Software Engineering Project Report for

Small Scale Grocery Management System

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28th April, 2022

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3 GUI DESIGN SPECIFICATION

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   - PURPOSE
   - SYSTEM OVERVIEW

B. ARCHITECHTURE
   - OVERVIEW
   - SUBSYSTEM, COMPONENT OR MODULE 1…N

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SOFTWARE ENGINEERING CSE3001

WINTER SEMESTER- LAB

PROFESSOR NAME	SWARNALATHA P
SCHOOL NAME	SCHOOL OF COMPUTER SCIENCE AND ENGINEERING (SCOPE), VIT
TITLE OF THE PROJECT	GROCERY SHOPPING IN PANDEMIC
ASSESSMENT NAME	S/W PROCESS MODEL AND S/W PROCESS MANAGEMENT
NAME OF THE STUDENT	SHREASI SEN
REG. NO.	20BCE2738

CONTRIBUTION:

I worked on the Gantt Chart and the Timeline Chart for this application by understanding the time and customer requirements. We sub divided each task to understand fully the necessities to develop this application to a highly scalable.
I will make UI / UX, basic frontend prototyping and the documentation using basic design tools like Figma as developer handoff is facilitated using Figma. I will also be doing research to understand the

target users and their needs for enhancing the utility and scalability of this product. Once this phase is completed, I will begin to build the basic frontend of the website using the design prototype using CSS to style the website and HTML to build the basic skeleton of the webpage.

1. VIEWPOINT OF THE PROBLEM STATEMENT:

1.1 PURPOSE

The demand for basic necessities prevails during this time of a global pandemic. People have to get daily supplies like food and medicine and have to risk themselves getting affected by the virus. Hence, we aim to allow the people of a particular area to buy the daily grocery items by maintaining social distancing norms and thereby reducing the risk of spreading coronavirus.

1.2 OBJECTIVE

To help the shop owners continue with their business so that they are financially stable while also enabling citizens to get the required items during this lockdown period to the maximum possible extent along with reducing the risk of transmission of the virus and following all the norms of social-distancing which has taken a hit on everyone's lives.

1.3 DOCUMENT CONVENTIONS

The SRS is documented using MS Word. The font used to document the SRS is Times New Roman. Words which have been bold is the point of discussion in that particular paragraph with the bullet points acting as sub-information of that topic.

1.4 INTENDED AUDIENCE

The intended audience for this involves people from all walks of life because our product aims to solve the problem of availability of all perishable items. This product aims to solve the problem of accessibility by delivering goods in an online mode to every single household. As we are in uncertain times, the best is to make sure people remain indoors to minimize the spread of the deadly COVID 19 virus which is once again back to wrecking havoc across the world.

1.5 PRODUCT SCOPE

Be it a pandemic or just a regular day this webapp will be useful in getting what the customers wish and could possibly increase the business of the shop owners by making them widespread in the virtual world which is often overlooked by the locals. It would save customers a lot of time and resources which otherwise they might have spent in a futile trip to their known general store. Also, once the laws start to loosen up a bit, we could also think of starting a doorstep delivery service.

The system would focus on the following key points:

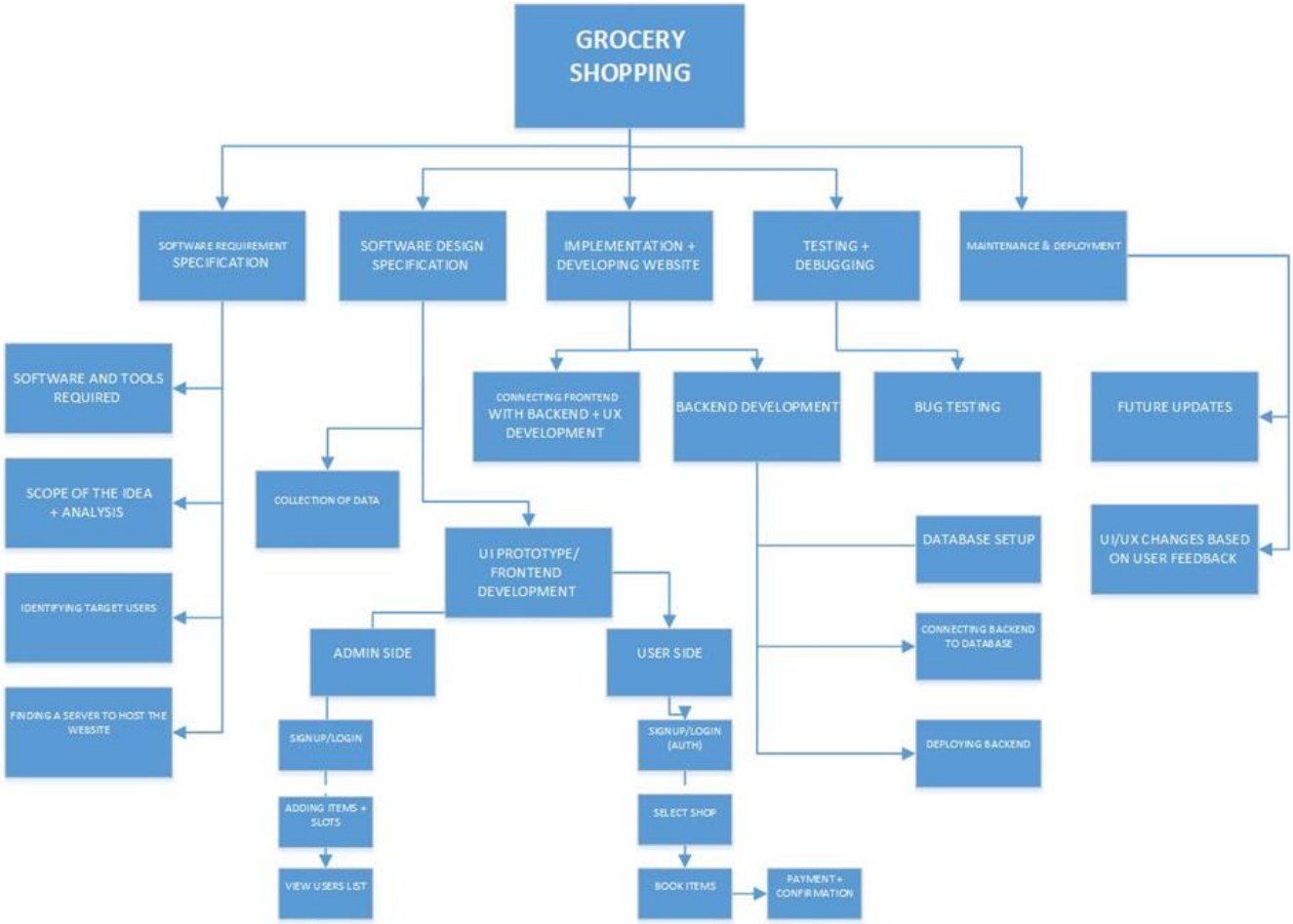
1.Directing the buyer to the nearby seller that can fulfill his needs
2.Creating a slot system for buyer coming to one seller
3.Sending buyers to different sellers if a slot of buyer's choice has already too many buyers

Advantages of our system:

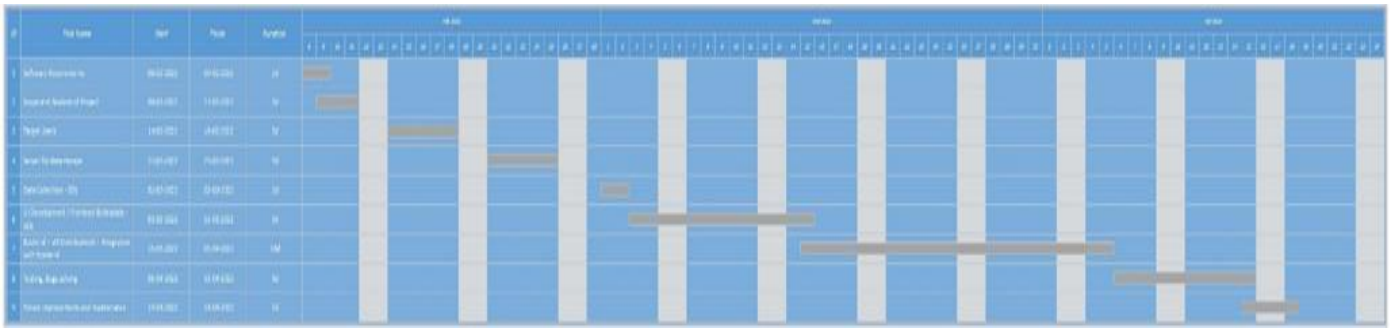
1.Reducing coronavirus transmission
2.Hassle free buying
3.Crowd management

2.PLANNING AND SCHEDULING DIAGRAMS

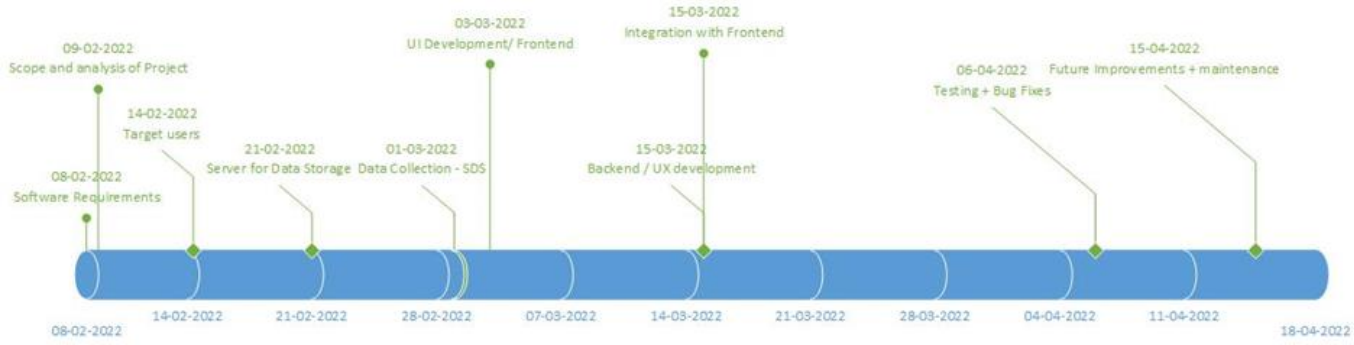
2.1.WORK BREAKDOWN STRUCTURE



2.2.GANTT CHART



2.3.TIMELINE CHART



2.4.PERT- CRITICAL PATH

SUBTASKS LIST (NOTATION)

A- SCOPE AND ANALYSIS OF THE PROJECT

B- SOFTWARE AND TOOLS REQUIRED

C- IDENTIFYING TARGET USERS AND DATA COLLECTION

D- UI PROTOTYPING

E- FRONTEND DEVELOPMENT ADMIN SIDE

F- FRONTEND DEVELOPMENT USER SIDE

G- BACKEND DEVELOPMENT SETUP AND CONNECT DATA TO BACKEND

H- DEPLOYING BACKEND

I- CONNECTING BACKEND TO FRONTEND

J- BUG TESTING

K- DOCUMENTATION

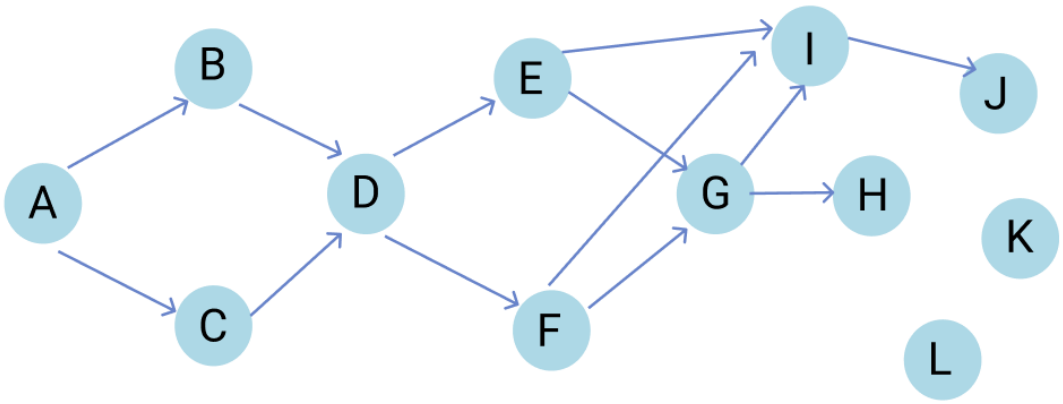
L- FUTURE UPDATES

SUBTASKS TABLE

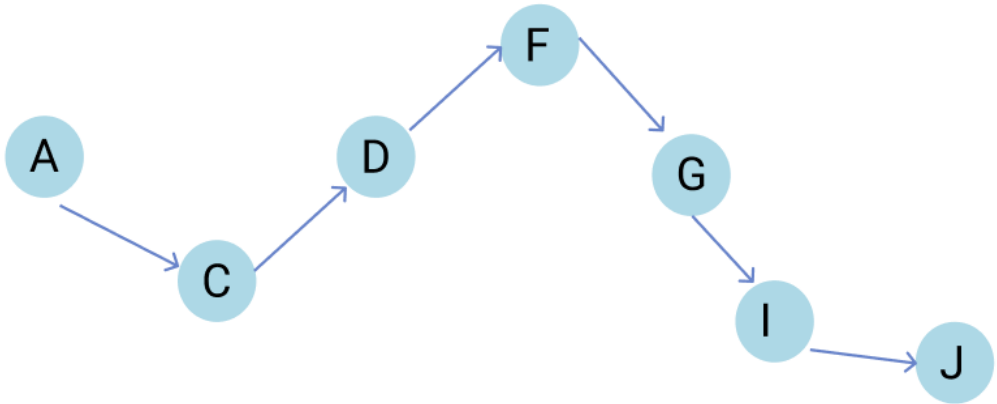
SUBTASK NOTATION	DEPENDENCIES	DURATION(IN DAYS)
A	-	3
B	A	2
C	A	5
D	B,C	5
E	D	4
F	D	5
G	E,F	8
H	G	6
I	E,F,G	2
J	I	6

K	-	2
L	-	2

PERT DIAGRAM



PERT DIAGRAM WITH CRITICAL PATH



A→C→D→F→G→I→J is the critical path

CRITICAL PATH TABLE

SUBTASK NOTATION	START TIME	COMPLETION TIME	CRITICAL PATH
A	0	3	*
B	3	5	-
C	3	8	*
D	8	13	*
E	13	17	-
F	17	22	*
G	22	30	*
H	30	36	-
I	30	32	*
J	32	38	*
K	0	2	-
L	0	2	-

Software Requirements Specification

for

Small Scale Grocery Management System

Version 1.0 approved

Prepared By:-

Pratham Sharma (20BCE2463) :-
Other Nonfunctional Requirements, Other Requirements, Appendix.

Sahas Vivek (20BCE2701) :-
External Interface Requirements, System Features.

Shreasi Sen (20BCE2738) :-
Introduction, Overall Description.

Organization :- SEM, SCOPE, VIT

Date :- 08/02/2022

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The demand for basic necessities prevails over their supplies during this time of a global pandemic. People have to get general daily items like food and medicine and have to risk themselves getting affected by the virus. Hence, we aim to allow the people of a particular area to buy the daily grocery items by maintaining social distancing norms and thereby reducing the risk of spreading coronavirus.

1.2 Objective

To help the small shop owners with their business so that they are financially better off and the citizens to get the required items during this lockdown period to the maximum possible extent along with reducing the risk of transmission of the virus and following all the norms of social-distancing which has taken a hit on their lives.

1.3 Document Conventions

The SRS is documented using MS Word. The font used to document the SRS is Times New Roman. Words which have been bold is the point of discussion in that particular paragraph with the bullet points acting as sub-information of that topic. Also note that priorities for higher-level requirements are assumed to be inherited by detailed requirements.

1.4 Intended Audience and Reading Suggestions

The intended audience for this document involves people from all walks of life because our product aims to solve the problem of availability of all perishable items. However, all the sections might not be useful or of interest for people under a specific category. For example, a housewife may find only the introduction and overall description of the product useful because she is only interested in knowing the features and benefits of using our products. On the other hand, a developer or a software engineer will overlook the external interface requirements and system features section which is acceptable whereas a Marketing strategist will find his keen interest in the introduction, overall description, non-functional and other requirements because it somewhat defines his scope of investing in our product.

1.5 Product Scope

Be it a pandemic or just a regular day this webapp will be useful in getting what the customers wish and could possibly increase the business of the shop owners by making them widespread in the virtual world which is often overlooked by the locals. It would save customers a lot of time and resources which otherwise they might have spent in a futile trip to their known general store. Also, once the laws start to loosen up a bit, we could also think of starting a doorstep delivery service.

The system would focus on the following key points:

1. Directing the buyer to the nearby seller that can fulfill his needs
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3. Sending buyers to different sellers if a slot of buyer's choice has already too many buyer

Advantages of our system:

1. Reducing coronavirus transmission
2. Hassle free buying
3. Crowd management

1.6 References

- Concept referral, vision, scope, UI/UX- www.amazon.in/
- IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998.
- https://ejmcm.com/article_7462_146e951f8a1a487fa115384268492f5e.pdf
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7269931/

2. Overall Description

2.1 Product Perspective

Our product is a self-contained product however we can say that the motivation and courage of launching such a product came from the success that Amazon has enjoyed over these years.
The process model used for our product is the spiral model. The reason behind using it is because our project is a large one, we need to commit releases frequently, we can also create a prototype easily and lastly as the situation fluctuates we can make necessary changes to our product.

This product aims at the fulfillment of basic necessities of most people and even certain specific groups of individuals along with aiding small-scale shop owners to be financially capable of living through these tough times along with helping retail parts of bigger industries to contribute to the nation's economy is this project's novelty. It is one of the few well-planned techniques where overcrowding at a particular medical, grocery etc stores can be prevented. The government can also control the outburst of a helpless crowd by dividing the time slots vs no of people in consideration with the social distancing norms. Lastly, due to its open Source nature you can modify it according to your needs on completion.

2.2 Product Functions

The main objective is to get the required items during this lockdown period to the maximum possible extent along with reducing the risk of transmission of the virus and following all the norms of social-distancing which has taken a hit on their lives.

A high-level summary of the functions of the product are below:

- The home page gives the user three options to choose from.
- If the user is a customer then he has the option to either check the availability of the items of a shop in their area or book a slot for themself at that shop.
- If the user is a shopkeeper then he has the option to add an item or change the availability of the existing items.

- We have also used the threshold number of customers allowed in a slot to be three which can be increased according to the need and the government norms.
- Also a pin would be provided to each shopkeeper which would be unique but for demo purposes we have given each shop an Id which starts from 123 for shop A and goes till 133 for shop W.

2.3 User Classes and Characteristics (STAKEHOLDERS)

Administrator: He/she is the one who is responsible for maintaining all the login details involving both the customer and the shopkeeper. Also any guidelines passed on by the government which has to be displayed on the website has to be taken care of by him. Lastly, the data base involved has to be maintained and secured by the administrator.

The General Public/Customer: They are the ones who will enjoy the benefits of our product. They are only allowed to login and book the slots according to the availability. Lastly the most important task they have to perform is to submit a wish list for the next day which has the details of the customer demands.

The Shopkeeper: The first task the shopkeeper has to perform is to submit details of their shops such as location, shop name, products provided etc. Second is to look into the wish list and try to fulfill it to the extent that every customer gets the needful item which increases the value of our webapp. Lastly, they need to update the stock time to time in order to avoid a situation where a customer's visit to the shop is futile which affects the reputation of the webapp.

2.4 Operating Environment

Being a web application it can be used on any operating system as well as no restriction on the type of environment to be used. A laptop, tablet and a smartphone will support this web app providing smooth functionality and user experience.

2.5 Design and Implementation Constraints

One immediate requirement that a user should fulfill and is recommended from our side is to have good internet connectivity. However, the user will still be able to surf the website but won't have the updated information which can be misleading sometimes. All the protocols will be handled by our team however we might face challenges in areas such as corporate or regulatory policies of that particular Municipal Corporation. Also maintaining such a large database can be strenuous at times. One major problem that we identified while hosting this webapp all over India and around the world is the communication protocols because the world is a diverse place with people making use of many different languages, however with a positive vision we host the website in English which is generally understood by everyone.

2.6 User Documentation

The list of user documentation components that will be delivered along with the software are listed below:

- A tutorial video will be provided on the website's home page itself.

- A 24/7 available chat box will also be set up to bring solutions for our users at that very instance.
- A feedback text box will also be provided because we always want to improve our user interface and experience.
- Guides and Api references will also be included.

Lastly, a glossary will also be provided.

We aim to take referral for maintaining our standards from companies such as Flipkart and Amazon.

2.7Assumptions and Dependencies

Assumptions:

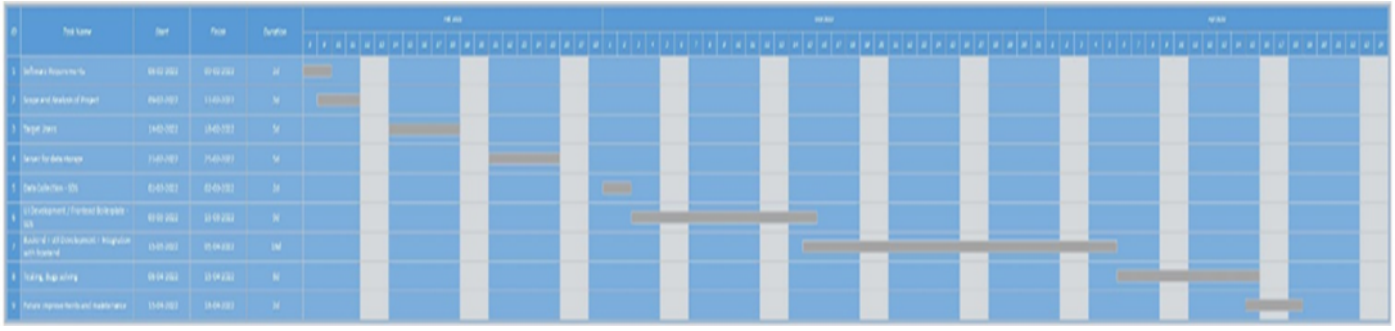
- Our team assumes that all the users have access to internet connectivity.
- The users know how to surf online on a website.
- Have resources such as smartphones or laptops.

Dependencies:

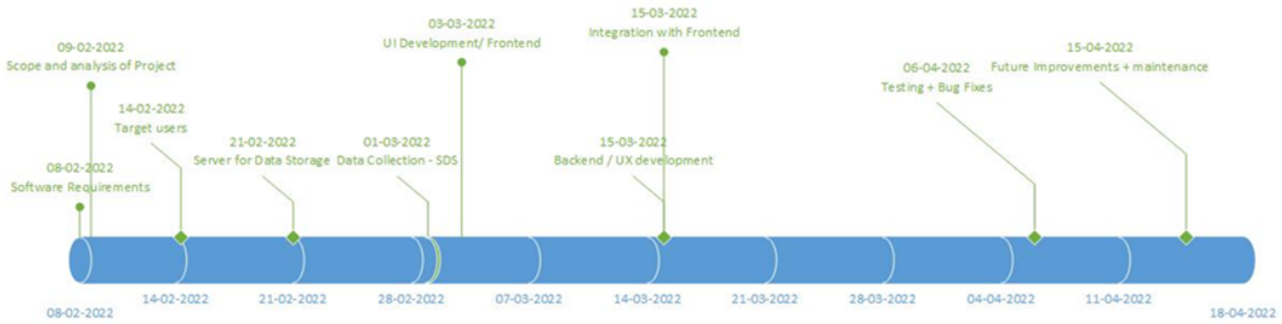
- We need to get the approval of google to host this website prior to the fact that we fulfill all the requirements.
- We are also dependent on a company to provide us with a domain name which enables us to host our website.
- Also, we are heavily dependent on all the search browsers where our websites will be available.
- External user interface.
- Business rules, Security and Safety requirements.
- Also on companies such as Oracle or MYSql with whom we will partner for maintaining and creating the database.

SCHEDULING DIAGRAMS :-

GANTT CHART



TIMELINE CHART :-



PERT DIAGRAM :

SUBTASKS LIST (NOTATION)

A- SCOPE AND ANALYSIS OF THE PROJECT
B- SOFTWARE AND TOOLS REQUIRED
C- IDENTIFYING TARGET USERS AND DATA COLLECTION
D- UI PROTOTYPING
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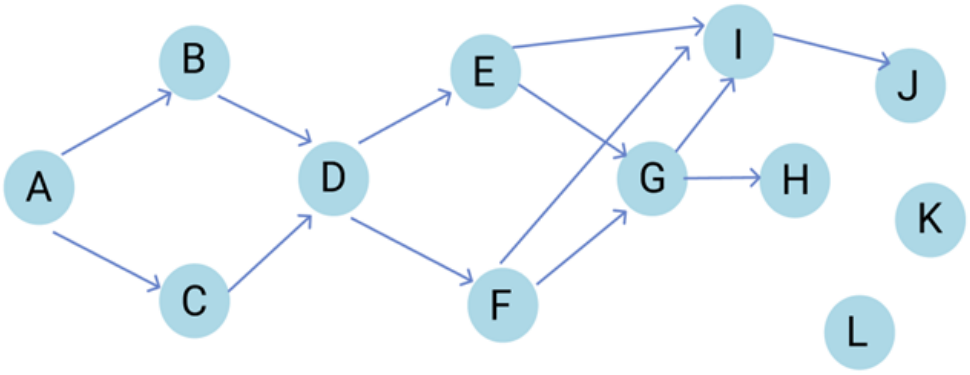
SUBTASKS TABLE

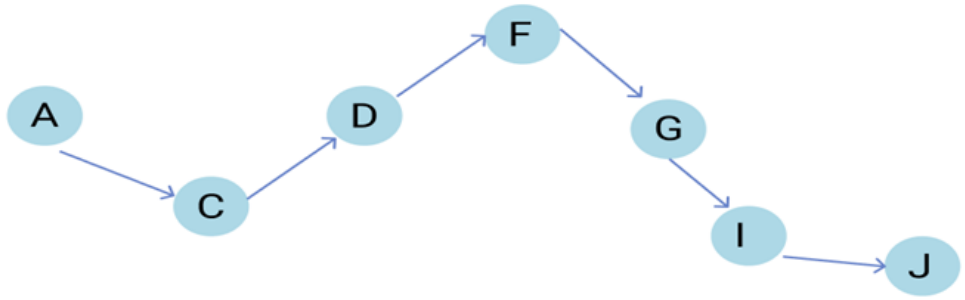
SUBTASK NOTATION	DEPENDENCIES	DURATION(IN DAYS)
A	-	3
B	A	2
C	A	5
D	B,C	5
E	D	4
F	D	5
G	E,F	8
H	G	6
I	E,F,G	2
J	I	6
K	-	2
L	-	2

Activity	Immediate Predecessors	Duration
A	-	3
B	A	2
C	A	5
D	B,C	5
E	D	4
F	D	5
G	E,F	8
H	G	6
I	E,F,G	2
J	I	6
K	-	2
L	-	2

PERT DIAGRAM



PERT DIAGRAM WITH CRITICAL PATH



A→C→D→F→G→I→J is the critical path

CRITICAL PATH TABLE

SUBTASK NOTATION	START TIME	COMPLETION TIME	CRITICAL PATH
A	0	3	*
B	3	5	-
C	3	8	*
D	8	13	*
E	13	17	-
F	17	22	*
G	22	30	*
H	30	36	-

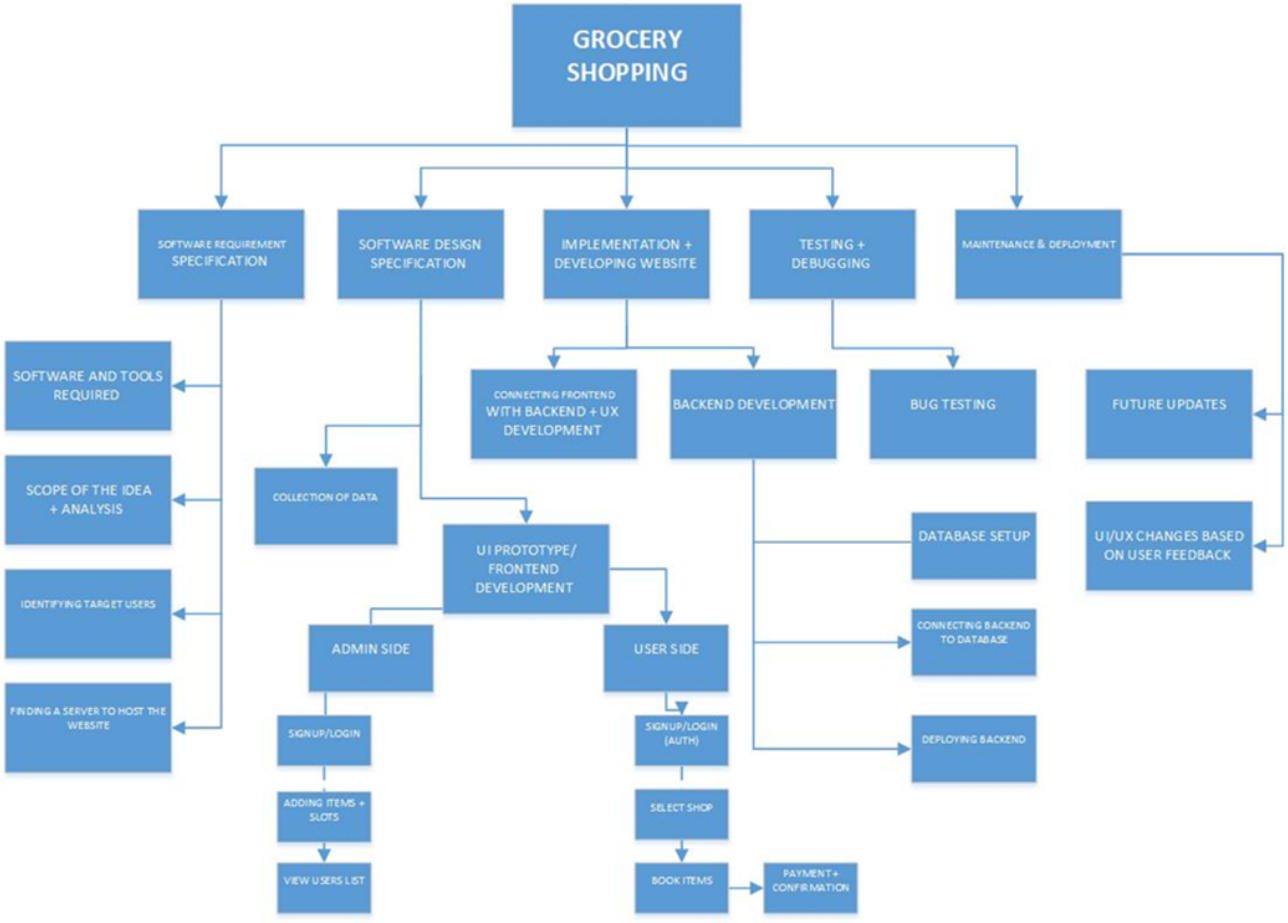
I	30	32	*
J	32	38	*
K	38	40	-
L	40	42	-

SLACK TIME TABLE

SUBTASK NOTATION	TART TIME	COMPLETION TIME	CRITICAL PATH
A	0	3	*
B	3,4	5,6	-
C	3	8	*
D	8	13	*
E	13,17	17,23	-
F	17	22	*
G	22	30	*
H	30,33	36,39	-
I	30	32	*

J	32	38	*
K	38,40	40,42	-
L	40	42	-

WBS STRUCTURE :-



3. External Interface Requirements

3.1 User Interfaces :-

Our website is integrated with menu-driven and graphical user-interface for ensuring easy access of the interface elements and to provide the users with a better understandability on how to facilitate the actions. The interaction design, visual design, and information architecture are properly combined so that it does not leave any doubt for the users on how to find or access any element in the interface. The overall layout is simple and attractive. The softwares required for designing the UI are HTML, CSS and JavaScript.

3.2 Hardware Interfaces :-

The basic hardware interfaces include keyboard, mouse for a computer and a touchscreen for a mobile device. The minimum requirements from the user's side are :-

1. A processor with a minimum speed of 1 GHz or more.
2. An ethernet connection or a wireless adapter.
3. A minimum RAM of 1 GB or more.

The nature of the data is quantitative which includes the items available in each shop of the targeted area, items required by the particular shops, users basic information and their cart items which are to be recorded. This information is stored in a database for which a server is required.

3.3 Software Interfaces :-

The website is independent of any operating system. Interfacing with several modules is essential in order to perform various operations. It requires Database connectivity (SQL) and Server interfacing (APACHE). Python Flask (includes the required libraries) and JavaScript are the software requirements for the web hosting and the integration with the server.

3.4 Communication Interfaces :-

HTTP protocol is used for allowing the users to communicate the data on the world wide web. The protocol includes mechanisms for detecting and handling errors and acknowledgment mechanisms between client and service .

4. System Features :-

4.1 Functional Requirements :-

Functional requirements specify which outputs should be produced from the given input. They describe the relationship between input and output.

4.1.1 Validation :-

The customers and the shopkeepers are supposed to create their respective accounts specifying their details in the website. On logging into the site, the system must allow the user to make a total of 3 entries of his/her username and password. If the details are valid, log in the user else terminate. An alternative option of 'Forgot Password' should also be given to the user to reset his password.

4.1.2 Updating user's information :-

The system should provide an option to update the shop's available items with the stock amount. Any price changes can also be updated under this feature. This in turn should be reflected in the shop owners database.

4.1.3 Providing Pin codes :-

Unique pin codes should be given to the shop owners by the websites so that their online shop is secured. This pin would allow them to access their shop items and update the prices and the stock. This would make sure there are no malpractices.

4.1.4 Slot Booking :-

A total of 15 customers are allowed to book in a particular slot timing. The website should restrict the user to book any slot which has exceeded the total booking of 15. A provision of canceling the booking should also be made.

4.1.5 Service selection :-

The website must provide appropriate options if the user has entered as a customer or a shop-keeper. Here is an example:

For customers, it should ask them for checking out the items and its prices available in each shop after filtering out the area, adding their items into the cart and booking the slot timing for purchasing the items.

For shop-owners, it should provide them with an option of updating their item list, viewing the customers details who wants to purchase from their shop and to modify their shop availability timings.

4.1.6 Contact details :-

An email address and a phone number of the shop owner will be specified in the contact details of the particular shop using which the user could communicate with the shop owner regarding his grocery requirements. As the user clicks on the email address, he/she will be redirected to his/her g-mail account for composing the message.

4.1.7 New User registration :-This page provides registrations for new customers and shop owners.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- The Website must be easy to navigate and must be easily usable by a non-tech user also. So, the website should be used and accessed by the user easily.
- The Website should not hang and should run smoothly. It should have the capacity to at least accommodate 2000 users at a time.
- Any update of information by the user should be recorded immediately.
- The Website should not take a lot of time to load. It can take 4 s at maximum. This is required for better customer satisfaction.
- The notifications should be shown whenever a slot is booked. And a reminder should be sent for the same 15 min before the slot timings.
- The Screen refresh time should be low.
- System failure should not occur frequently.
- Time to restart after failure should be less.
- Percentage of events causing failure should be less.
- Probability of data corruption on failure should be less.

5.2 Safety Requirements

- The information of the users and the history of usage should not be lost. This is very important as the history of the user is very essential information for both the user and the admin.
- There should be data backup in case the website crashes so that the information is not lost.
- There should be a backup server which will be useful whenever the main site crashes.

5.3 Security Requirements

- Email and Phone number verification of the users must be done.
- Only the administrator should know about all the confidential data.
- System must be accessed only inside the server.

- Any personal information of users should not be made public. The Privacy of the user should be taken care of.
- Switching of tabs should be restricted.
- Multiple logins of the same account should not be allowed.

5.4 Software Quality Attributes

- The software should be adaptable in order to meet various future requirements.
- Software should have good availability and reliability.
- Modification of a software product after delivery to correct faults must be done, to improve performance or other attributes.
- The software should be reusable.
- The same software should be usable in different environments.
- Software testing must be done when required.

5.5 Business Rules

- Only the Admin should be allowed to maintain the website.
- Updates in the site must be made by the admin only and no other people should be given access.
- Only the verified users must be allowed to use it.

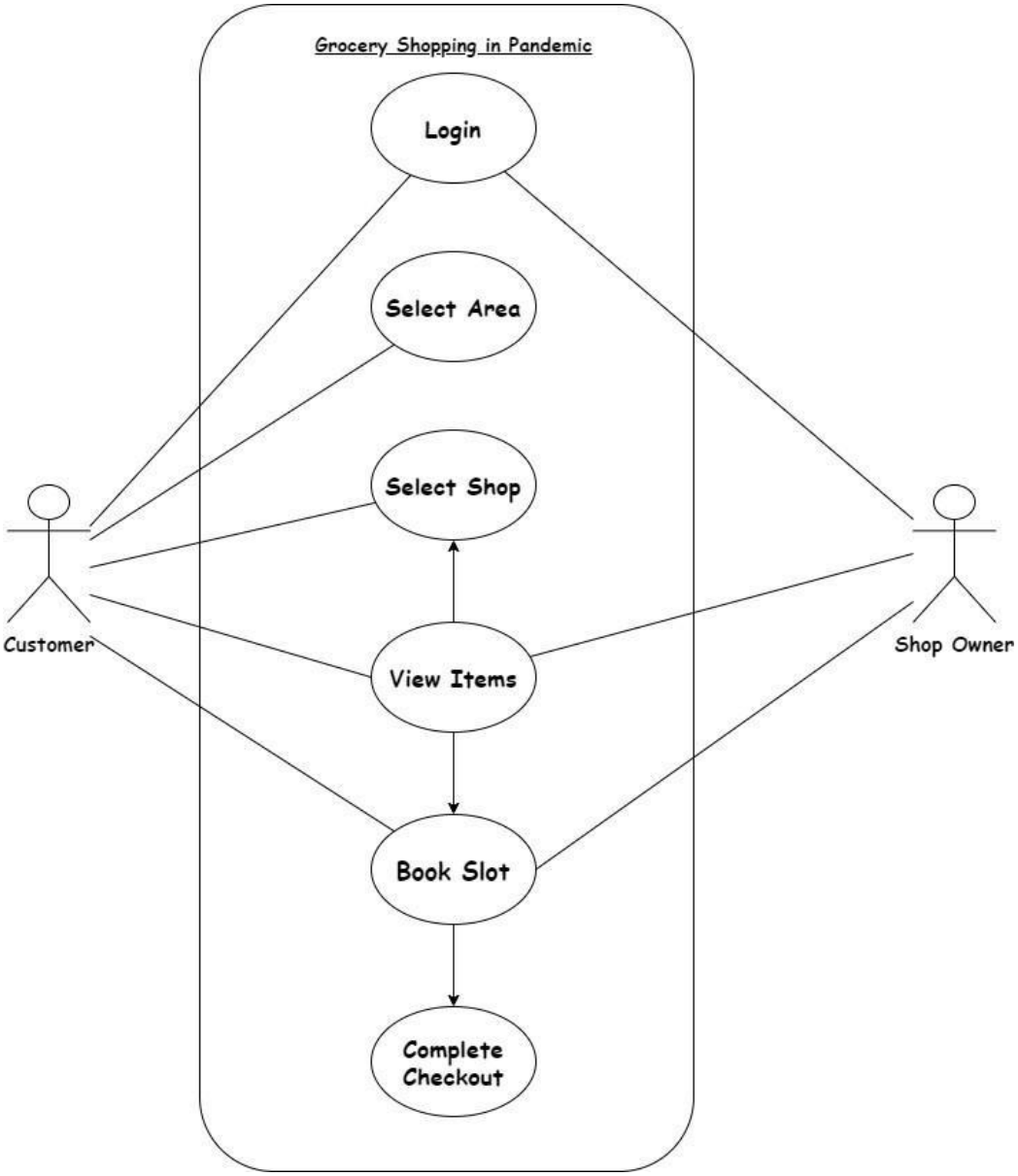
6. Other Requirements

- The software should allow for new updates.
- It should be reusable.
- It should be tested for any bugs.
- It should be easily used by users.
- It should run smoothly and efficiently.

Appendix A:

Appendix B: Analysis Models

User Case Diagram



Appendix C: To Be Determined List

Software Design Specification for **Small Scale Grocery Management System**

Revision 1.0

Table of Contents

Revision History

Version	Name	Reason For Changes	Date
1.0	*Sahas Vivek* *Pratham Sharma* *Shreasi Sen*	*Initial Revision* -UML MODELS -USE CASE -CLASS -STATE CHART -ACTIVITY -SEQUENCE -COLLABORATION -DEPLOYMENT -ER MODEL -ARCHITECTURE SYSTEM MODEL -OBJECTIVES -LOW LEVEL DESIGN PSEUDOCODES FOR POSSIBLE MODULES(1/N) USER INTERFACE PEN/SOFTWARE (MODULE 1/N/OVERALL)	*01/03/2022*

Approved By

Approvals should be obtained for the project manager, and all developers working on the project.

Name	Reg. No.	Date
Sahas Vivek	**20BCE2701**	**01.03.2022**
Pratham Sharma	**20BCE2463**	**01.03.2022**
Shreasi Sen	**20BCE2738**	**01.03.2022**

1. Introduction

1.1 Purpose

The demand for basic necessities prevails over their supplies during this time of a global pandemic. People have to get general daily items like food and medicine and have to risk themselves getting affected by the virus. Hence, we aim to allow the people of a particular area to buy the daily grocery items by maintaining social distancing norms and thereby reducing the risk of spreading coronavirus.

1.2 System Overview

This project extends the functionality of the Binder Request process that is currently active in PCMS processes. Additional fields and features will be added to the binder request form, new workflow sub-processes will be added to the binder request process, and a process report will be developed that is unique to the binder request process. Metics and TaskViews reports will be available for binder requests, but these will be implemented as the workflow reporting project and will not be included in this SDS.

1.3 Design Map

SUE - Summarize the information contained within this document or the family of design artifacts. Define all major design artifacts and/or major sections of this document and if appropriate, provide a brief summary of each. Discuss any significant relationships between design artifacts and other project artifacts.

1.4 Definitions and Acronyms

No definitions for this particular project.

2. Design Considerations

All design considerations were handled in Binder Release Phase 1.

2.1 Assumptions

Metrics and TaskView reports will be handled in the workflow reporting project.

2.2 Constraints

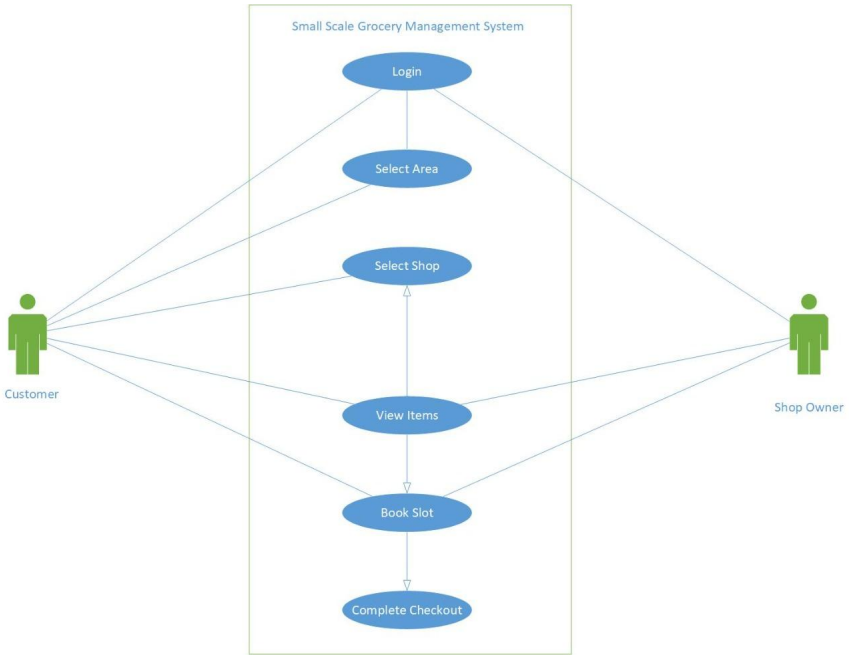
Not applicable for this project.

2.3 System Environment

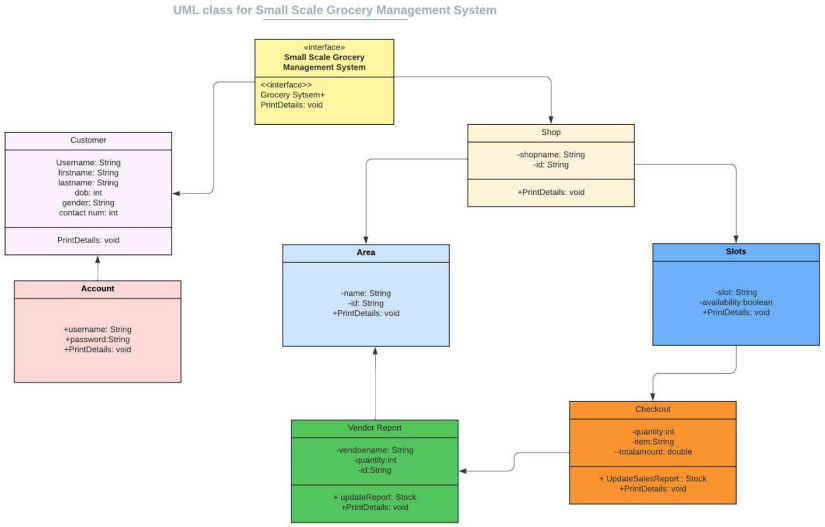
This is a web application and hence it can be used on any operating system and hence there is no restriction on the type of environment to be used. A laptop, tablet and a smartphone will support this web app providing smooth functionality and user experience. A server will be necessary to host the website and a database too, to store data.

2.4 Design Methodology

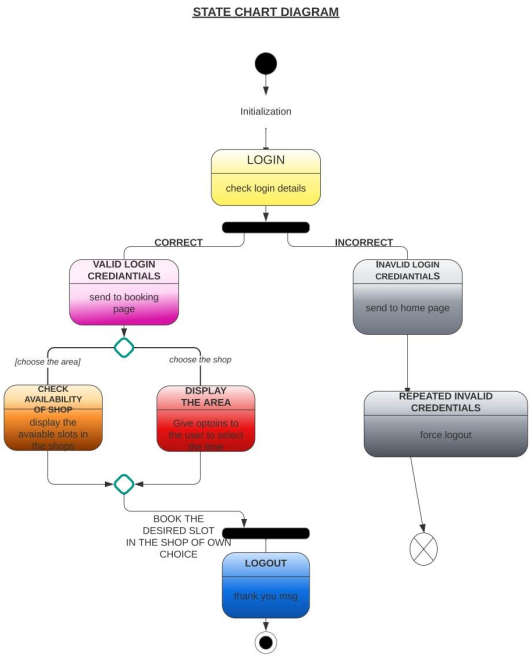
1. Use Case Diagram



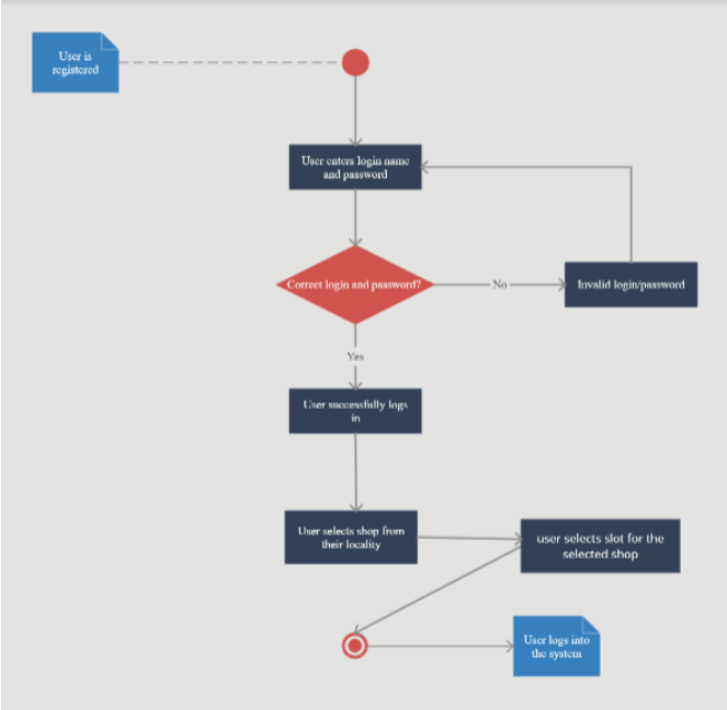
2. Class diagram



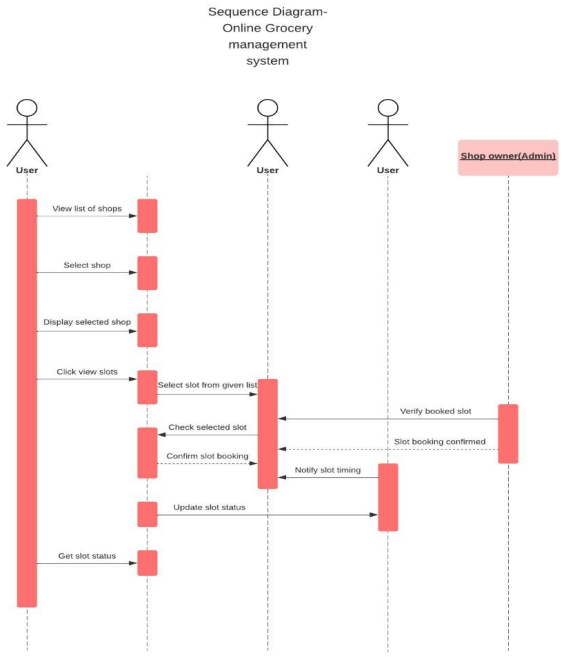
3. State chart



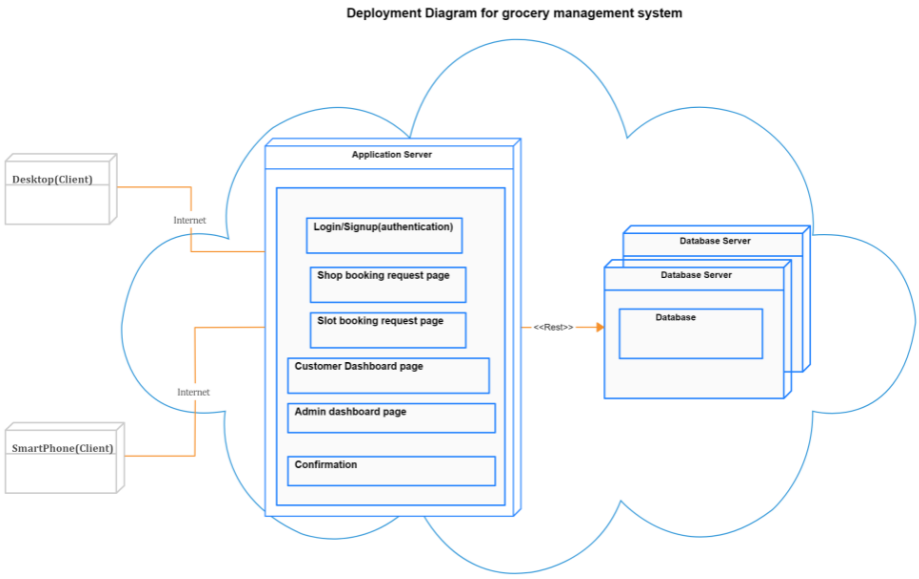
4. Activity diagram



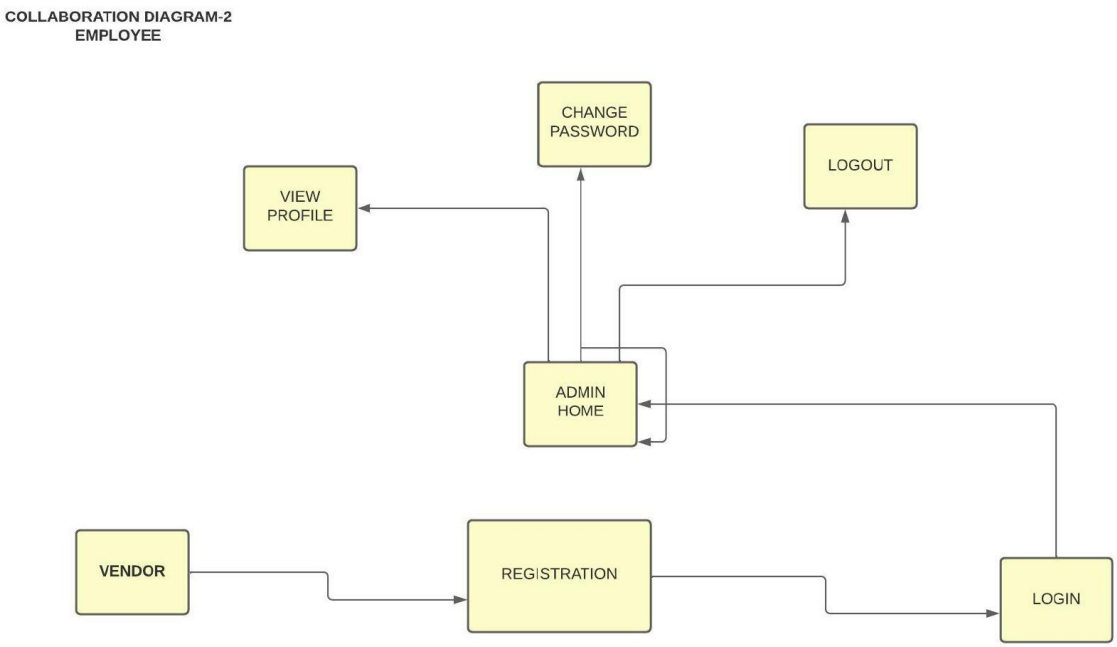
5. Sequence Diagram



6. Deployment Diagram



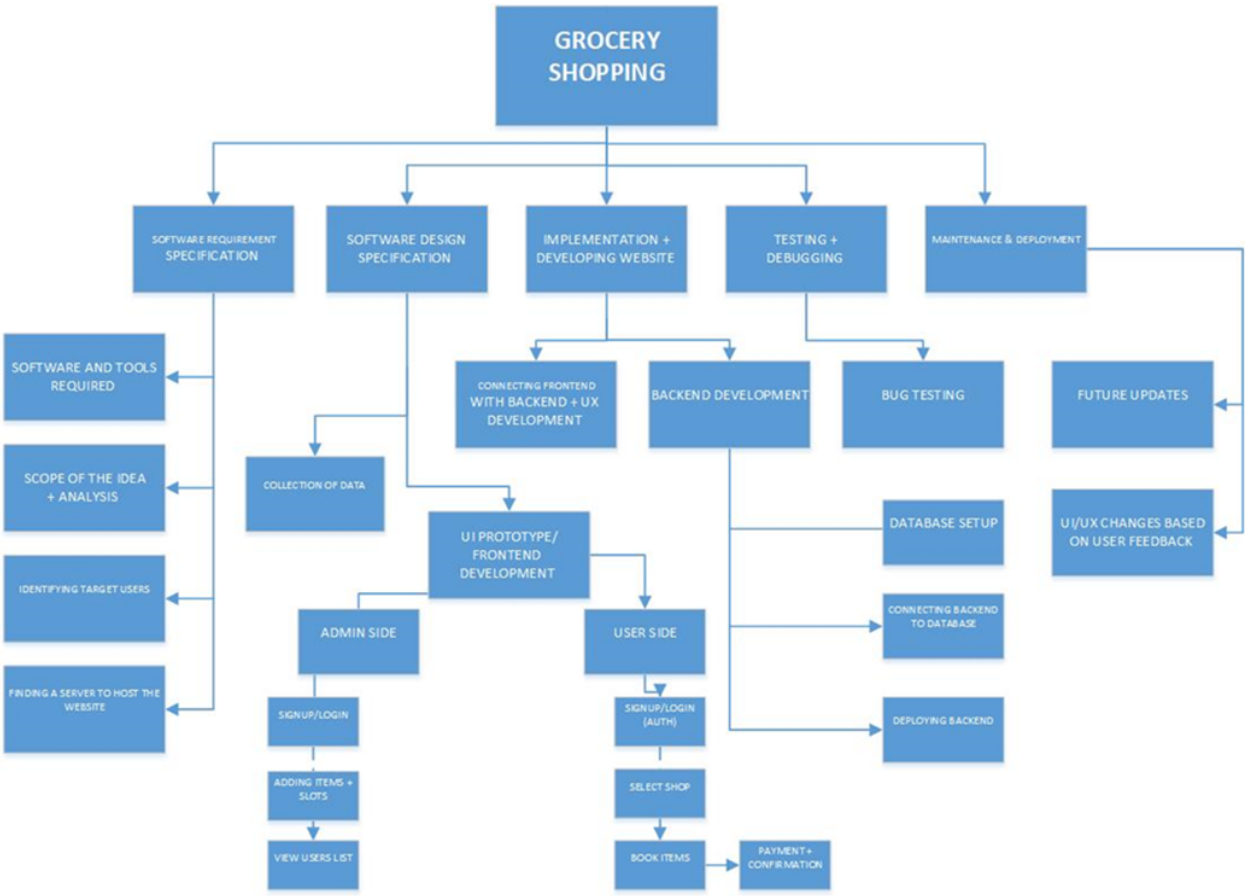
7. Collaboration Diagrams



2.5 Risks and Volatile Areas

Not identified for this topic

3. Architecture



This section provides user interface design descriptions that directly support construction of user interface screens. The details of each sub module are as listed below. All the screens with their workings have been listed below. A basic explanation will be added to each screen.

3.1 Overview

This product aims at the fulfillment of basic necessities of most people and even certain specific groups of individuals along with aiding small-scale shop owners to be financially capable of living through these tough times along with helping retail parts of bigger industries to contribute to the nation's economy is this project’s novelty. It is one of the few well-planned techniques where overcrowding at a particular medical, grocery etc stores can be prevented. The government can also control the outburst of a helpless crowd by dividing the time slots vs no of people in consideration with the social distancing norms. Lastly, due to its open Source nature you can modify it according to your needs on completion.

The main objective is to get the required items during this lockdown period to the maximum possible extent along with reducing the risk of transmission of the virus and following all the norms of social-distancing which has taken a hit on their lives.

3.2 Subsystem, Component, or Module 1 …N

Common Screen- Choose whether you are a user or an admin

User side

In this screen, the user will be able to view the list of available shops in their locality. After the user has selected their preferred area, they will be able to see the list of all the available slots for that particular shop.

Admin side

This screen will allow the admin to view the list of users and their booked slots. After the user has finished their slot, there is a status which can be updated accordingly.

4. Database Schema

4.1 Tables, Fields and Relationships

A description of the tables and their attributes are as listed below:

1. AdminTable

| admin_id | first_name | last_name | email_address |

2. Customer Table

| username | name | c_id | password | phone_num | address |

3. Slots Table

| quantity | time | day |

4. Shop Table

| s_id | s_name | s_address |

5. Bookings Table

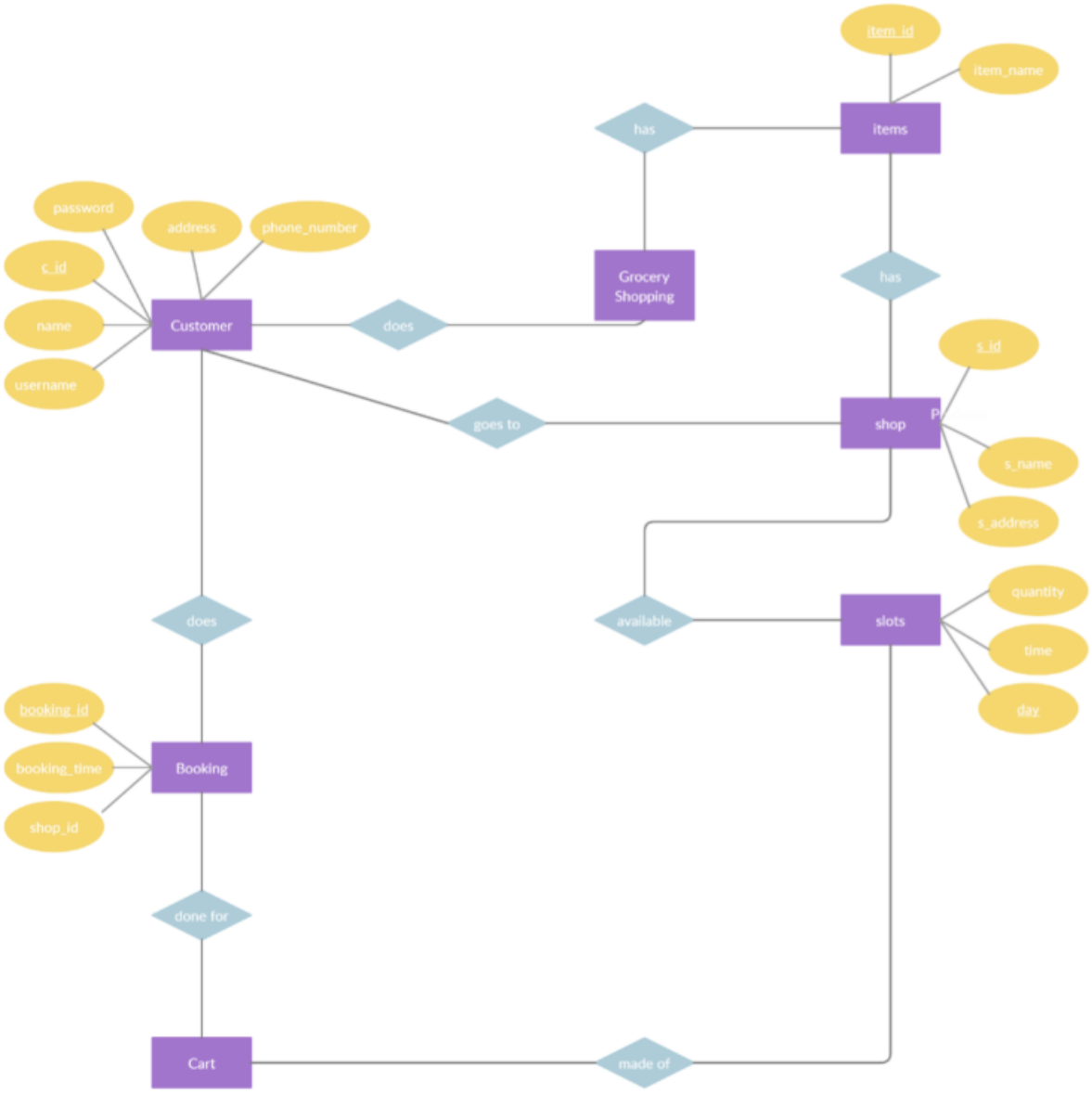
| booking_id | booking_time | shop_id |

6. Items Table

| item_id | item_name |

4.1.1 Databases

2 databases will be used for this project, one for development and testing and the other will be deployed in production.



5. High Level Design

5.1 Binder Request Form

5.2 User Interface Modifications

5.3 Workflow sub-processes

Will be done in the next review.

6. Low Level Design

Code:

```
Admin
position: relative;
width: 1155px;
height: 699px;

background: #FFFFFF;


Available slots
position: relative;
width: 1155px;
height: 699px;

background: #FFFFFF;

Available shops

position: relative;
width: 827px;
height: 515px;

background: #FFFFFF;

Make your choice here
position: relative;
width: 827px;
height: 515px;

background: #FFFFFF;
```

Rest of the code will be updated in
https://github.com/sahas-01/Grocery-Management-Frontend

6.1 Binder Request Form

6.1.1 Contact Changes

6.1.2 Submit Button

6.1.3 Cancel Button

6.1.4 Other Changes

6.2 Workflow sub-processes

6.2.1 Binder Extension

7. User Interface Design

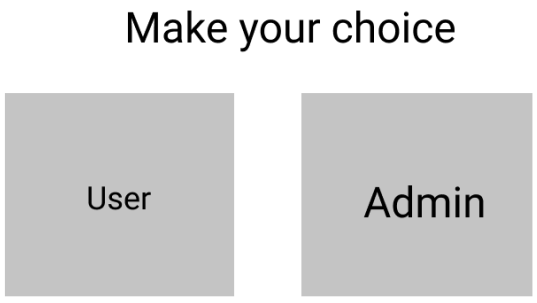
This section provides user interface design descriptions that directly support construction of user interface screens.

7.1 Application Controls

All the screens with their workings have been listed below. A basic explanation will be added to each screen.

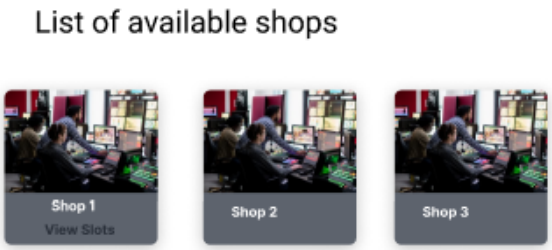
7.2 Screen 1… N

Common Screen- Choose whether you are a user or an admin

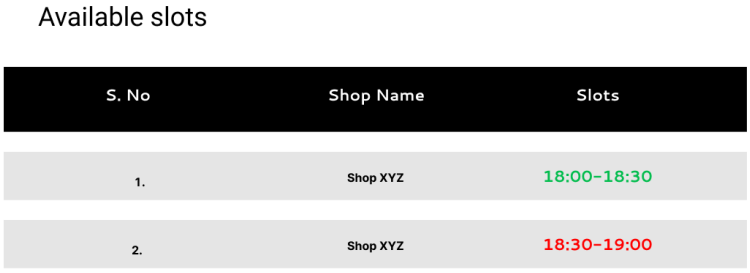


User side

View available shops- In this screen, a user will be able to view the list of available shops



View slots by shop- This page gives the user the list of available slots for that particular shop



Admin side

View Users- View the list of users and their booked slots. When the user has finished their slot, there is a status which can be updated.

View users

S. No	User Name	Booked slot	Status
1.	ABC	18:00-18:30	TBD
2.	XYZ	18:00-18:30	Done

7.2.1 Workflow Reports

Not applicable for this project.

Appendix A: Project Timeline

Reference the Microsoft project Binder Request Release 2 – Development..

GUI Design Specification for **Small Scale Grocery Management System**

Revision 2.0

Table of Contents

Contributions:

Sahas worked on the user side screens such as the login page functionality, the dashboard page. and worked on the database functionality.

Pratham worked on the admin side functionality such as the dashboard page and the slots page to view the slots.

Shreasi worked on the designing the components such as the shop cards, the list view and the dashboard page

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1.0	*Sahas Vivek* *Pratham Sharma* *Shreasi Sen*	*Initial Revision* -UML MODELS -USE CASE -CLASS -STATE CHART -ACTIVITY -SEQUENCE -COLLABORATION -DEPLOYMENT -ER MODEL -ARCHITECTURE SYSTEM MODEL -OBJECTIVES -LOW LEVEL DESIGN PSEUDOCODES FOR POSSIBLE MODULES(1/N) USER INTERFACE PEN/SOFTWARE (MODULE 1/N/OVERALL)	*01/03/2022*
2.0	*Sahas Vivek* *Pratham Sharma* *Shreasi Sen*	*Second Revision* -ARCHITECTURE SYSTEM MODEL -LOW LEVEL DESIGN PSEUDOCODES MODULES(1/N) -USER INTERFACE -DESCRIPTION OF GUI -SOFTWARE USED	*15/03/2022*

Approved By

Approvals should be obtained for the project manager, and all developers working on the project.

Name	Reg. No.	Date
Sahas Vivek	**20BCE2701**	**01.03.2022**

Pratham Sharma	**20BCE2463**	**01.03.2022**
Shreasi Sen	**20BCE2738**	**01.03.2022**

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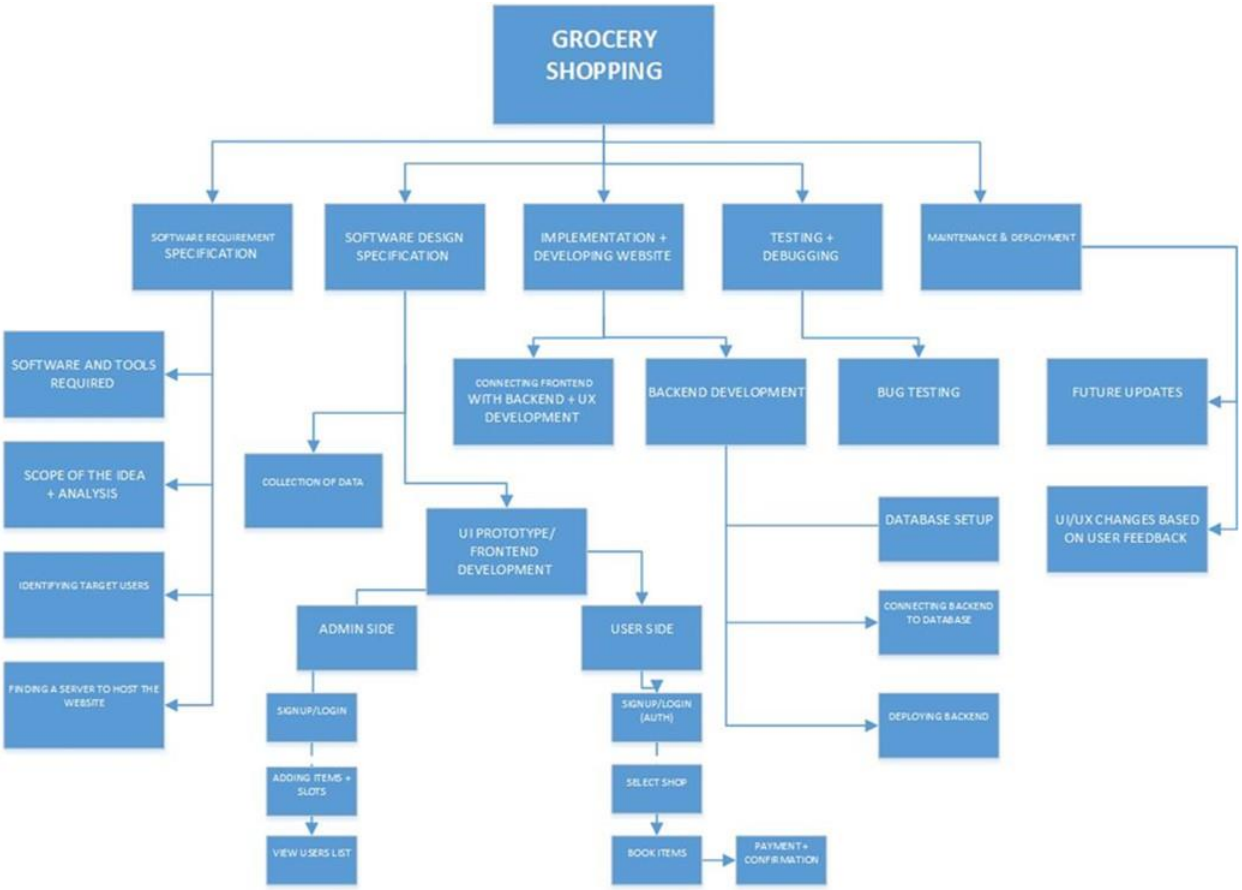

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https://github.com/sahas-01/Grocery-Management-Frontend

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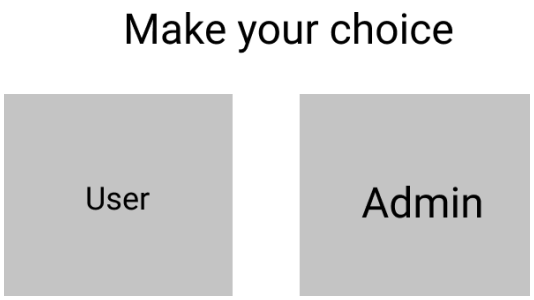

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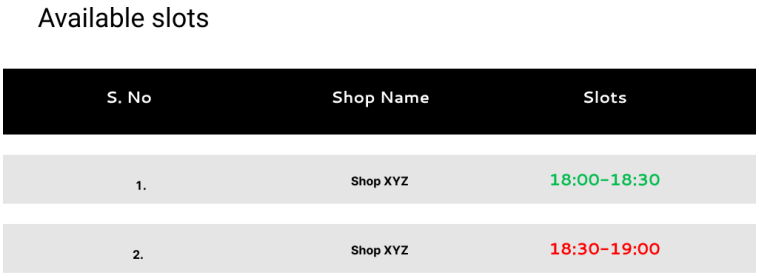
View slots by shop- This page gives the user the list of available slots for that particular shop



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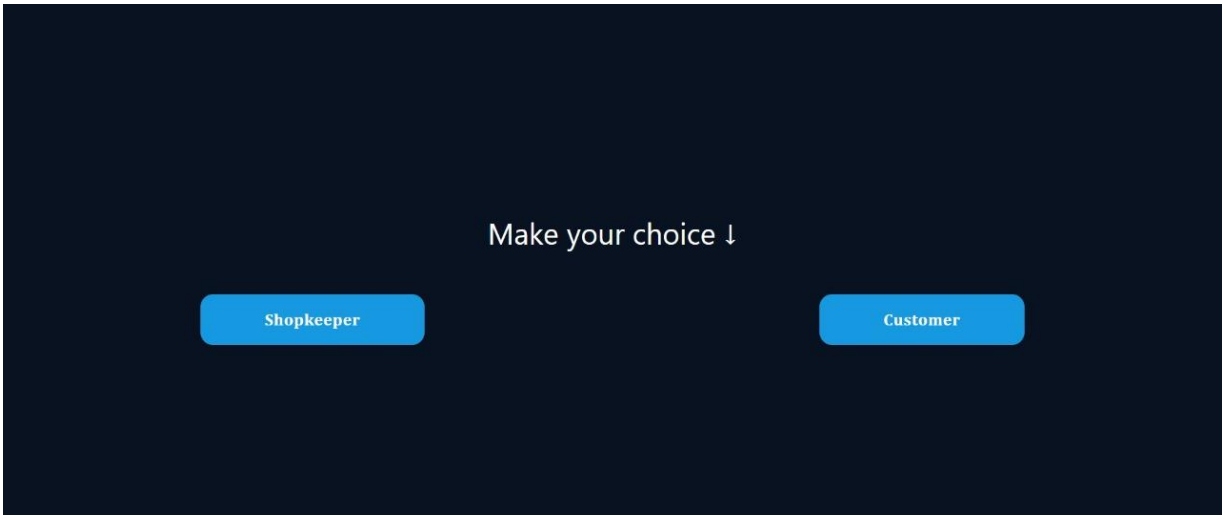
4. SOFTWARE USED

4.1 FIGMA

Figma works on any operating system that runs a web browser. Macs, Windows PCs, Linux machines, and even Chromebooks can be used with Figma. It is the only design tool of its type that does this, and in shops that use hardware running different operating systems, everyone can still share, open, and edit Figma files.

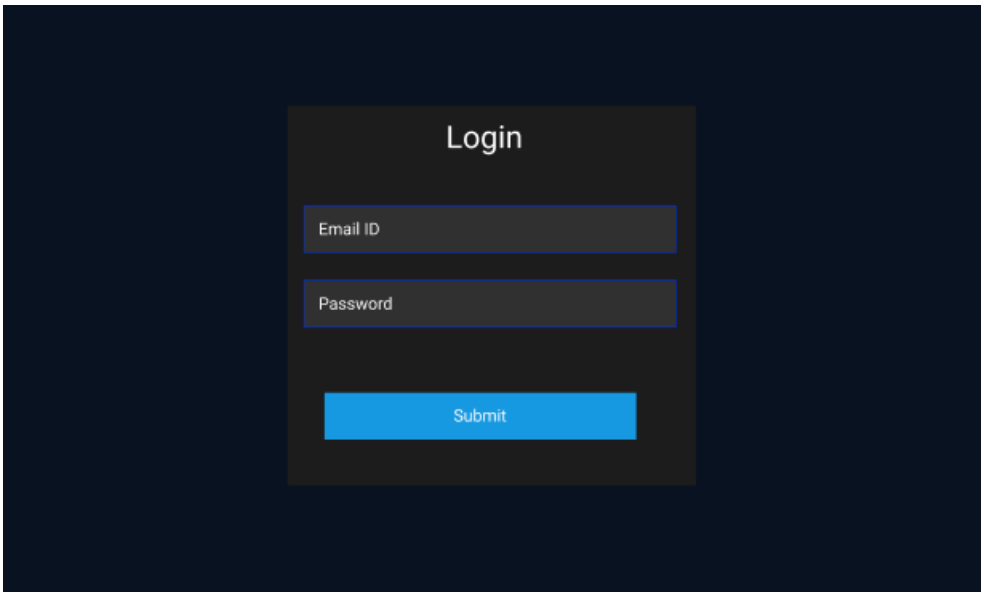
5. GRAPHICAL USER INTERFACE

5.1 Common Screen



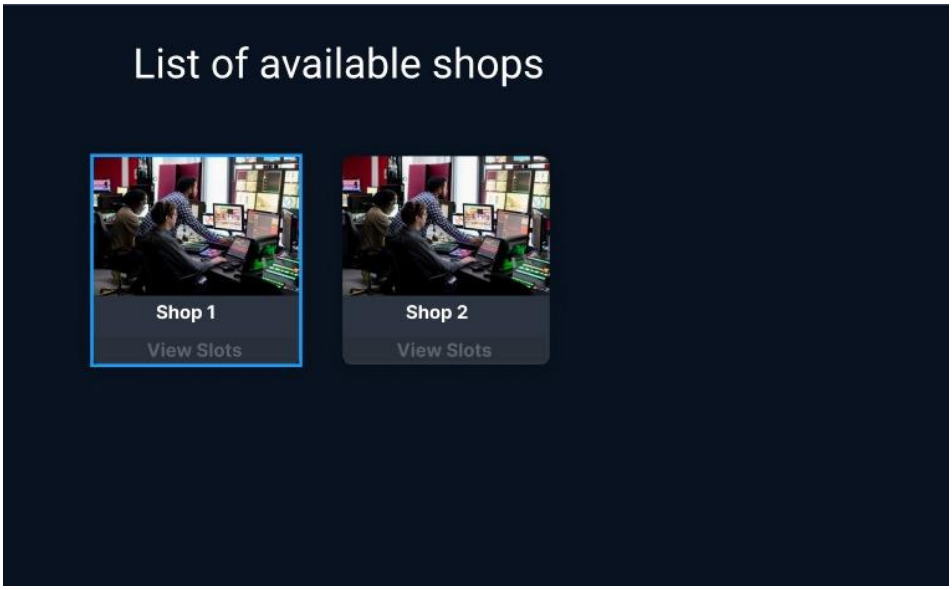
This is the common screen where the user will choose either a shopkeeper(for shops) and customer(for normal users like us).

5.2 Login



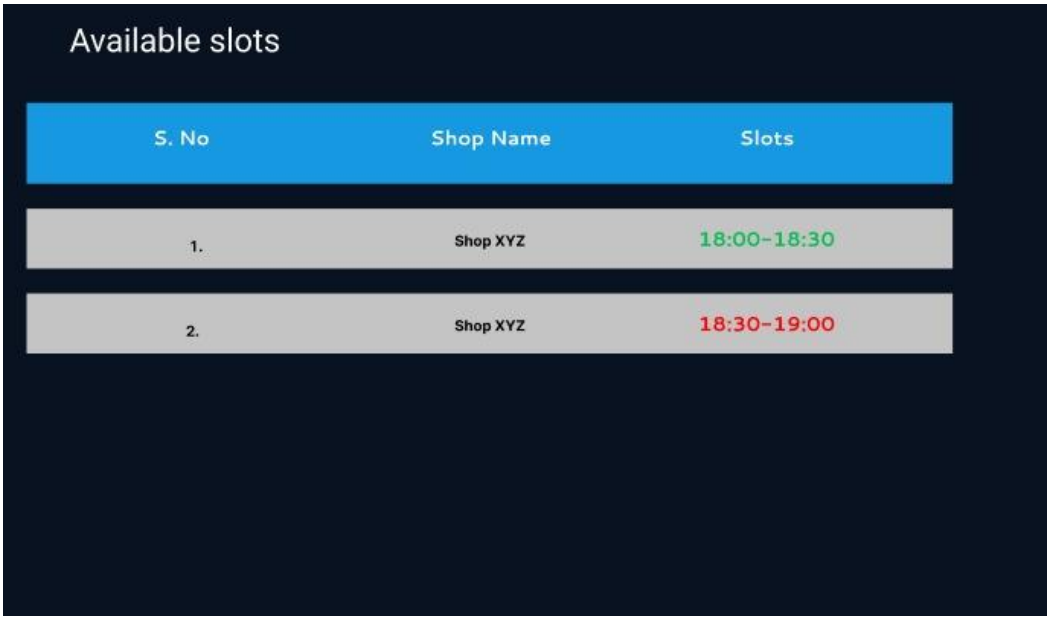
The login page which is pretty much common for both the customers and the shopkeeper, the login will be implemented mostly by using googleoauth or firebase.

5.3 List of available shops



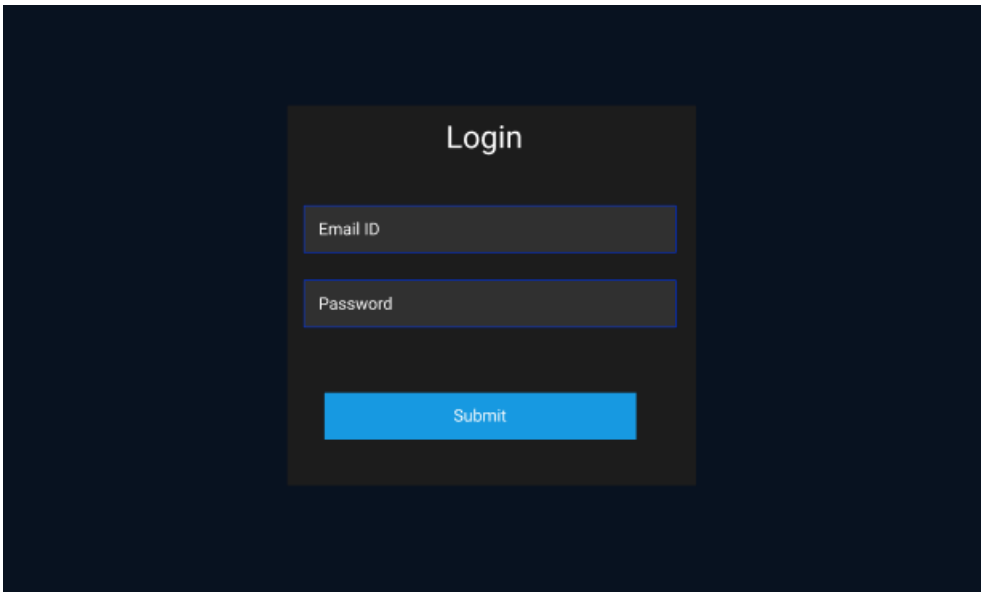
This page gives the customer the list of shops in his/her radius. Only those shops are shown which are within a radius of 5km or less from the customer.

5.4 List Of Available Slots



Once the user sees the shops in the radius, they can then view the number of slots for every shop as listed in the screen above and if it shows up in green, then that slot is available to be booked, else the booked slot is shown in red.

5.5 Admin Side login



5.6 List of users in admin side

This is the screen on the admin side where the shop owner will be able to view the list of users who have registered in different slots during the day, with an option to update the status once the user has finished his slot timing.

Test Case Generation for Small Scale Grocery Management System

Revision 3.0

Individual Contributions:

Shreasi Sen 20BCE2738

Tested the shopkeeper(admin) modules. The profile page does require more changes as it is different from the one mentioned in the SRS document and the slot management needs a little tweaking.

Testing technique(s) applied

White box Testing is used. White box testing techniques analyze the internal structures the used data structures, internal design, code structure and the working of the software rather than just the functionality as in black box testing. It is also called glass box testing or clear box testing or structural testing.

Generating manual test cases of project modules

Unit Testing-Customer side

Test Case ID	Activity	Inputs	Expected Result	Actual Result	Status(Pass/Fail)	Comments
TC-01	Click on customer	None	Redirect to the customer login screen	Redirects to the shopkeeper login screen	Pass	None
TC-02	Enter valid username and password	username:-xyz123 password:-*****	Redirect to home page	Redirects to home page	Pass	None
TC-03	Enter invalid username and password	username: 123xyz Password: *****	Redirect to login page	Redirects To login page	Pass	Invalid login attempt stopped
TC-04	Select an available shop from list of available shops	Shop(s) selected	Customer will be able to view the available slots for that selected shop	Customer is able to view the slots for the selected shop	Pass	None
TC-05	Select an available slot from the list for the selected shop	Slot selected	Customer will be redirected to confirmation page	Customer is not redirected to the confirmation page	Fail	Invalid request
TC-06	Logout	None	Back to common screen	Same as expected result	Pass	None

Unit Testing-Shopkeeper side

Test Case ID	Activity	Inputs	Expected Result	Actual Result	Status(Pass/Fail)	Comments
TC-01	Click on shopkeeper	None	Redirect to the shopkeeper login screen	Redirects to the shopkeeper login screen	Pass	None
TC-02	Enter valid username and password	username:-xyz123 password:-*****	Redirect to shopkeeper home page	Redirects to home page	Pass	None
TC-03	Enter invalid username and password	username: 123xyz Password: *****	Redirect to login page	Redirects To login page	Pass	Invalid login attempt stopped
TC-04	Add a new slot	Slot timing,Duration, Shop name,ID	A modal shows up to add the relevant details such as slot timing, duration,etc.	Modal shows up as per expectation	Pass	Better User experience
TC-05	Submit details on the modal form	Slot timing,Duration, Shop name,ID	Shopkeeper redirected to home page on success	Error 404	Fail	Page not found error, accessing an unknown page
TC-06	Logout	None	Back to common screen	Same as expected result	Pass	None

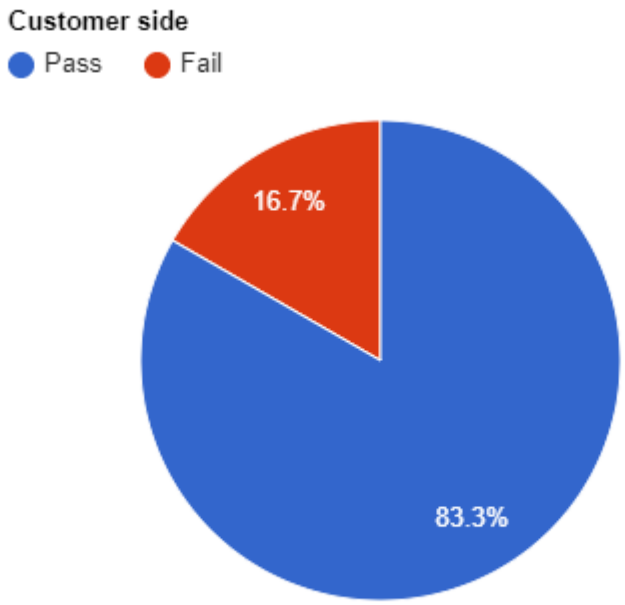
Testing tool URL

https://testproject.io/

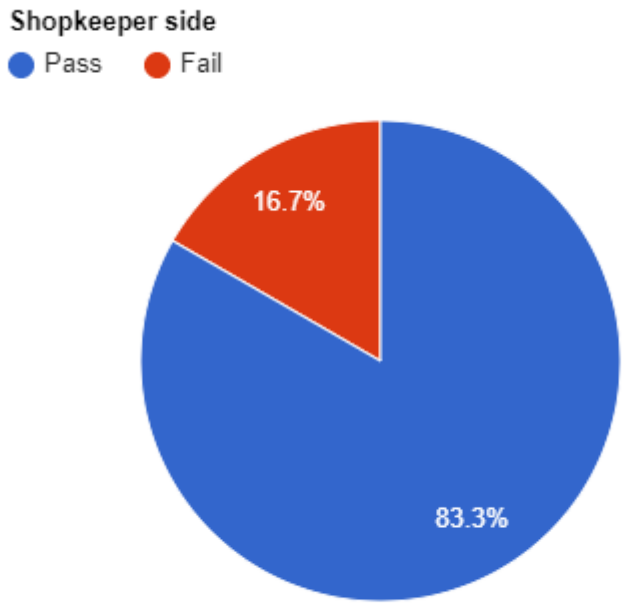
TestProject has **made it easy to share & reuse recorded steps between test cases and has made it so that anyone can create simple and useful tests without needing any previous coding experience**. The TestProject Smart Recorder also has AI-Powered Self-Healing technology built right in.

Generating graph out of test case generation

Customer side



Shopkeeper side



Configuration Management-Use SVN subversion tool for your project

It is **an open-source tool for version control**. SVN is used to manage the current and previous versions of files like source code, documentation, and files. It acts as the time machine for the developers and allows them to go back and browse the history of the project.

We utilised this tool to keep all the revision history and create a complete version of all the requirements.

[Note: Automated Testing has been omitted for revision version 3.0 because the backend development and the appending of frontend and backend are still in progress. Hence, Software Testing has been carried out by using only Manual Testing techniques.]