOODS:

The system architecture for a fresh farm organic food organization would involve a combination of technologies and software applications.

1.E-commerce Platform:

The e-commerce platform is the main interface for customers to browse and purchase products online. Examples of e-commerce platforms used by fresh farm organic food companies include Shopify, WooCommerce, and Magento.

2.Inventory Management System:

The inventory management system helps track the availability of products and ensures that there is enough inventory to fulfill customer orders. Examples of inventory management systems used by fresh farm organic food companies include Zoho Inventory, TradeGecko, and DEAR Inventory.

3.Logistics and Delivery System:

The logistics and delivery system helps manage the shipping and delivery of products to customers. Examples of logistics and delivery systems used by fresh farm organic food companies include Dunzo, and FedEx,etc

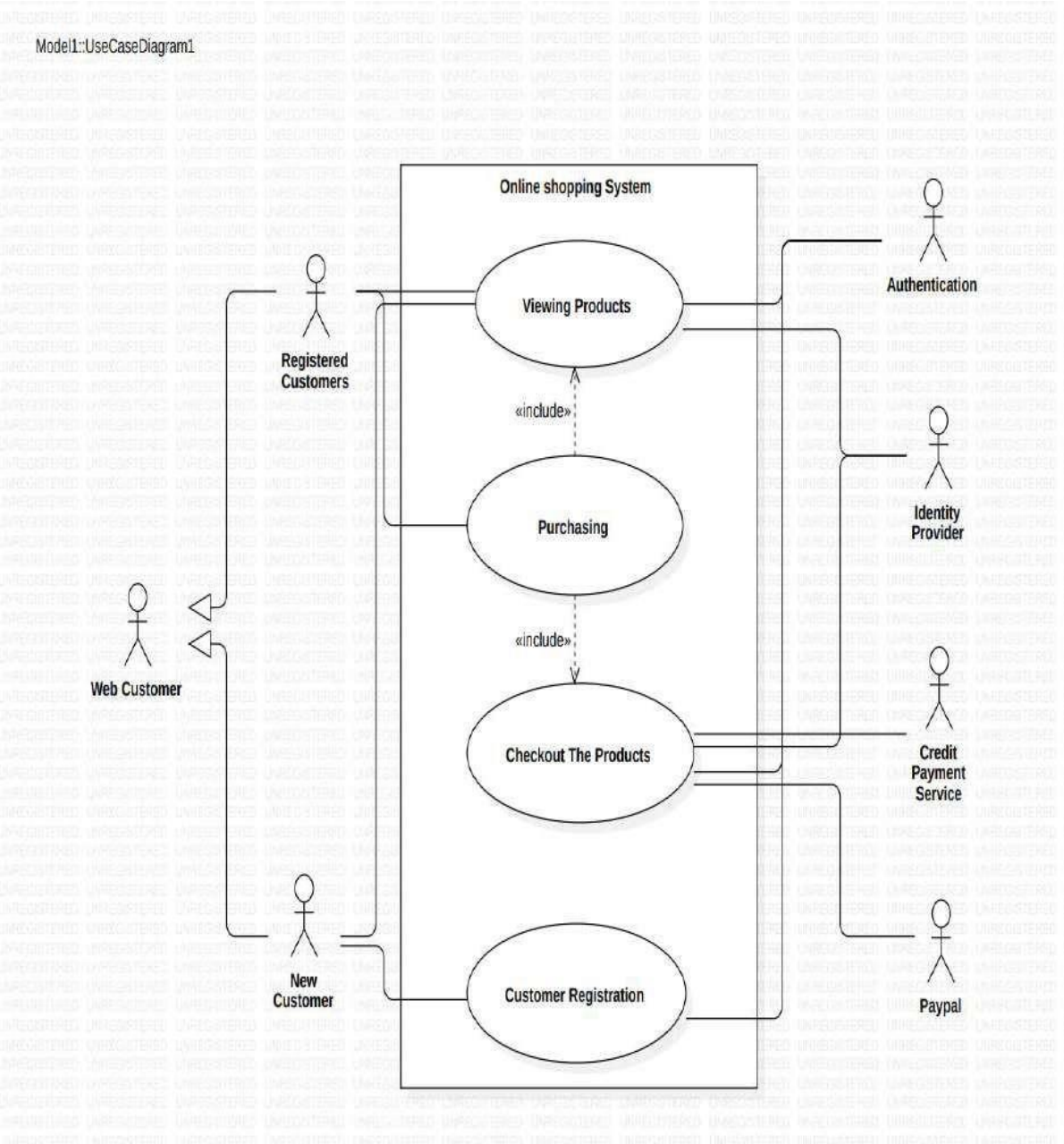
4.Data Analytics and Reporting:

The data analytics and reporting system provides insights into customer behavior, sales trends, and inventory levels. Examples of data analytics and reporting systems used by fresh farm organic food companies include Google Analytics, Mixpanel, and Tableau.

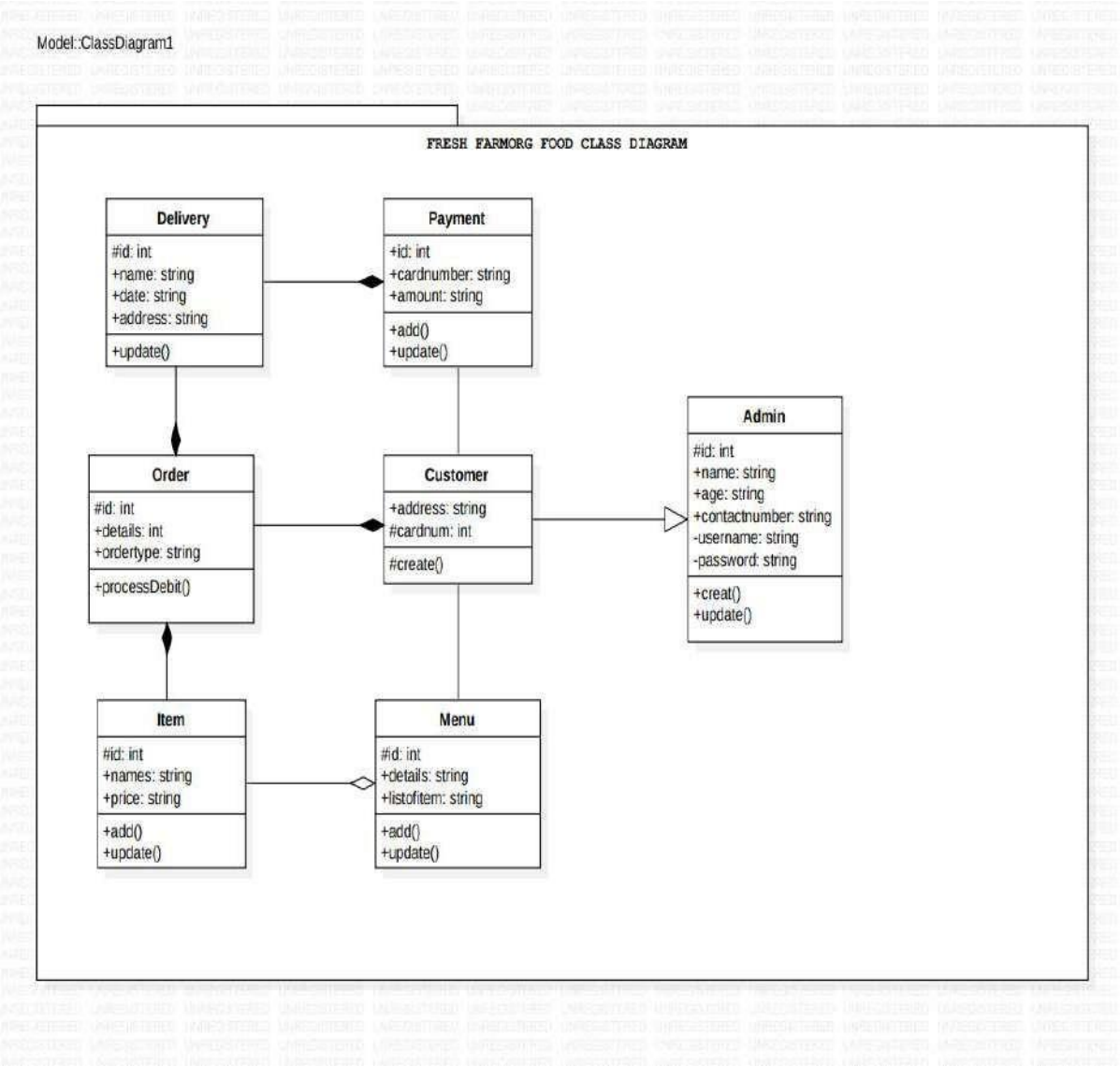
5.Cloud Infrastructure:

All of these components are hosted on cloud infrastructure, allowing for scalability and flexibility. Examples of cloud infrastructure providers used by fresh farm organic food companies include Amazon Web Services (AWS), Microsoft Azure, and Google Cloud Platform.

USE CASE DIAGRAM:



CLASS DIAGRAM:



Result:

Thus, the system architecture, use case and class diagram created successfully.

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School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	7
Title of Experiment	Design a Entity relationship diagram
Name of the candidate	K. Hemanth Reddy
Team Members	G. Karthik Reddy, G. Keerthi
Register Number	RA2111030010081, RA2111030010087, RA2111030010093.
Date of Experiment	07/03/2023

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	5
2	Viva	5	3
	Total	**10**	8

15/3/23

Staff Signature with date

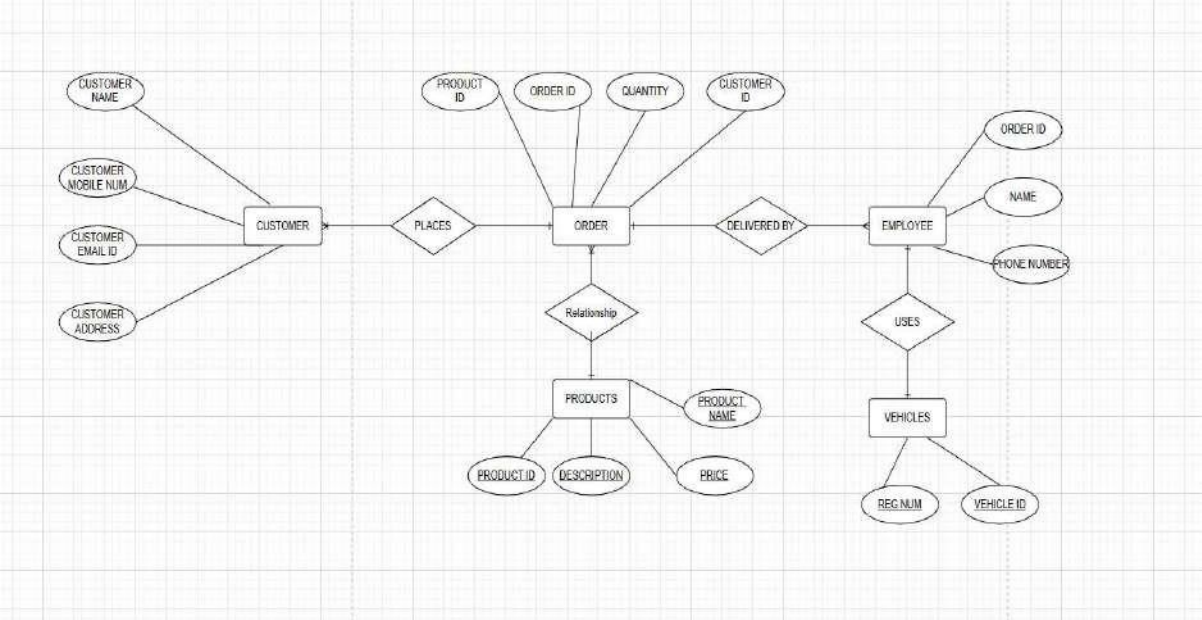
Aim

To create the Entity Relationship Diagram

Team Members:

S No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	Rep
2	RA2111030010087	K.HEMANTH REDDY	Member
3	RA2111030010081	C.KARTHIK REDDY	Member

ENTITY RELATIONSHIP DIAGRAM:



Result:

Thus, the entity relationship diagram was created successfully.

Aim

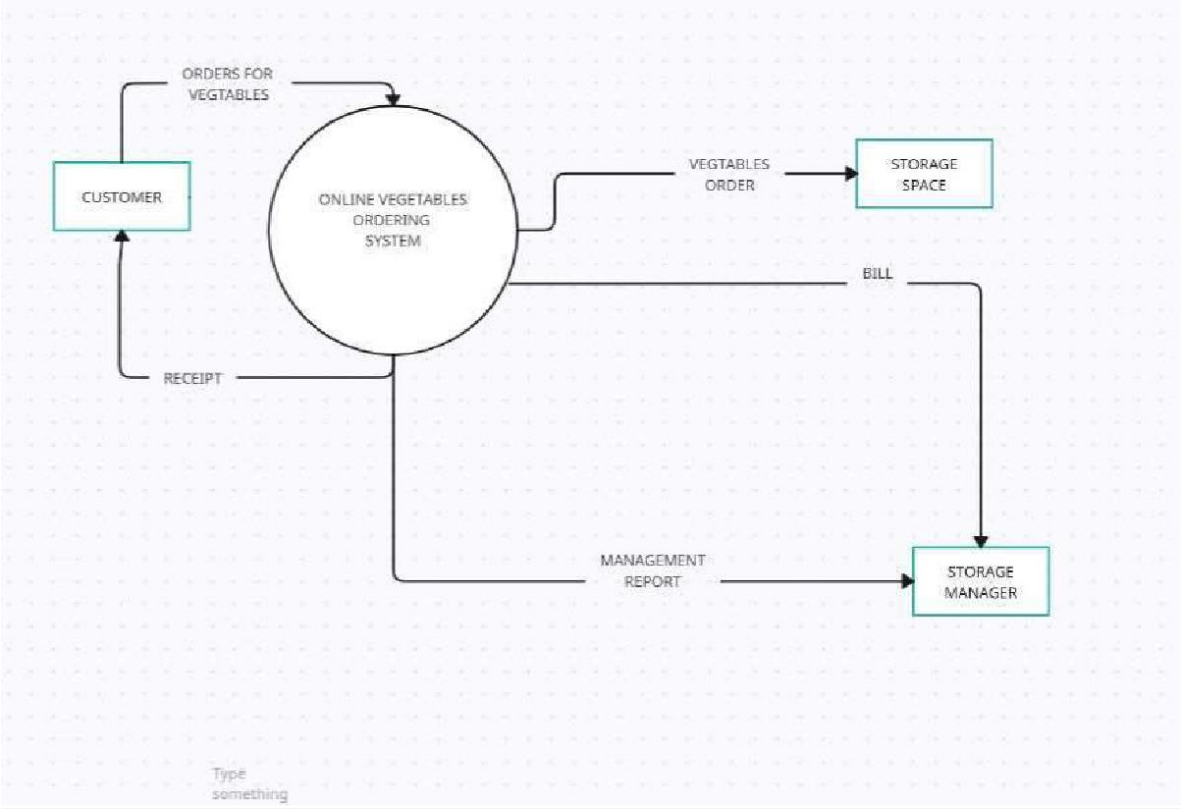
To develop the data flow diagram up to level 1 for the ONLINE VEGETABLE DELIVERY SYSTEM

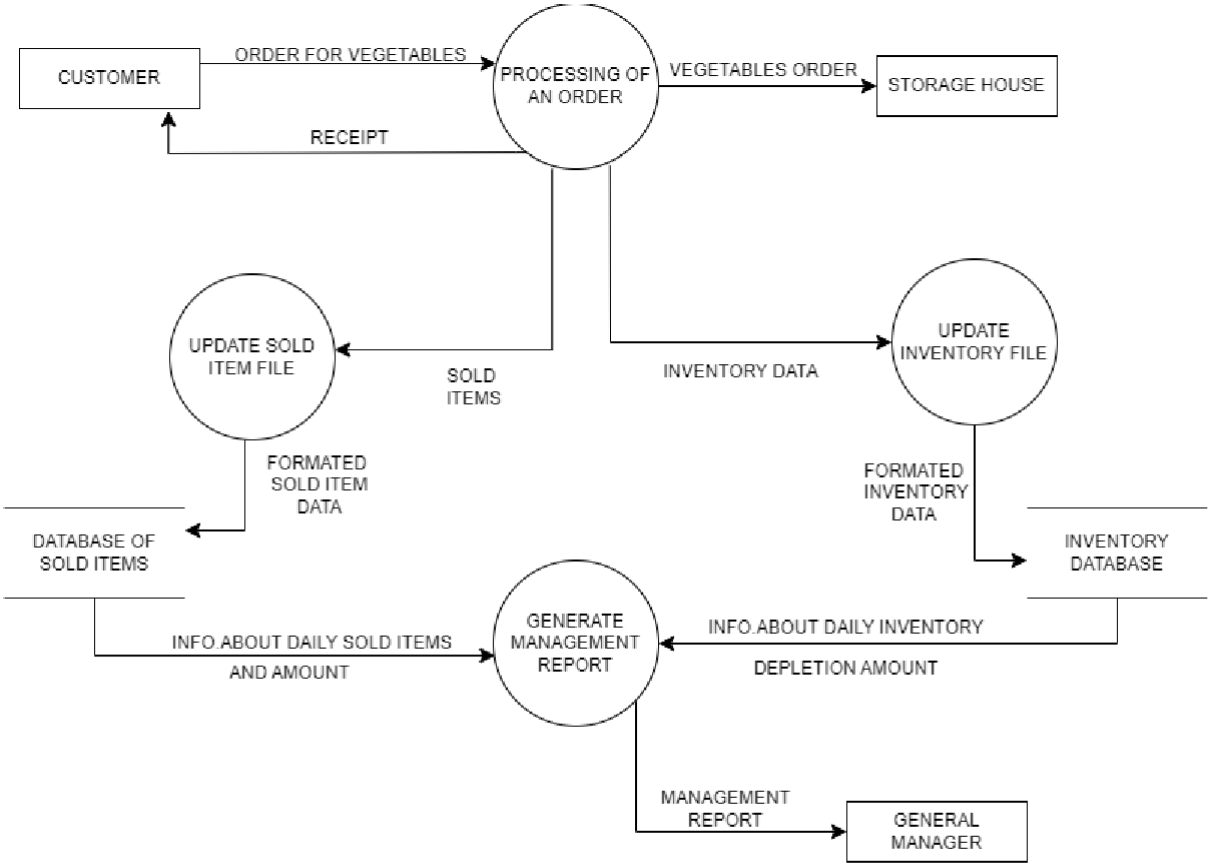
Team Members:

S No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	Rep
2	RA2111030010087	K.HEMANTH REDDY	Member
3	RA2111030010081	C.KARTHIK REDDY	Member

Data flow diagram:

LEVEL 0:





LEVEL 1 DF0

Result:

Thus, the data flow diagrams have been created for the ONLINE VEGETABLE DELIVERY SYSTEM..

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SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	9
Title of Experiment	Design a Sequence and Collaboration Diagram
Name of the candidate	K. Hemanth Reddy
Team Members	G. Karthik Reddy, G. Keerthi
Register Number	RA2111030010081, RA2111030010067, RA2111030010093
Date of Experiment	30/03/2023

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	4
2	Viva	5	3
	Total	**10**	7

P. Santhana 6/4/2023
Staff Signature with date

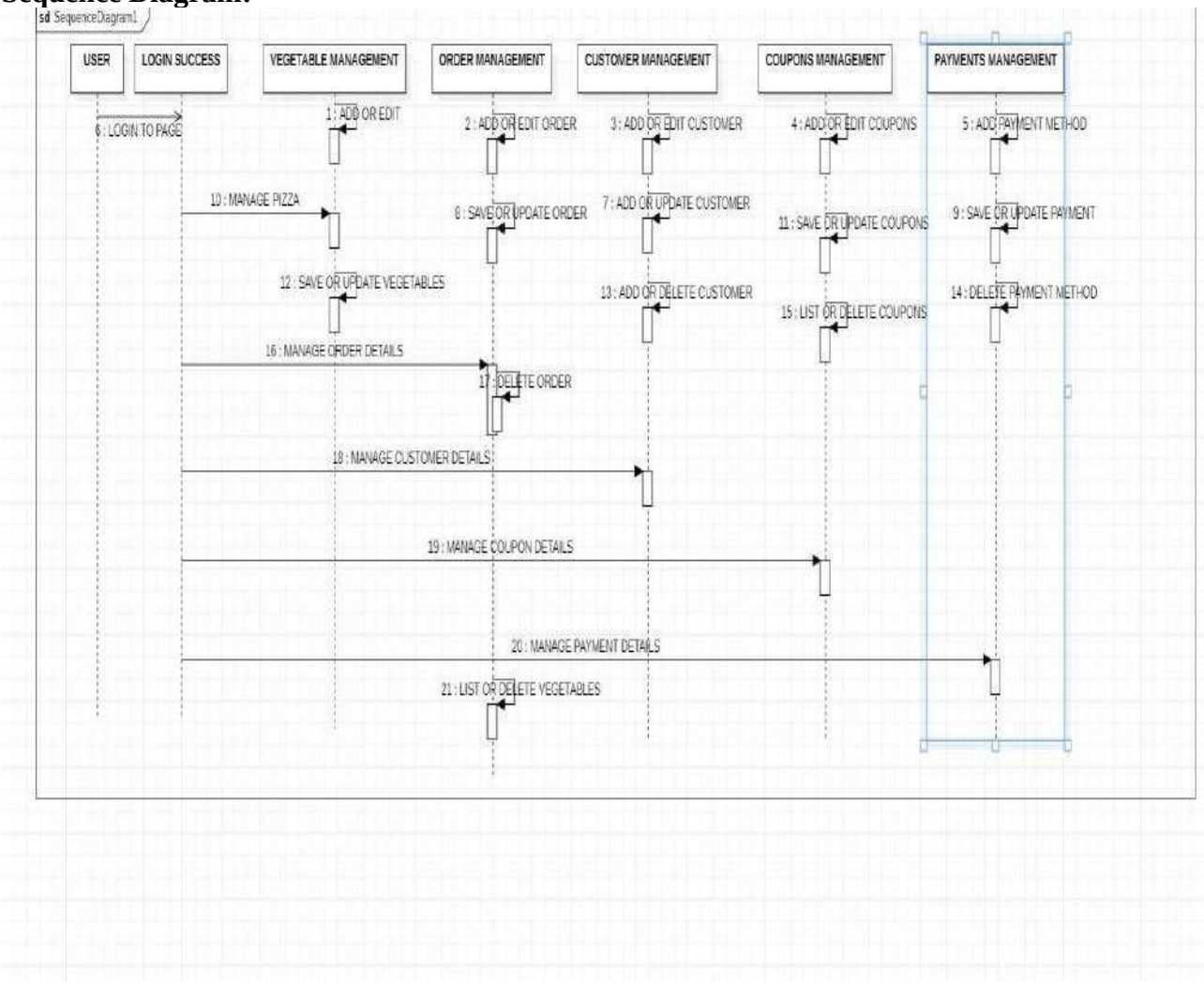
Aim

To create the sequence and collaboration diagram for the security solutions limited.

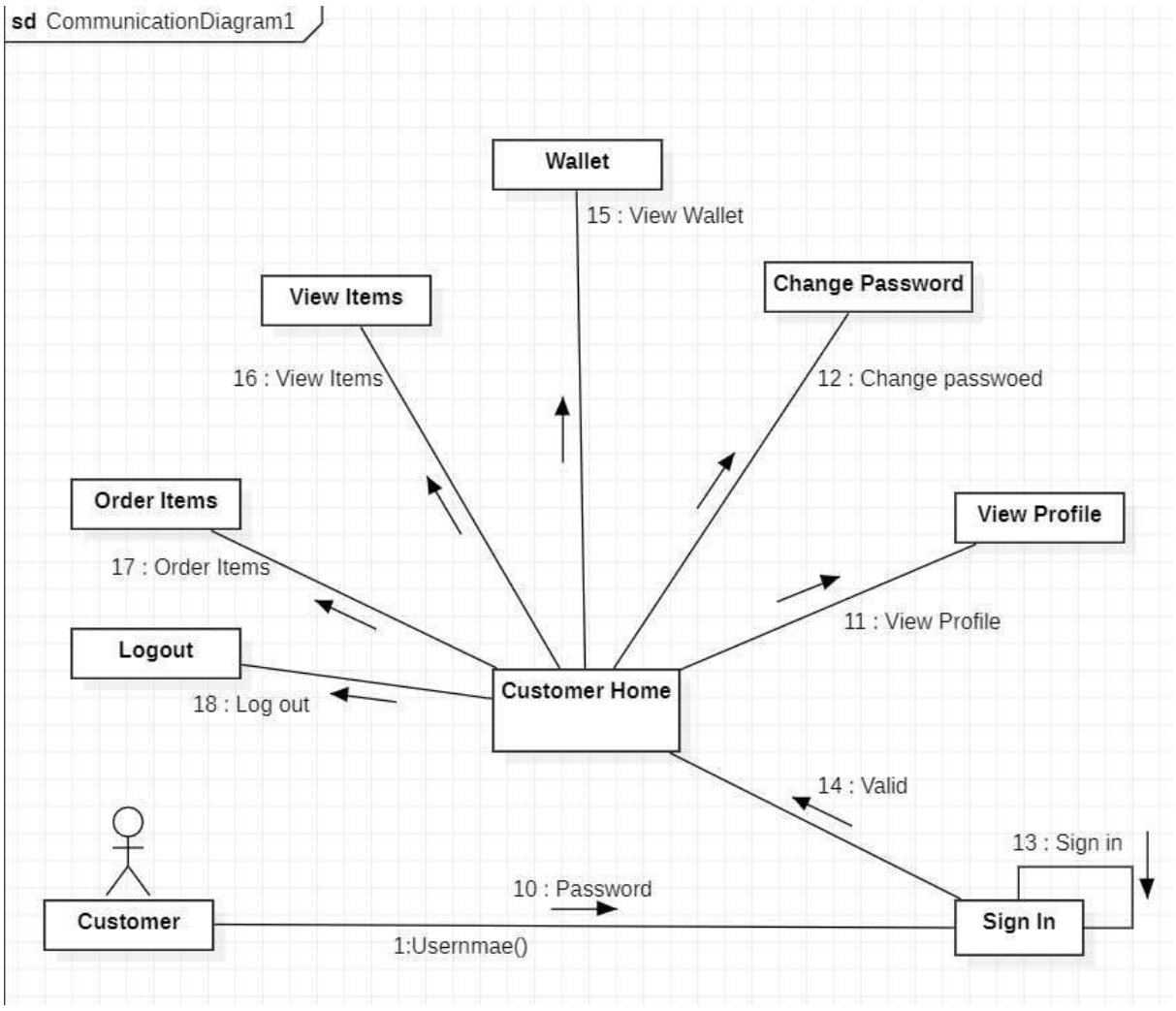
Team Members:

S No	Register No	Name	Role
1	RA2111030010093	G Keerthi	Rep/Member
2	RA2111030010081	C Karthik Reddy	Member
3	RA2111030010087	K Hemanth Reddy	Member

Sequence Diagram:



Collaboration Diagram:



Result:

Thus, the sequence and collaboration diagrams were created for the Security solutions limited.

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SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	10
Title of Experiment	Develop a Testing Framework/User Interface
Name of the candidate	K. Hemanth Reddy
Team Members	C.KARTHIK REDDY,K.HEMANTH REDDY,G.KEERTHI
Register Number	RA2111030010081,RA2111030010087,RA2111030010093
Date of Experiment	30-03-2023

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	5
2	Viva	5	3
	Total	**10**	8

P. Gowtham 6/4/2023

Staff Signature with date

Aim

To develop the testing framework and/or user interface framework for the **ONLINE VEGETABLE DELIVERY SYSYTEM.**

Team Members:

S No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	Rep/Member
2	RA2111030010081	C.KARTHIK REDDY	Member
3	RA2111030010093	K.HEMANTH REDDY	Member

SCOPE:

The scope of testing for an online vegetable delivery system application would be to ensure that the system functions correctly and efficiently, is user-friendly and secure, and meets all the requirements specified by the stakeholders. The scope would also include testing the system's performance, compatibility with different devices and platforms, and integration with other systems.

Objectives:

The primary objectives of testing an online vegetable delivery system application would be to identify and eliminate any defects or bugs in the system, ensure that the system is user-friendly, and meets all the business requirements specified by the stakeholders. Other objectives would include verifying that the system is secure, reliable, and scalable, and that it performs well under different load conditions.

Approach:

The approach to testing an online vegetable delivery system application would depend on the specific requirements and characteristics of the system. A typical approach would involve the following steps:

Requirements Analysis: Identify the requirements and objectives of the system and define the scope of testing.

Test Planning: Develop a test plan that outlines the testing strategy, objectives, scope, and timelines.

Test Design: Create test cases and test scenarios that cover all the functionalities of the system.

Test Execution: Perform the testing as per the test plan and document any defects or issues that are found.

Defect Management: Track and manage the defects found during testing, and ensure that they are resolved before release.

Test Reporting: Generate test reports that summarize the testing results and provide feedback on the system's performance, usability, and functionality.

Retesting: Verify that all the defects found during testing have been fixed and retest the system to ensure that it is stable and functional.

Overall, the approach to testing an online vegetable delivery system application should be systematic, comprehensive, and collaborative, involving all the stakeholders, including developers, testers, and end-users.

Test Plan

Scope of Testing

The scope of testing for an online vegetable delivery system would depend on several factors, including the system's requirements, the business goals of the application, and the types of risks and challenges associated with the system.

Some potential areas of testing that could be included in the scope of testing for an online vegetable delivery system might include:

Functional testing:

This would involve testing the various functionalities of the system, such as user registration, product search and selection, order placement, payment processing, and delivery tracking.

Performance testing:

This would involve testing the system's ability to handle a large number of users and orders, as well as its response time, scalability, and reliability under different load conditions.

Security testing:

This would involve testing the system's security measures to ensure that customer data, payment information, and other sensitive data are protected from unauthorized access, hacking, and other security threats.

Usability testing: This would involve testing the system's user interface, navigation, and overall user experience to ensure that it is user-friendly and easy to use.

Compatibility testing: This would involve testing the system's compatibility with different web browsers, operating systems, and mobile devices to ensure that it works well across different platforms.

Integration testing: This would involve testing the system's ability to integrate with third-party systems, such as payment gateways, inventory management systems, and delivery tracking systems.

Overall, the scope of testing for an online vegetable delivery system would need to be comprehensive and cover all aspects of the system to ensure that it is functional, reliable, and secure. It should also take into account the needs and expectations of the end-users and address any potential issues or concerns that could impact the success of the system.

TABULATION OF TYPES OF TESTING, METHODOLOGY AND TOOLS:

Types of Testing	Methodology	Tools Required
Functional Testing	Black Box Testing, Regression Testing	Selenium, Test Complete, HP Quick Test Professional
Performance Testing	Load Testing , Stress Testing	Apache J Meter, Load Runner, Gating
Security Testing	Penetration Testing, Vulnerability Scanning	OWASP ZAP, Nessus, Nmap
Usability Testing	User Acceptance Testing, Exploratory Testing	User Testing, Testlio, UXCam
Compatibility Testing	Cross-Browser Testing, Cross-Device Testing	Browser stack, Sauce Labs, Cross Browser Testing
Integration Testing	API Testing, Service Virtualization	Postman, SoapUI, Virtualize

Result:

Thus, the testing framework/user interface framework has been created for the **ONLINE VEGETABLE DELIVERY SYSTEM.**

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School of Computing

SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	11
Title of Experiment	Test Cases & Reporting
Name of the candidate	K. Hemanth Reddy
Team Members	C. Karthik Reddy, Keerthi. G
Register Number	RA2111030010021, RA2111030010097, RA2111030010093
Date of Experiment	06/04/2023

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	4
2	Viva	5	4
	Total	**10**	8

Staff Signature with date 25/4/2023

Aim

To develop the test cases manual with manual test case report for the **ONLINE VEGETABLE DELIVERY SYSTEM.**

Team Members:

S No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	Rep
2	RA2111030010081	K.HEMANTH REDDY	Member
3	RA2111030010087	C.KARTHIK REDDY	Member

1.Test Scenario:[CATEGORIES FUNCTION]

Verify that the categories feature of the online vegetable delivery system displays all available categories correctly.

Preconditions: The user has access to the internet and the online vegetable delivery system website.

Execution steps:

- Open the online vegetable delivery system website/application.
- Navigate to the categories feature.
- Verify that all available categories are displayed correctly.
- Verify that the category images are displayed clearly.
- Verify that the names of the categories are spelled correctly.
- Verify that the categories are properly aligned and formatted.
- Verify that the categories are listed in alphabetical order.
- Verify that the categories are clickable and lead to the correct products.

Expected Outcome:

All available categories should be displayed correctly with clear images, correct spelling, proper alignment, alphabetical order, and clickable links that lead to the correct products.

Remarks:

The categories feature of the online vegetable delivery system was tested successfully with no issues found.

Obstacles to Proceed Further:

One potential obstacle that may hinder further testing of the categories feature is if new categories are added to the system without proper documentation or notification. This may result in incomplete or inaccurate testing results.

Seek Help from Stakeholders:

To avoid this obstacle, it would be helpful to collaborate with the stakeholders responsible for managing the categories feature and request proper documentation and notification whenever new categories are added to the system.

2.Test Scenario: [SEARCH FUNCTIONALITY]

Search functionality should work properly for the online vegetable delivery system.

Execution Steps:

- Navigate to the homepage of the online vegetable delivery system.
- Click on the search bar.
- Type the name of a vegetable that is available on the website.
- Press enter or click on the search button.
- Verify that the search results are displayed.
- Repeat steps 2-5 for different vegetable names.
- Type a vegetable name that is not available on the website.
- Press enter or click on the search button.
- Verify that the search results indicate that the vegetable is not found.

Expected Outcome:

The search functionality should work properly.

The search results should display all the available vegetables that match the search criteria.

If the vegetable is not available on the website, the search results should indicate that the vegetable is not found.

Remarks:

The search functionality for the online vegetable delivery system works as expected.

Obstacles:

During testing, there were some instances where the search results took longer than expected to load, causing delays in testing.

Some search queries did not yield accurate results, which needs to be addressed to improve the search functionality.

Seeking help:

The development team should be informed of the issues faced during testing and be requested to investigate and fix any issues related to the search functionality.

The stakeholders should be notified of the potential impact of the search functionality issues on the user experience and business goals**.**

3.Test scenario:[ORDER TRACKING]

This test case is to ensure that the customers are able to track their orders on the online vegetable delivery system.

Pre-conditions:

The customer has placed an order on the online vegetable delivery system.

The customer has received an order confirmation with a unique order ID.

The order status is "processing" or "shipped".

Test Steps:

- Navigate to the online vegetable delivery system's homepage.
- Click on the "Order Tracking" link.
- Enter the unique order ID received in the order confirmation email.
- Click on the "Track Order" button.
- Verify that the current order status is displayed.
- Verify that the estimated delivery date is displayed.
- Verify that the shipping carrier's name and tracking number are displayed.
- Verify that the customer's shipping address is displayed.

Expected Result:

The customer should be able to track their order and view the current status, estimated delivery date, shipping carrier's name and tracking number, and the customer's shipping address**.**

Actual Result:

The customer is unable to track their order and view the current status, estimated delivery date, shipping carrier's name and tracking number, and the customer's shipping address. The system displays an error message "Order not found".

Obstacles to Proceed Further:

Technical issue with the order tracking feature.

Insufficient data entry or system configuration.

Limited integration between the online vegetable delivery system and the shipping carrier's tracking system.

Seeking help from stakeholders:

IT team to investigate and resolve the technical issue with the order tracking feature.

Customer service team to verify the order data entry and system configuration.

Shipping carrier's team to improve the integration with the online vegetable delivery system.

Functional Test Cases:

Test ID	Test Scenario	Test cases	Execution Steps	Execution Outcomes	Actual Outcome	Status/ Remarks
FT-01	User-Registration	Successful Registration	1. Navigation to the registration page. 2.Enter valid details and click on the Register button	User should be successfully registered and redirected to the login page.	User is successfully registered and redirected to the login page	Pass
FT-02	User login	Successful Login	1. Navigation to the Login page. 2 .Enter valid Login credentials and click on the Login button.	User should be successfully registered and redirected to the dashboard.	User is successfully registered and redirected to dashboard.	Pass
FT-03	Search Function	Search for Vegetables	1. Navigation to the Search bar. 2. Select the name of the vegetable and click on the search button	Search results to be displayed with the relevant Vegetables.	Search results are displayed with the relevant vegetables.	Pass

FT-04	Add to cart	Add Vegetables to cart	1. Navigate to the vegetable page. 2. Select the desired vegetable and click on the add to the cart button.	The selected vegetables should be added to the cart.	The selected vegetables are added to the cart.	Pass
FT-05	Checkout process	Complete Checkout process	1.Navigation to the checkout page. 2. Enter valid details and click on the place order button.	The order should be successfully placed and the user should receive an order confirmation.	The order is successfully placed and the user receives an order confirmation.	Pass

Non-Functional Test Cases:

Test ID	Test Scenario	Test Cases	Execution Steps	Expected Outcomes	Actual Outcomes	Status/ Remarks
NF-01	Usability	Navigation	Navigation through the website using different device and browsers.	Navigation should be smooth and consistent across all devices and areas	Navigation is smooth and consistent	Pass
NF-02	Performance	Response Time	Measure the response time of the website on different devices and browsers.	The website should load within 2-3 seconds	The Website takes more than 3 seconds to load on same devices	Fail-Needs Improvement
NF-03	Security	Login Authentication	Attempt to login using incorrect credentials	-The website should not allow access with incorrect credentials	The website denies access with incorrect credentials	Pass
NF-04	Compatibility	Browser Compatibility	Test Website functionally on different browsers such as chrome Firefox safari, etc.	Website should be compatible with major browsers.	Website is compatible with major browsers.	Pass

NF-05	Reliability	Server Downtime	Simulate server downtime and measure the time it takes for the website to recover	Website should recover within a reasonable time frame	Website recovers quickly from serve downtime	Pass
NF-06	Scalability	Load Testing	Simulate a large number of users accessing the website simultaneously	The website should be able to handle the load without crashing	The website slows down and some features become un-Responsive with a large number of users	Pass

Result:

Thus, the test case manual and report has been created for the **Online Vegetable Delivery System.**

School of Computing
SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

Course Name: Software Engineering and Project Management

Experiment No	12
Title of Experiment	Provide the details of Architecture Design/Framework/Implementation
Team Members	
Register Number	
Date of Experiment	

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	TOTAL	10	

Staff Signature with date

Aim

To provide the details of architectural design/framework/implementation

Team Members:

S No	Register No	Name	Role
1	RA2111030010093	G.KEERTHI	Rep/Member
2	RA2111030010081	C.KARTHIK REDDY	Member
3	RA2111030010087	K.HEMANTH REDDY	Member

ARCHITECTURAL DESIGN:

An online vegetable delivery system typically follows a client-server architecture, where the client is the user interface and the server provides the backend functionality. The client-side can be a web application or a mobile application that allows customers to browse, search, and order vegetables. The server-side consists of a web server, application server, and database server. The web server handles HTTP requests and responses, while the application server processes the business logic, such as order management, payment processing, and delivery scheduling. Thedatabase server stores and retrieves customer, product, and order data. The system can also include integration with third-party services for payment processing, delivery tracking, and customer support. Overall, the architectural design for an online

vegetable delivery system should prioritize scalability, security, and usability for both customers and administrator

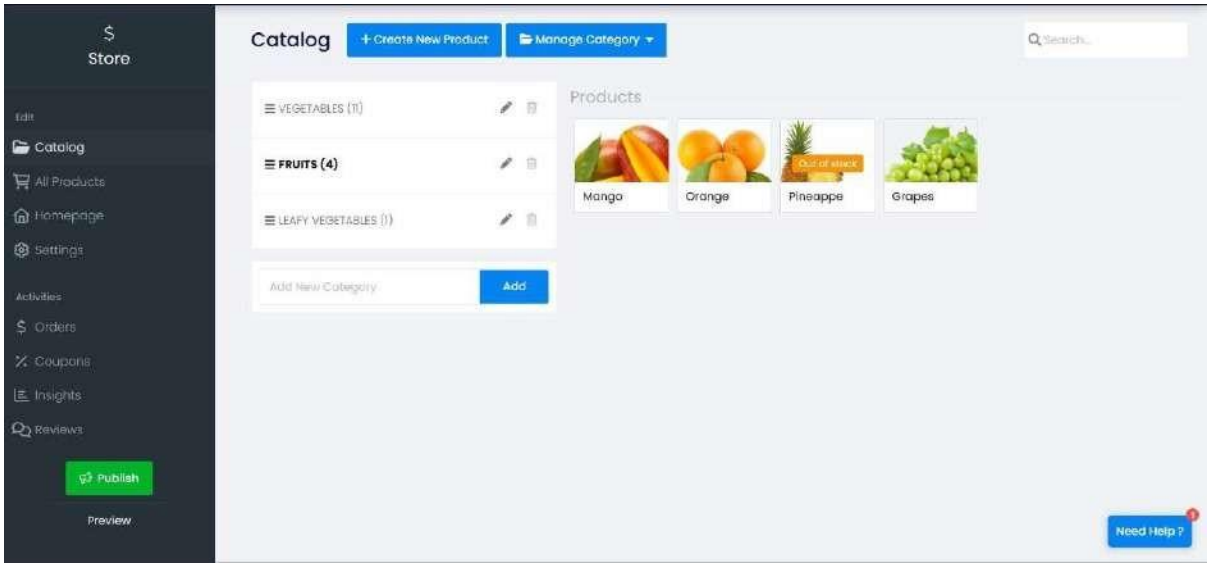
FRAMEWORK DESIGN:

The framework design for an online vegetable delivery system typically involves a combination of front-end and back-end frameworks to enable efficient and reliable development. For the front-end, popular frameworks such as React, Vue.js, or Angular can be used to create a responsive and interactive user interface for customers to browse and order vegetables. For the back-end, frameworks such as MYSQL can be used to build the application logic and integrate with databases and third-party services. The framework design should prioritize modularity, scalability, and maintainability, which allows developers to easily add new features and adapt tochanging requirements. Additionally, the use of testing frameworks such as Jest, Pytest, or Mocha can help ensure the reliability and correctness of the system.

Overall, the framework design for an online vegetable delivery system should balance the needs of the user experience, system functionality, and developmentefficiency.

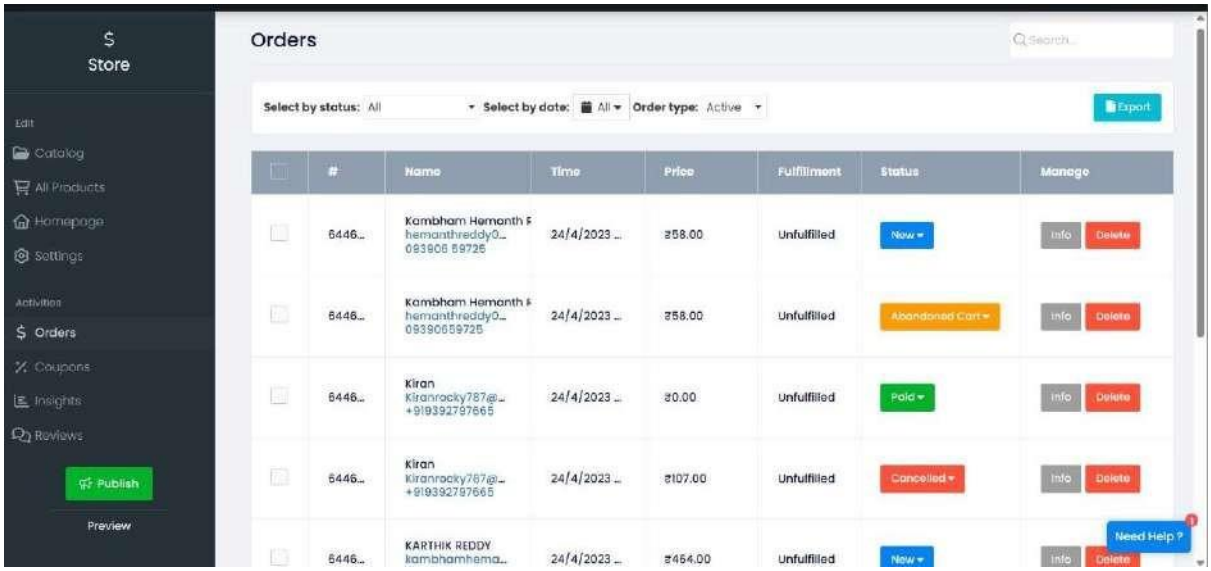
PRODUCT CATALOUGE MODULE:

The framework design for an online vegetable delivery system typically involves a combination of front-end and back-end frameworks to enable efficient and reliable development. For the front-end, popular frameworks such as React, Vue.js, or Angular can be used to create a responsive and interactive user interface for customers to browse and order vegetables. For the back-end, frameworks such asDjango, Flask, or Node.js can be used to build the application logic and integrate with databases and third-party services. The framework design should prioritize modularity, scalability, and maintainability, which allows developers to easily add new features and adapt to changing requirements. Additionally, the use of testing frameworks such as Jest, Pytest, or Mocha can help ensure the reliability and correctness of the system. Overall, the framework design for an online vegetable delivery system should balance the needs of the user experience, system functionality, and development efficiency



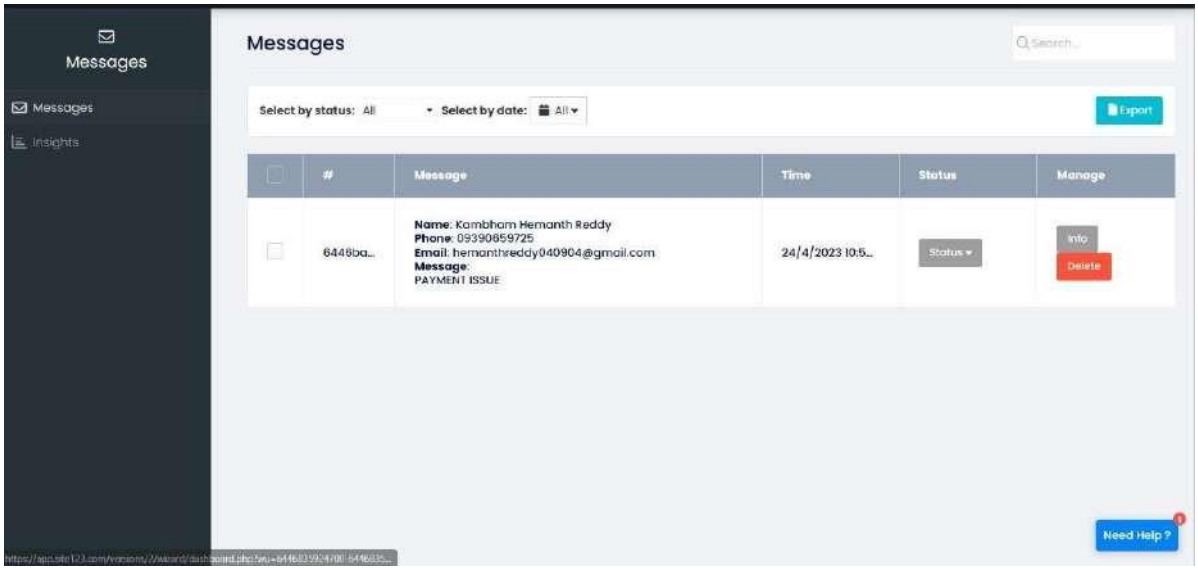
Order Management module:

Order management for an online vegetable delivery system typically involves the efficient processing of customer orders from placement to delivery. The order management system should validate customer information, confirm payment, and schedule the delivery based on the customer's preferred date and time. The system should also allow administrators to view and manage orders, including the ability to edit or cancel orders, assign delivery drivers, and generate reports. The order management system can be integrated with other systems such as the productcatalogue and payment gateway to ensure accurate and timely processing of orders.Additionally, the order management system should provide customers with updates on the status of their orders, such as order confirmation, payment receipt, and delivery updates. Overall, a well-designed order management system is essential foran online vegetable delivery system to ensure timely and accurate fulfillment of customer orders.



CUSTOMER SUPPORT MODULE:

Customer support for an online vegetable delivery system typically involves providingvarious channels for customers to receive assistance and address any issues they may encounter. This can include a help center or knowledge base that contains answers to frequently asked questions, a chatbot or live chat feature that allows customers to communicate with support agents in real-time, and email or phone support for more complex issues. The customer support system should also be integrated with the order management system to provide agents with access to customer orders, delivery status, and other relevant information. Additionally, the customer support system can include tools for administrators to track customer inquiries, monitor response times, and identify areas for improvement. The customer support system should prioritize timely and effective communication, accurate and helpful responses, and a positive customer experience. Overall, a robust customer support system is essential for an online vegetable delivery system to build trust and loyalty with its customers.



Result:

Thus, the details of architectural design/framework/implementation along withthe screenshots were provided.

CONCLUSION:

In conclusion, we aim to provide people with variety of products ranging in different prices. These services provide an efficient and convenient way for busy individuals to get access to a wide range of high-quality products without leaving their homes. Online delivery systems are gaining popularity among customers that value quality, convenience, and efficiency thanks to the added advantages of customization, affordability, and sustainability.

REFERENCE:

1.) StarUML

2).My Projects (Active, Page 1) | TeamGantt

APPENDIX:

An appendix for an online vegetable delivery system could include:

List of Products: A comprehensive list of products, divided into several categories, available for purchase on the platform.

Delivery Zones: A list of areas where the online delivery system provides services.

Pricing: A clear and detailed breakdown of the pricing structure, including delivery fees, minimum order amounts, and any additional charges.

Delivery Schedule: A schedule of delivery days and times for different locations, as well as cut-off times for ordering.

Payment Options: A list of payment methods accepted by the seller(varying product to product) on the online delivery system.

Refund Policy: A clear statement outlining the refund policy for damaged, spoiled, or incorrect deliveries.

Customer Support: Contact information for customer support, including email, phone, and chat support.

FAQs: A list of frequently asked questions with answers to common queries about the online delivery system, including information about order tracking, returns, and cancellations.

Privacy Policy: A statement outlining the online delivery system's privacy policy,including information about data collection and use, and customer data protection.

Terms and Conditions: A set of terms and conditions governing the use of the online delivery system, including information about liability, warranties, and intellectual property rights.