

E - COMMERCE ECOSYSTEM DESIGN

THESIS REPORT

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE AWARD OF THE DEGREE
OF MASTER OF DESIGN
IN
INTERACTION DESIGN

Submitted By:

NEERAJ BISHT (2K22/MDID/05)

Under the supervision of
Dr. Ravindra Singh
(Assistant Professor, DOD, DTU)

Mr. Amit Kumar
(Design Head, Omniful)



1.

DEPARTMENT OF DESIGN DELHI
TECHNOLOGICAL UNIVERSITY
(Formerly Delhi College of Engineering)
Bawana Road, Delhi –110042

DEPARTMENT OF DESIGN
DELHI TECHNOLOGICAL UNIVERSITY
(Formerly Delhi College of Engineering) Bawana Road, Delhi-110042

DECLARATION

I , Neeraj Bisht (2K22/MDID/05) do hereby declare that the project report submitted to the Delhi Technological University (Formerly Delhi College of Engineering) in partial fulfillment for the award of degree in Master in Design entitled, “**E - COMMERCE ECOSYSTEM DESIGN**” is an original piece of research work carried out by myself under the guidance and supervision of Dr. Ravindra Singh. I have duly acknowledged all the sources and references used by me in the preparation of this thesis. I further declare that the information has been collected from genuine & authentic sources.

Date: 30TH April , 2024

Place: Department of Design, Delhi Technological University

Neeraj Bisht
2K22/MDID/05

DEPARTMENT OF DESIGN

DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering) Bawana Road, Delhi 110042

CERTIFICATE

This is to certify that this dissertation entitled “**E - COMMERCE ECOSYSTEM DESIGN**” submitted in partial fulfillment, for the award of degree in Master of Design of the Delhi Technological University (formerly Delhi College of Engineering) which is the result of the bona fide research work carried out by Neeraj Bisht (2K22/MDID/05). I find the work complete, comprehensive, and of sufficiently high standard to warrant its presentation for the examination. I further certify that the work has been carried out under my guidance and has not been submitted earlier to any other university for the Degree or Diploma.

Neeraj Bisht
2K22/MDID/05
M. Des.
Department of Design
Delhi Technological University

Dr. Ravindra Singh
Supervisor Assistant
Professor Department of
Design Delhi
Technological University

DEPARTMENT OF DESIGN
DELHI TECHNOLOGICAL UNIVERSITY
(Formerly Delhi College of Engineering)
Bawana Road, Delhi-110042

ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to all those who have helped me during the course of my project.

I wish to acknowledge my sincere gratitude to my supervisor Dr. Ravindra Singh, whose encouragement and guidance made this work entirely possible. His ever-present guidance has made this journey very encouraging.

I am very thankful to **Mr. Amit Kumar** and **Mr. Alankrit Nishad**, who spared their valuable time and patiently mentored me during my internship at **Omniful Technologies Pvt. Ltd.** Their incisive comments paved the way forward.

Very special thanks to **Prof. R.C. Singh** head of the department, for his constant support and encouragement.

Special thanks to my friends and family for being a constant source of inspiration and motivation.

ABSTRACT

This report details of ongoing efforts on primarily three crucial projects carried out in Omniful, a fast growing startup targeted at B2B SaaS cloud solutions in Supply Chain and E-commerce.

The main line of my involvement would be on the design of an E-commerce white label application along with bringing in three separate delivery options for enhanced user experience. Also, I was highly involved in the optimization of the Delivery Partner system, which was built to facilitate the customers in either hub collections or dispatching orders to them. I also supported the developing of Fleet Management Solutions to streamline delivery partners and manage order assignment more conveniently.

I wanted to understand industry trends and how well technologically savvy teams had a penchant for innovating the future in the field of cloud-based services. In this report are lined the comprehensive internship period, including learnings, challenges encountered, and the highly invaluable experiences gathered while working in Omniful. This report explores my diligent contributions to three pivotal projects undertaken at Omniful, which is a rapidly expanding B2B SaaS startup renowned for its cloud-based solutions in Supply Chain and E-commerce.

The primary focus of my involvement lies in the design and development of an E-commerce white label application, enhancing user experiences through the implementation of three distinct delivery options. Furthermore, I actively participated in the optimization of the Delivery Partner system, facilitating seamless order collection from multiple hubs and efficient delivery to customers. Additionally, there was contribution to the development of Fleet Management Solutions, streamlining the process of managing delivery partners and assigning orders effectively.

Through these projects, there was an understanding of industry trends, technological prowess, and a commitment to driving innovation within the realm of cloud-based services. This report provides a comprehensive overview of the internship span, highlighting key learning's, challenges faced, and the invaluable experiences gained throughout my tenure at Omniful.

CONTENTS

Candidate's Declaration	I
Certificate	II
Acknowledgement	III
Abstract	IV
Contents	V
Chapter 1: Introduction	
1.1 Genesis	1
1.2 About the Organisation	2
Chapter 2: Project Overview	
2.1 Introduction	3
2.2 Understanding the business requirements	6
Chapter 3: Users	
3.1 Defining Users	8
3.2 User Flows	9

Chapter 4: Design System

4.1 Typography	13
4.2 Colours	13
4.3 Icons & Assets	14
4.4 Components	14

Chapter 5: High Fidelity Designs

5.1 E-commerce App	15
5.2 Fleet Management Dashboard	24
5.3 Driver's App UI	32

Chapter 6: Conclusions and Future Scope

6.1 Conclusion	39
----------------	----

References	41
-------------------	----

List of Figures

- Figure 1: Logo Omniful Technologies Pvt. Ltd
- Figure 2: Emerges from stealth Omniful Technologies Pvt. Ltd
- Figure 3: Ecommerce app user flow
- Figure 4: Substitution feature flow
- Figure 5: Use cases of Substitution feature
- Figure 6: Fleet dashboard user flow
- Figure 7: Trip creation flow
- Figure 8: Driver's app user flow
- Figure 9: Vehicle management user flow
- Figure 10: Figma Typography style guide
- Figure 11: Figma Colour style guide
- Figure 12: Figma Components Icons & Asset
- Figure 13: Figma Components
- Figure 14: Onboarding screens
- Figure 15: Multiple delivery type section feature
- Figure 16: Homepage Design
- Figure 17: Category & Sub Category Pages
- Figure 18: Product Page design
- Figure 19: Fast delivery cart pages
- Figure 20: Scheduled delivery cart pages
- Figure 21: Click & Collect pages
- Figure 22: Coupon & Payment page
- Figure 23: Search Screens
- Figure 24: Accounts Screen
- Figure 25: Orders Screen
- Figure26: Active Drivers
- Figure27: Inactive Drivers
- Figure28: Add New Driver
- Figure29: Delete Driver
- Figure30: Driver details
- Figure31: Create & Assign
- Figure32: Create & Assign
- Figure33: Assign driver
- Figure34: Live trips
- Figure35: ongoing trip side sheet
- Figure 36: Configuration sheet
- Figure 37: Accept Ride Screens
- Figure 38: Order Picking Screens
- Figure 39: Order Handover Screens
- Figure 40: COD Order Handover Screens
- Figure 41: Trips Summary & End Trip
- Figure 42: End Trip Summary
- Figure 43: Report Bug
- Figure 44: Side Menu Design

Chapter 1

INTRODUCTION

1. *Genesis*

I have joined Omniful Technologies Pvt. Ltd (refer figure 1.) for a period of 14 weeks from 22 January, 2024 - 29 April, 2024 for the commencement of my self sponsored project during the 4th semester (Final Semester) of Master of Design.

This might well have ignited a different facet in the academic pursuits, aside from absolute fascination with the conception and design of intuitive interfaces for an exciting user experience. Thus, at this point in the internship, my exposure had been through very many phases of the project, all of which really stimulated my creativity beyond the need for it. Learning from this internship experience has fine-tuned my skills as a designer while paving the way for a fulfilling career in it.

As part of my internship as product design intern, I was involved in a project which was aimed at developing a E-COMMERCE ECOSYSTEM DESIGN. Initially, spent time understanding the existing products of this nature and the features and functionalities it provided, and thereafter moved on to develop: user flows, wire framing and development of the User Interfaces for the different products in this ecosystem. As project progressed, I deeper understanding of domain of e-commerce such as how a consumer facing app will connect with delivery partner app & fleet management module. Space between all the stages of product development acts like a First Step of Larger ladder for me as designer to climb.



Figure 1: Omniful Technologies Pvt. Ltd
Source : Omniful Website (www.omniful.ai)

2. About the Organization

Omniful is a fast-growing B2B SaaS startup (refer figure 2.). It provide best-in-class, robust cloud-based solutions for supply chain execution and warehouse management. Specialise in e commerce and omnichannel retail technology solutions with a focus on real-time inventory visibility and performance analytics. Company's mission is to enhance the speed and accuracy of order fulfilment and throughput for organisations of all sizes.

Product Portfolio - Retail, omnichannel, e-commerce, operations, order fulfillment software, SaaS, Enterprise Software, quick commerce, supply chain, wms, oms, operations software, order management, warehouse management, last-mile management, delivery management, and shipping automation gateway.

Omniful, a supply chain and e-commerce enablement startup, emerges from stealth with \$5.85M

Annie Njanja @annienjanja / 1:54 PM GMT+5:30 • December 5, 2023

 Comment



*Figure 2: Emerges from stealth Omniful Technologies Pvt. Ltd
Source: TechCrunch 2023 Emerging Trends in Fleet Management Software*

Chapter 2

PROJECT OVERVIEW

1. *Introduction*

By its very meaning, mainly birthed during the birth of white-label e-commerce applications, it could set up its operational ecosystem.

The white label e-commerce application provides a simple online platform that supports companies in creating their online storefronts in just no time. It offers customizable applications that allow companies to develop branded bespoke online stores, tailored to their needs and specifications.

Key Components

Customizable Branding: The application permits personalization of online shops with one or more branding aspects such as logos, color schemes, and fonts. All this makes sure that the online store goes well with the brand identity and the messaging of the company, which, consequently, instills the most in the customer's minds about the company.

User-Friendly Interface: For customer satisfaction, an application should have a user-friendly interface for proper shopping experiences. Intuitive navigation, neat categorization of products, and an uncomplicated mechanism at checkout will bring about greater user satisfaction and the best conversion of users.

Product Management: Manage product catalogs efficiently; add new products, update inventory levels, and all the categories and collections of products-how this works allows a small business to ensure that customers get the best products in real-time with an extensive offering.

Order Management: The application consists of complete and detailed order management functions that allow businesses to keep track of orders and process them. The order management thus is further simplified and made efficient within the respective business from the processing of orders to the shipment tracking and status updates.

The Delivery Partner Application is a mobile application that facilitates the effective organisation of logistics and delivery operations for Omniful and its partners. Delivery personnel can manage and execute orders with all necessary tools and resources for on-time and reliable delivery services.

Key Components

Order Assignment: When the warehouse (or hub) sends orders, the Delivery Partner Application automatically attaches available different delivery activities to delivery partners according to his/her proximity, capacity, and delivery preference. Thus, this order will uphold the optimization of route planning and resource allocation as well, maximizing the effective delivery with minimum transit time.

Real-time Tracking: Application allows real time tracing on the delivery progress and orders as well for customers to track what state or location their orders are in when in-transit. The delivery partners will have the ability to update the status of their orders, mark the milestones (like Order Picked Up, En Route, Delivered), and even be able to communicate with customers as needed-facilitating transparency and peace of mind throughout the delivery journey.

Route Optimisation: The route optimization facility built into the application requires that all delivery partners can find the shortest and most efficient route options to their customers to assist in their delivery. With this application, all traffic conditions, as well as road closures and priority for a certain delivery, are put in place to ensuring that the travel time is minimized while deliveries are on time.

Communication tools: The Delivery Partner Application gives in-app messaging and notification, providing a smooth interaction among delivery partners, customers, and the support staff. It enables the delivery partners to communicate with customers for delivery updates, address clarifications, or deliver special instructions for a better customer experience and earlier resolution of any problems.

Proof of Delivery: To save guard and make delivery processes accountable and transparent, the application allows delivery partners to capture either digital signatures, photos, or other proofs of deliveries documentation once orders are delivered successfully.

Currently, Management of the Driver has developed a fleet management system, which possesses every detail of a driver in a business together with all his schedules and indices for performance. It is still under implementation to onboard new drivers, change profiles of drivers, assign them routes, and monitor their activities within the scope of safety regulations and operational requirements.

Trip Monitoring: This system proposes real-time trip tracking and monitoring against trips done by the various drivers. It will allow dispatchers and managers to know what status and location all the vehicles can be on at any time of the day and night. This enables proactively managing their delivery schedules, route optimization, and timely intervention in case anything goes amiss or if there are any delays.

Certainly! The three applications-a white-label e-commerce application, a delivery partner application, and a fleet management system-combine to create an end-to-end solution for e-commerce operations.

The White Label E-Commerce Application is the foundation of this ecosystem. The application to be used will be the key interface through which the company will have contact with customers. Customers are expected to use it to browse through product offerings, order products, and pay for them online. This ensures that the business has a place for showcasing its products and branding its storefronts while facilitating a seamless shopping experience for its customers. At this stage, within this e-commerce application, an order initiates fulfillment processes that will trigger a series of coordinated actions within the whole ecosystem.

All delivery partners next will assign all their deliveries which originated from their nearest markets for customers ordering within the delivery ability to areas unassigned to available drivers.

2. *Understanding the business requirements*

I Most importantly, this will be necessitated by the core users that emerge from understanding business requirements. These are the major core types of users involved in applications:

Businesses and brands: Corporates that wish to launch or enhance their online presence through a white-label solution. Segmentation may be between small startups and large enterprises.

Delivery partners: Individuals or companies that organize logistics to deliver products to end customers.

Fleet managers: These are, basically, teams that supervise the operations of vehicles, optimizing routes and timings concerning delivery.

End consumers: Their shopping experience through these white-label platforms is to have very smooth navigation, timely delivery, and reliable tracking of their orders.

Business Needs and Goals: These are the most significant business objectives that the omnifull ecosystem is to meet.

Quick deployment: It enables businesses to launch ready-to-go customizable e-commerce applications to set up their online stores.

Operational efficiency: Reduces the process delays and optimizes resource utilization and cost by reducing order management, delivery, and fleet management. **Scalability:** Provides the opportunity to scale as businesses grow and to add customers, products, and delivery areas easily.

Transparency: Communication and tracking can be made very clear between businesses, customers, delivery partners, and fleet managers.

Customization: Such solutions can be personalized by businesses to their brand identity as well as operational workflows.

End Customers: Consumers shopping through the white-label platforms who expect seamless navigation, timely delivery, and reliable order

E-commerce Platform Features:

- Storefronts that are user-friendly.
- Branding atypical for a firm.
- Management of goods and orders of a higher order.
- Paying and securing customers' information.

Delivery Application Features:

- Assignment in real-time to delivery partners.

- Tools with GPS to track or navigate.
- Milestones for deliveries (i.e., "Order Picked," "En Route").
- Proofs of delivery (signature or photos).

Fleet Management Features:

- Optimization of order assignment to vehicles.
- Real-time tracking of movement by the vehicle.
- Maintenance scheduling for fleet vehicles.
- Performance analytics to drivers and routes.

Challenges and Pain Points:

Some of the key performance indicators (KPI) that can be used to measure the effectiveness of the ecosystem:

Time to Launch: The time taken between bringing a business on board and deploying a white-label e-commerce application.

Delivery Time: Average time spent from order placement until the last delivery.

Order Accuracy: Percent of orders without errors and disputes.

Fleet Utilization: The efficiency of the use of vehicles in optimized routing and minimized downtime.

Customer Satisfaction: Ratings and feedback from end customers during their shopping and delivery experience.

Salient Metrics for Success:

The Omniful Ecosystem was formulated to cater to the following business objectives:

Fast deployment: Provide ready-to-launch and customizable e-commerce applications so businesses can easily establish their online storefronts.

Business Efficiency: Streamline processes related to order management, delivery, and fleet management so that time delays are minimized, the use of resources is optimized, and costs reduced.

Scalability: It allows a business to scale up its operations as its customer base, products, and needs grow when it allows a business to grow.

Chapter 3

USERS

1. Defining Users

E-commerce App

1. Companies – use it as a white label to cater for their customers.
2. End Users – shop products, and also manage the orders in the application
3. Admins - operate the system manage stock, orders and also keep tabs on the user management

Fleet Management Dashboard Users

1. Admins - Manage all fleet operations, assign tasks, and monitor performance. Analyze reports, manage drivers, and resolve escalations.
2. Fleet Managers - Focus on operational efficiency by monitoring routes, driver schedules, and vehicle conditions. Handle day-to-day logistics and task assignments.
3. Company Owners - Utilize the dashboard for high-level delivery operation insights and overall fleet performance views.
4. Dispatchers - Assign tasks, communicate with the driver, and manage on-time route changes or express delivery.

Driver App Users

Drivers - Utilize the app to receive delivery tasks and directions, as well as delivery status updates. Communicate with the dispatcher with any problems or delays vehicle problems.

2. User Flows

Ecommerce app user flow: The user flow (refer figure 3.) describes the path of the user in an e-commerce application, shown as a sequence of events starting from the splash screen through login/signup, otp authentication, and the home screen in its skeleton state. It also includes options for allowing location access, selecting the location from the list, and checking the availability of the service. In cases where the selected California area is unserviceable, users may try to search for a different state or use a selected site. Substitution (refer figure 4.) user flow allows to smoothly accomplish the tasks of accessing available regions for servicing or changing the address of the user account.

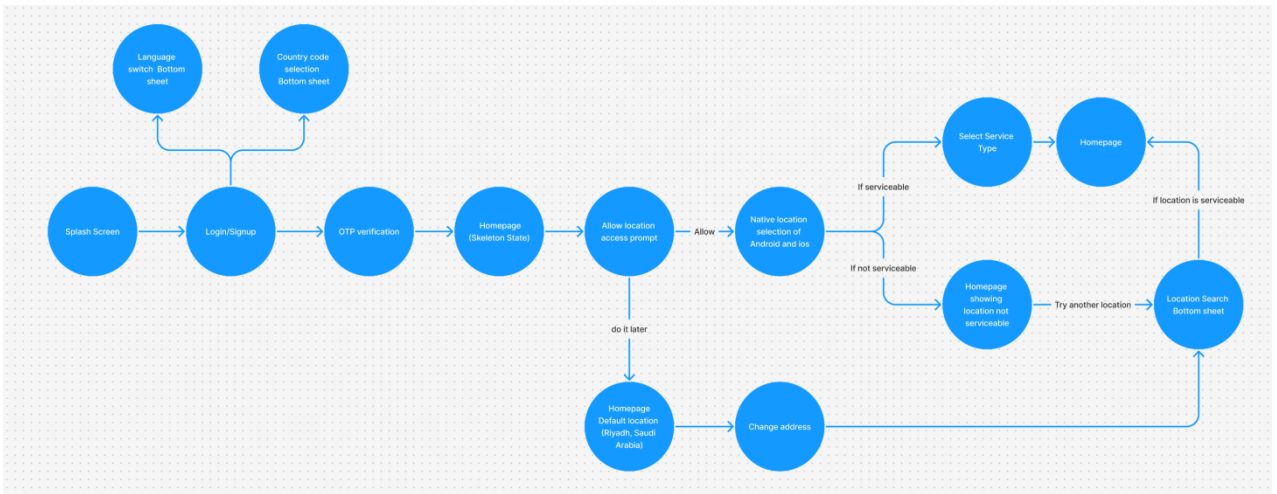


Figure 3: Ecommerce app user flow
Source: Author

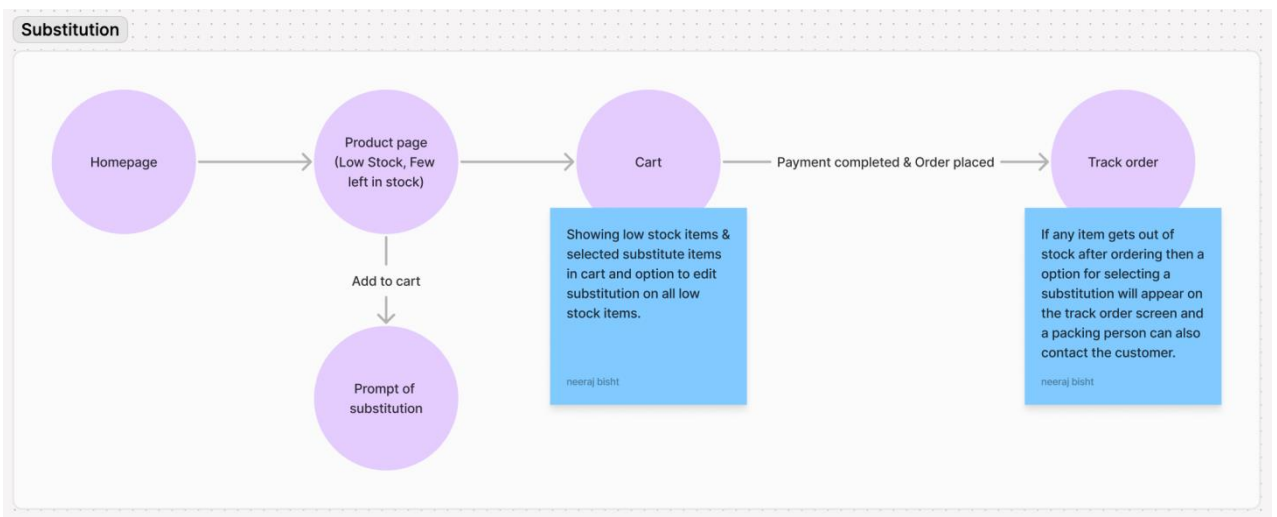


Figure 4: Substitution feature flow
Source: Author

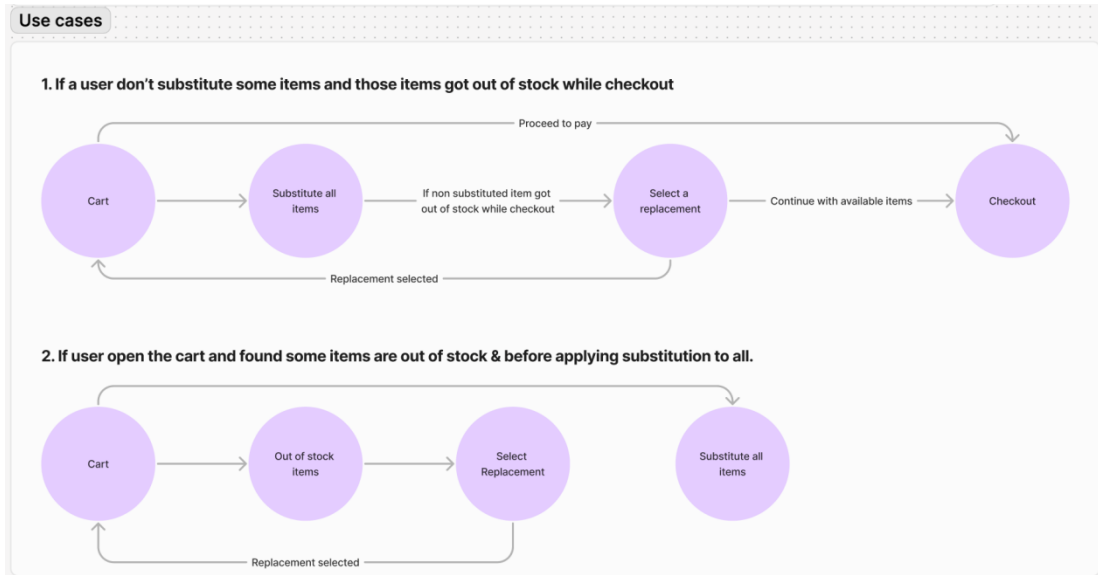


Figure 5: Use cases of Substitution feature
 Source: Author

Fleet Management Dashboard - The user can access the "Fleets" section, through which the user can view and manage the existing fleets under control. Under this section, the user has the ability to "Edit" a particular fleet's details.

In addition to the fleet management capabilities, the system provides the functionality to "Add New Fleet." When creating a new fleet, several key information pieces must be provided to the user. Trip Creation (refer figure 7.) These pieces include the Fleet Name, the party responsible for fulfilling the operations of the fleet, the Operating Schedule, the Delivery Zones, and the Drivers that are associated with the fleet.

The user flow (refer figure 6.) signifies the system's flexibility regarding both new and existing delivery zones and drivers.

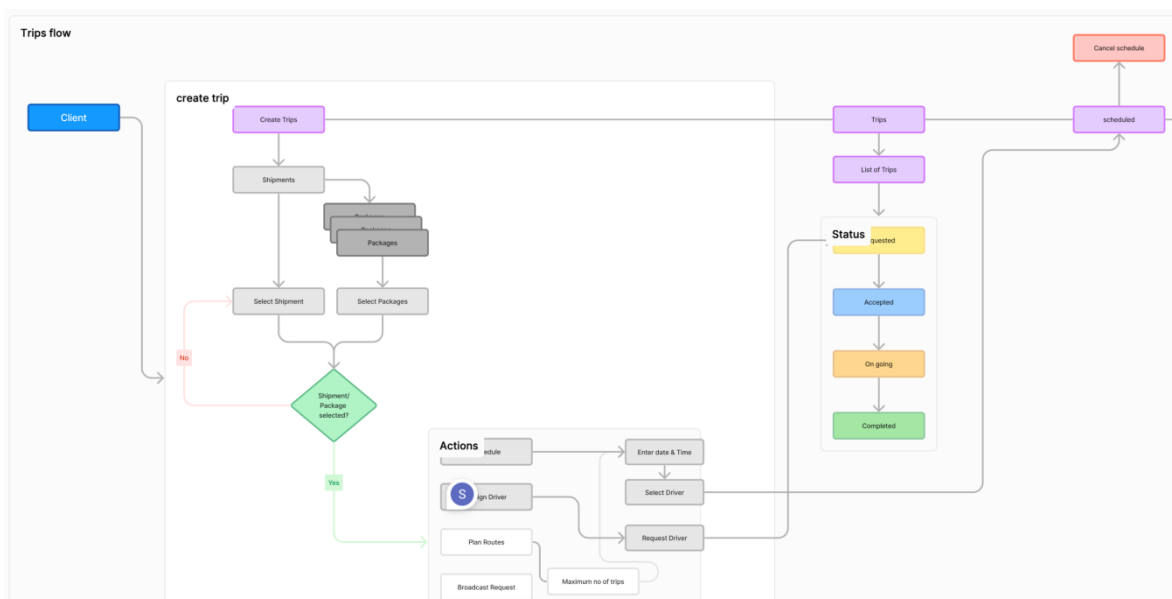


Figure 6: Fleet dashboard user flow

Source: Author

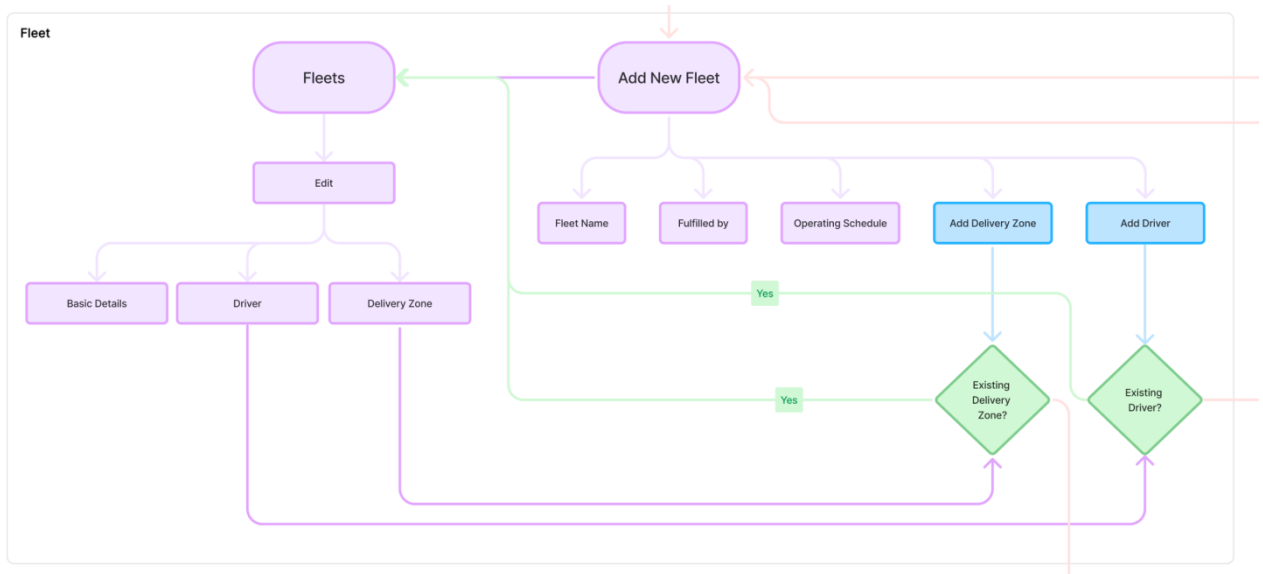


Figure 7: Trip creation flow

Source: Author

Driver’s App - At the centre of it all is the “Driver’s App” (refer figure 8.) which provides navigation as the primary function of the users. The users can go to several other options like “Ride Zoom,” “Passenger,” “Earnings,” and “Settings.” (refer figure 9.) The flow describes user behaviours – for example, how the user would respond to a ride request, if they would communicate with the passengers, and if they would end the trips. As if “If driver accepts” or “If driver declines,” for example, all show how the app can approach various situations and update the necessary elements as necessary.

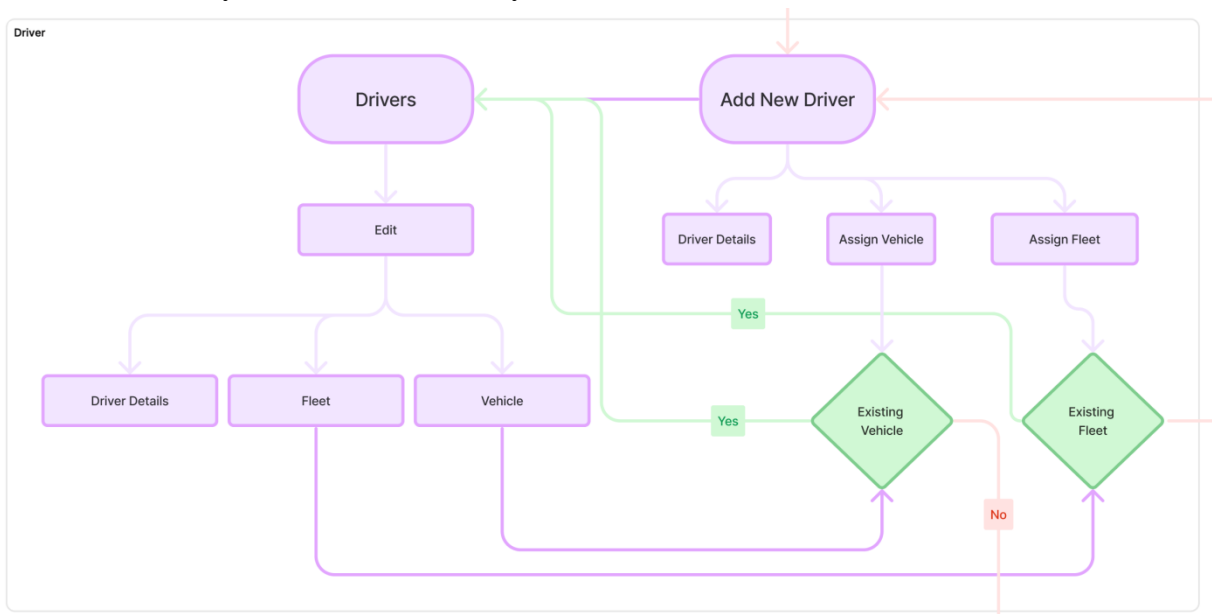


Figure 8: Driver’s app user flow

Source: Shopify Blog. (2023). White Label vs Custom E-Commerce Solutions: Key Considerations. Retrieved from <https://www.shopify.com>

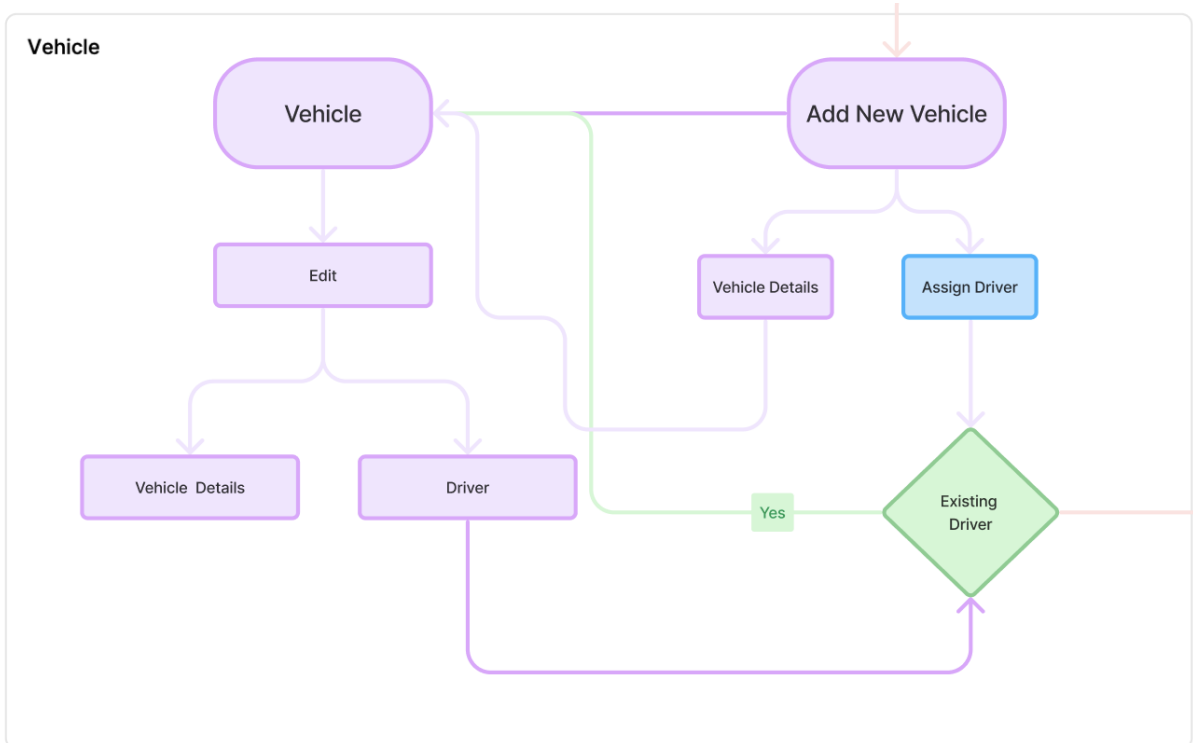


Figure 9: Vehicle management user flow
 Source: Author

Chapter 4

DESIGN SYSTEM

1. Typography

Mobile/Typography	Web/Typography
Heading / Poppins / Medium / 20px	Headline Large/ Poppins / Regular / 32px/40
Title / Poppins / Medium / 18px	Headline Medium/ Poppins / Regular / 28px/36
Sub Heading / Poppins / SemiBold / 16px	Headline Small/ Poppins / Regular / 24px/32
Body Heading / Poppins / SemiBold / 14px	Title Large / Poppins / Medium / 22px/28
Body Text / Poppins / Regular / 14px	Title Medium / Poppins / Medium / 16px/24
Body Heading 2 / Poppins / SemiBold / 13px	Title Small / Poppins / Medium / 14px/20
Body Text 2 / Poppins / Medium / 13px	Label Medium/ Poppins / Medium / 12px/16
Body Small / Poppins / Medium / 12px	Label Small/ Poppins / Medium / 11px/16
Overline / Poppins / Regular / 10px	Body Large/ Poppins / Regular / 16px/24
Caption / Poppins / Medium / 11px	Body Medium/ Poppins / Regular / 14px/20
Button / Poppins / Medium / 14px	Body Small/ Poppins / Regular / 12px/20
Button small / Poppins / SemiBold / 12px	Button / Poppins / Medium / 14px

Figure 10: Figma Typography style guide
Source: Author

2. Colours

Primary Colour							
P1 #7C8335 HSB: 126, 66, 51 Opacity: 100% HSL: 126, 50, 34	P2 #708282 HSB: 126, 30, 70 Opacity: 100% HSL: 126, 26, 59	P3 #8EAE8E HSB: 126, 21, 92 Opacity: 100% HSL: 126, 54, 82	P4 #E9FFEB HSB: 126, 9, 11 Opacity: 100% HSL: 126, 100, 96	P5 (gradient) P6 to P4	P6 #82A585 HSB: 126, 21, 65 Opacity: 100% HSL: 126, 16, 58	P7 #2A6730 HSB: 126, 58, 40 Opacity: 100% HSL: 126, 42, 28	P8 #47C253 Opacity: 100% HSL: 126, 50, 52
Secondary Colour							
S1 #FD451D HSB: 11, 88, 99 Opacity: 100% HSL: 11, 88, 55							
Text Colour							
T1 #222222	T2 #4E4E4E	T3 #666666	T4 #8C8C8C	T5 #B5B5B5	T6 #999999		
Offer Colour							
O1 #0F7FD0	O2 (O1 20% opacity)	O3 (O1 10% opacity)					

Figure 11: Figma Colour style guide
Source: Author

3. Icons & Assets

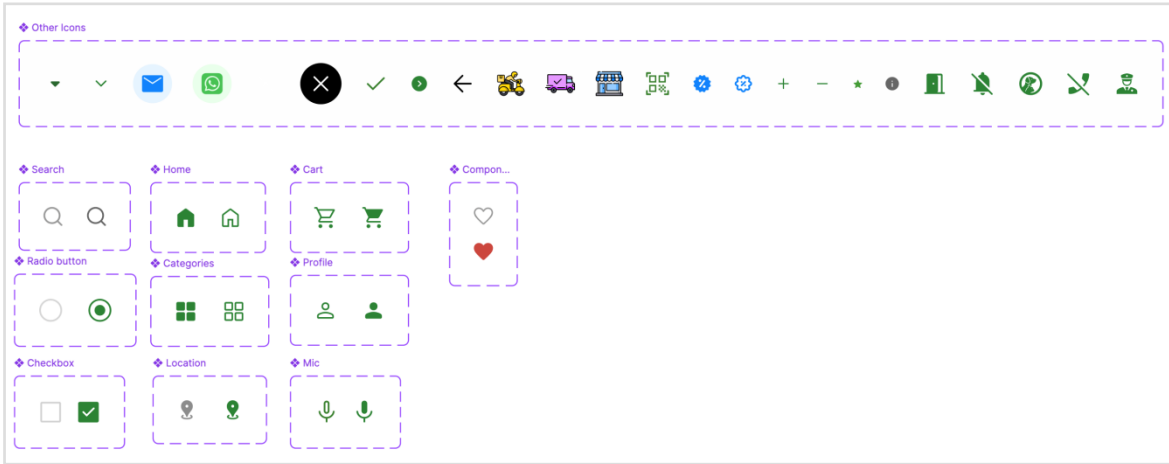


Figure 12: Figma Components Icons & Asset
Source: Author

4. Component

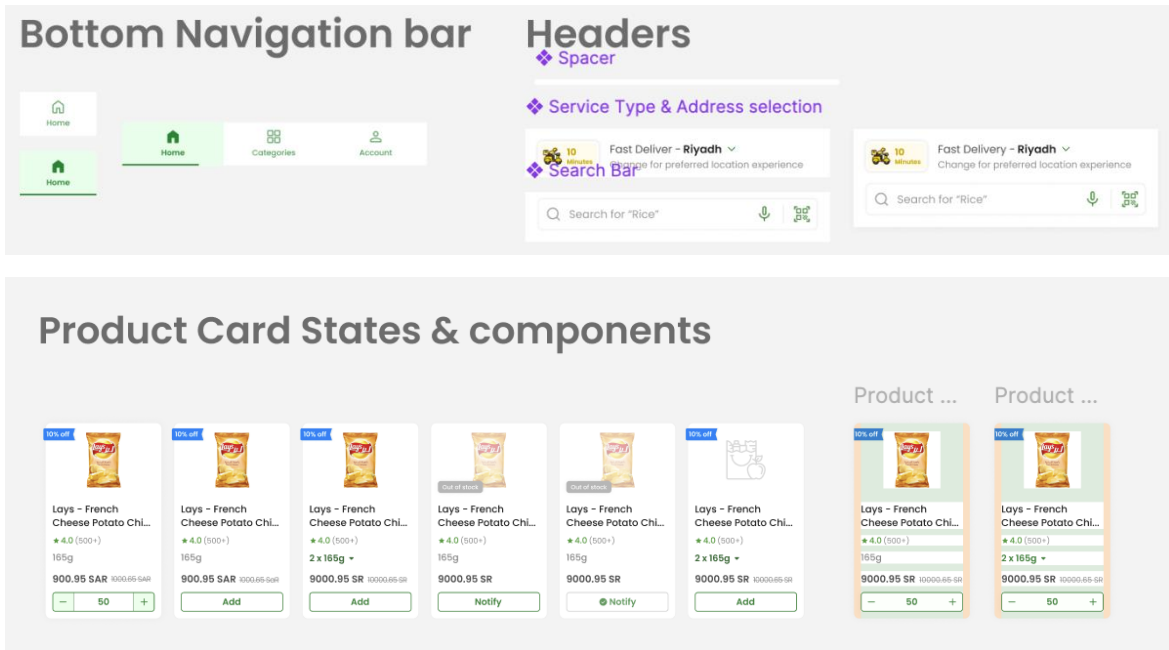


Figure 13: Figma Components
Source: Author

Chapter 5

HIGH FIDELITY UI SCREENS

1. Ecommerce App UI

1.1. Onboarding Screens

The entire onboarding process will take users through the login or sign-up pages and into their intended pages by their mobile number. Apart from guest access, there will be several language options available. Some of the features are: country code selection; OTP verification, and then Need Help? for support via email or WhatsApp. Easy and user-friendly, it will pretty well make the transition using this app very easy (refer figure 14.).

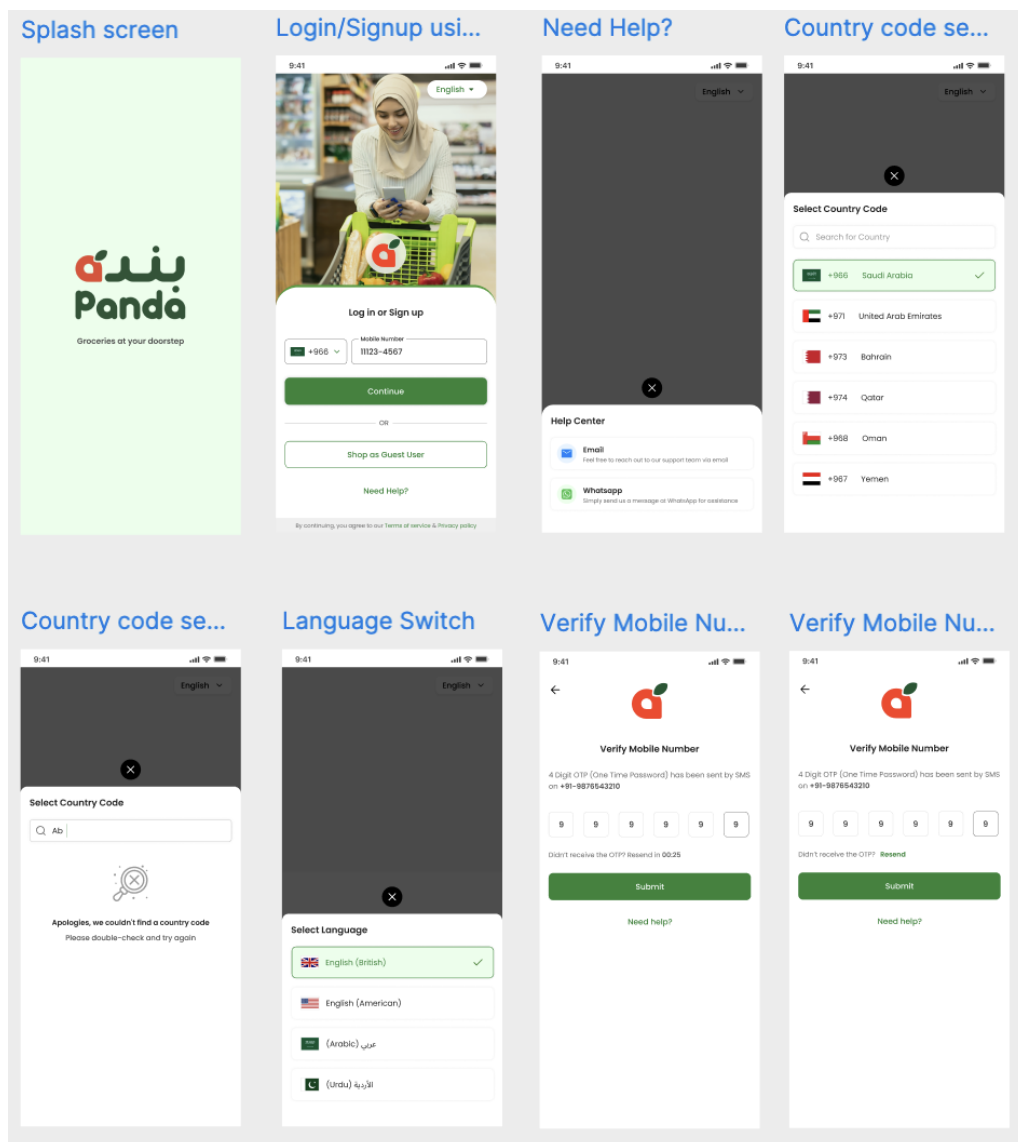


Figure 14: Onboarding screens

Source: Author

Multiple delivery types section feature

The user will be taught via visuals & motion graphics about this new feature and how to use it.

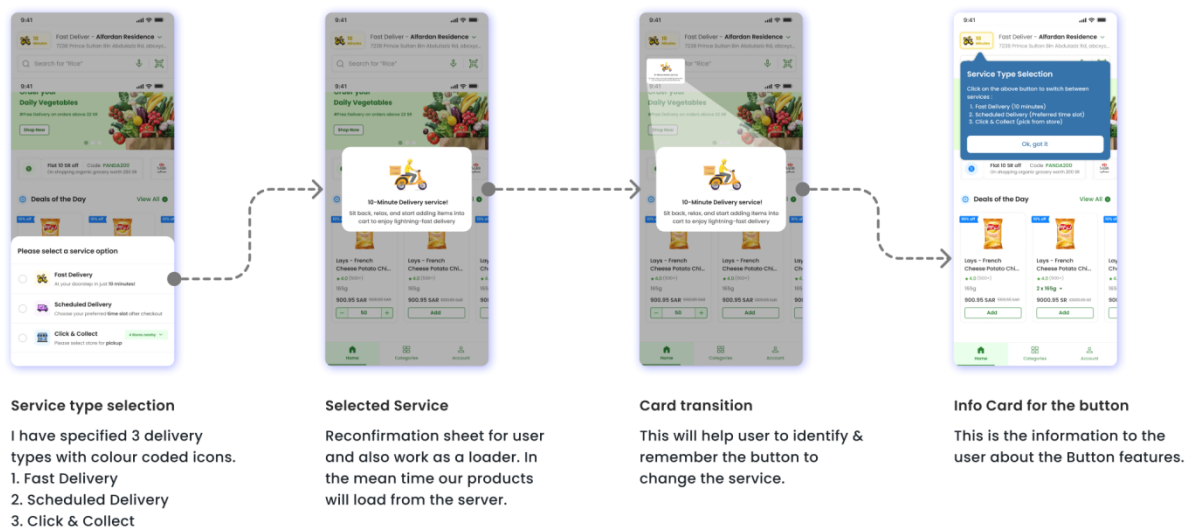


Figure 15: Multiple delivery type section feature

Source: Author

1.2. Homepage Design

The product discovery, the intuitive purchasing, and the presentation are the emphases of the design (refer figure 16.). Seamless and engaging shopping experience is assured by clear categorization, prominent deals, consistent styling, responsive design, and streamline interactions. ve layout, and streamlined interactions.

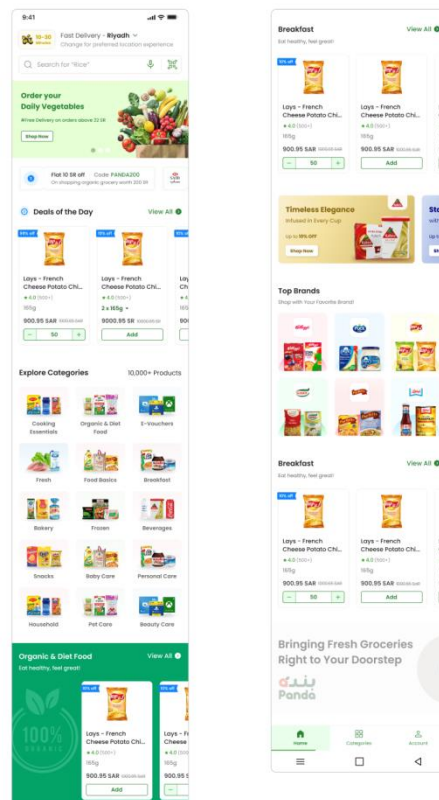


Figure 16: Homepage Design

Source: Author

1.3. Category & Sub-Category Design

The view by "All Categories" gives a broad brush overview of the more macro groupings, like the sub-headers "Cooking Essentials" or "Organic & Diet Food." (refer figure 17.) These high-level categories help in a user's fast navigation towards the desired product type.

This then proceeds further under the sub-headings of "Cooking Essentials," where one can filter by brand, customer rating, stock status, and more such filters, thus making sure that the user does not need to wade through so many items before coming across 'the one' of interest.

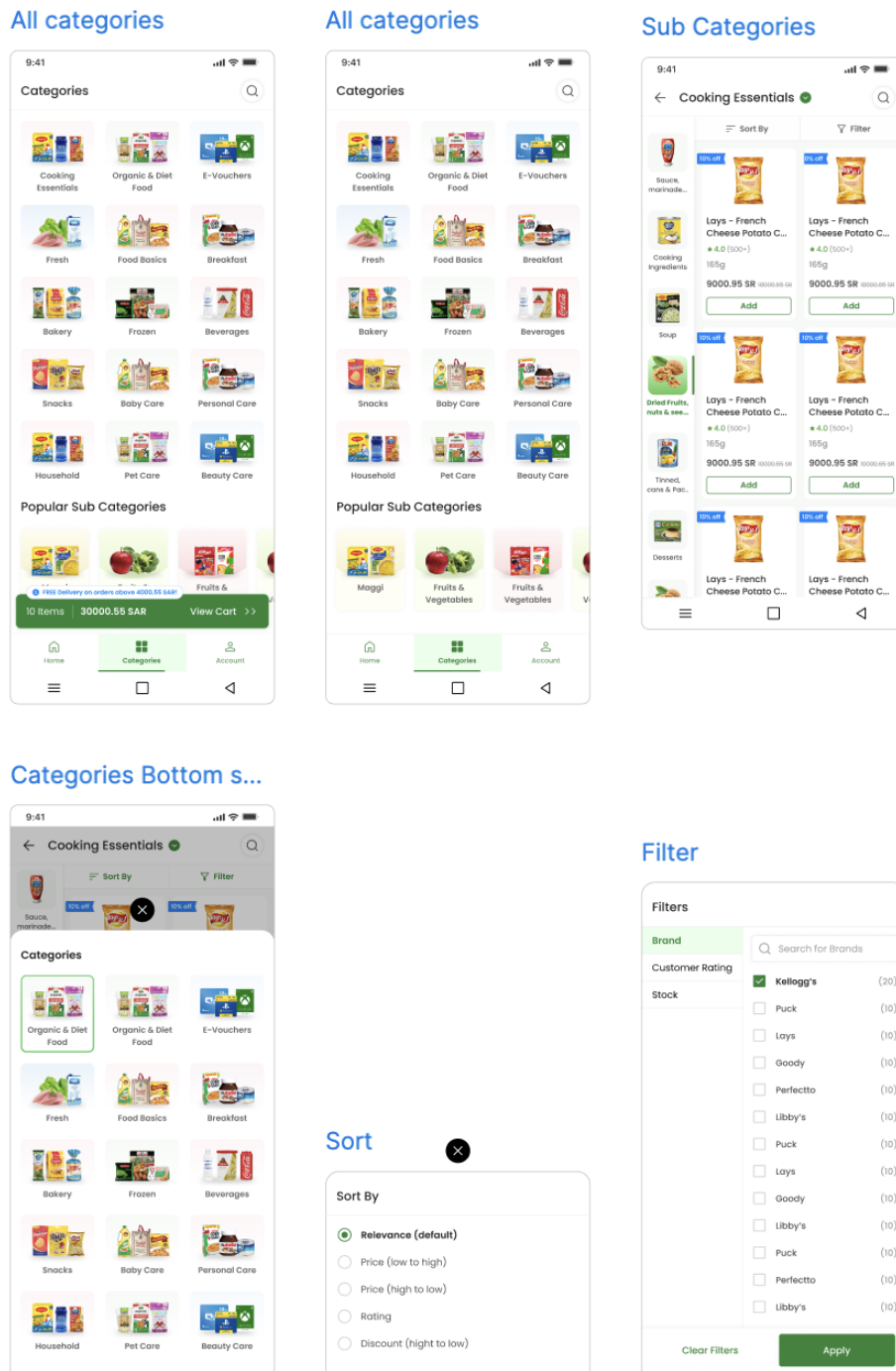


Figure 17:
Category & Sub
Category Pages
Source: Author

1.4. Product Page

A product image, a description, a pricing, selection of quantity, purchase buttons, and more information about the product. This clean and very well-structured makes it easy for the users to understand and find the relevant information required to assess and possibly purchase this item. (refer figure 18.) Here, the page provides the customer with all possible relevant information that he needs to make a fair decision.

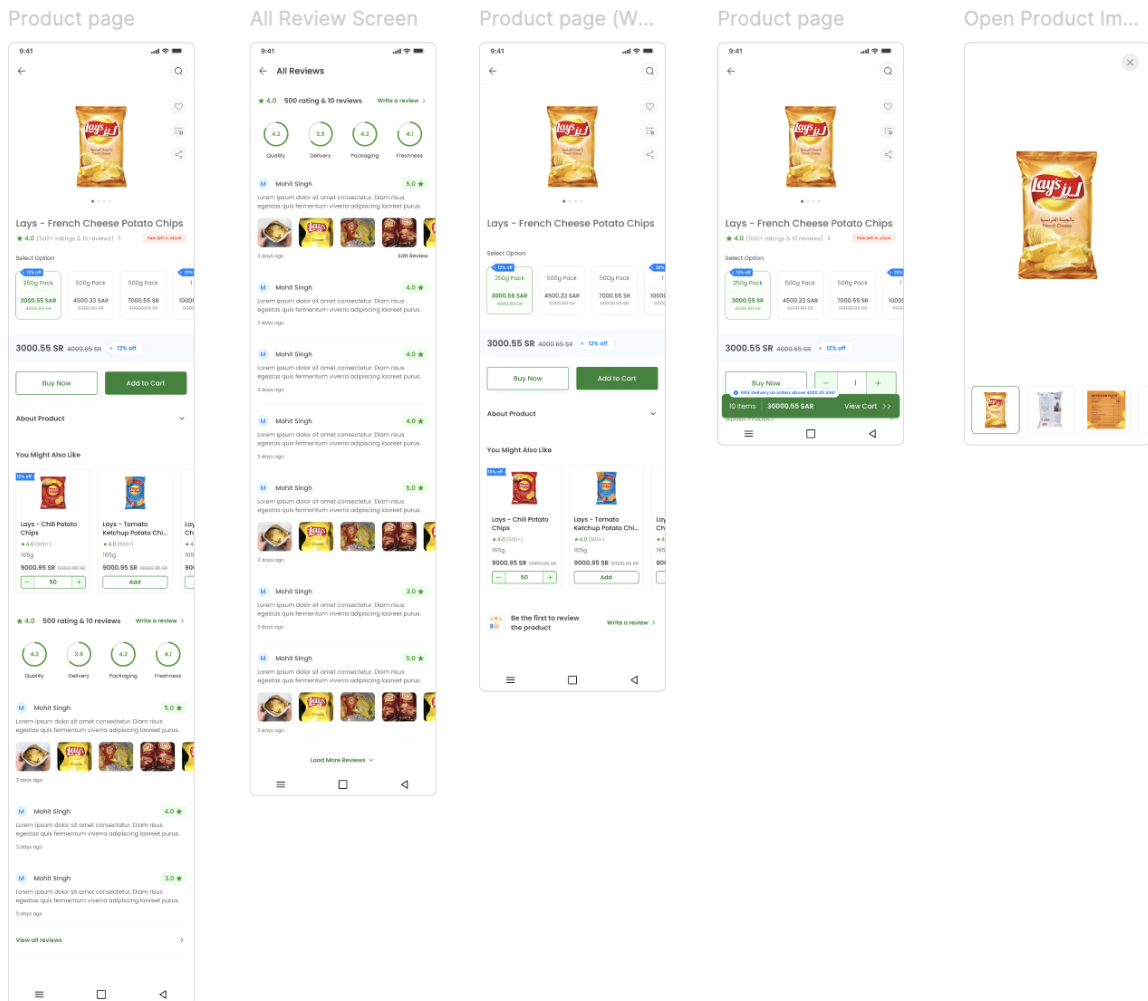


Figure 18: Product Page design

Source: Author

1.5. Cart Pages

Fast Quick Delivery: This gives customers immediate fulfillment and shipping speed for those who need a fast turnaround on their order(refer figure 19.)

Scheduled Delivery: It enables customers to choose specific dates and time slots for the actual delivery. This will enable better planning and coordination as to when the order will actually come. (refer figure 20.)

Click & Collect: Customers can order online and then pick up the product in the outlet at their convenience.(refer figure 21.)

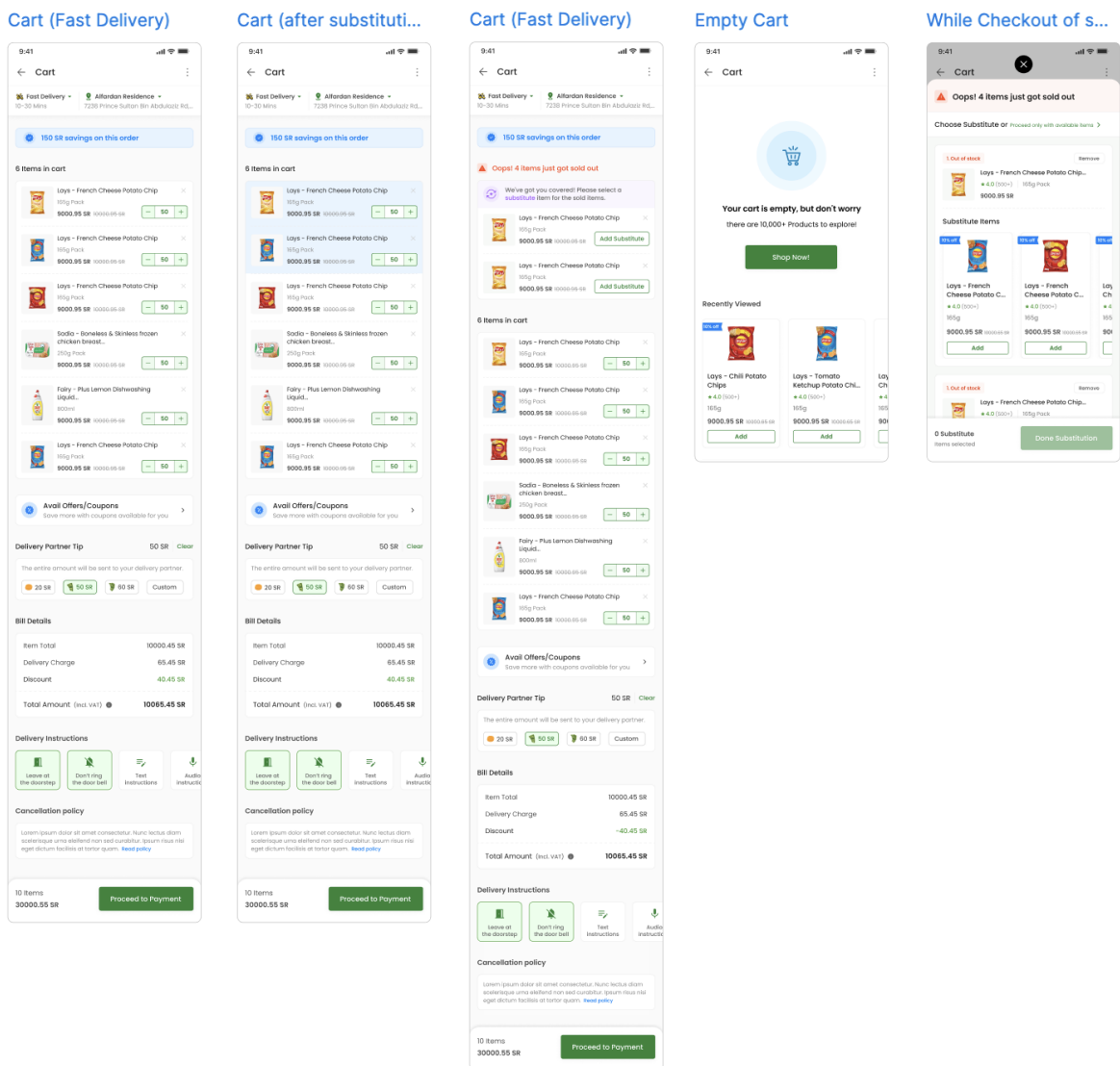


Figure 19: Fast delivery cart pages

Source: Author

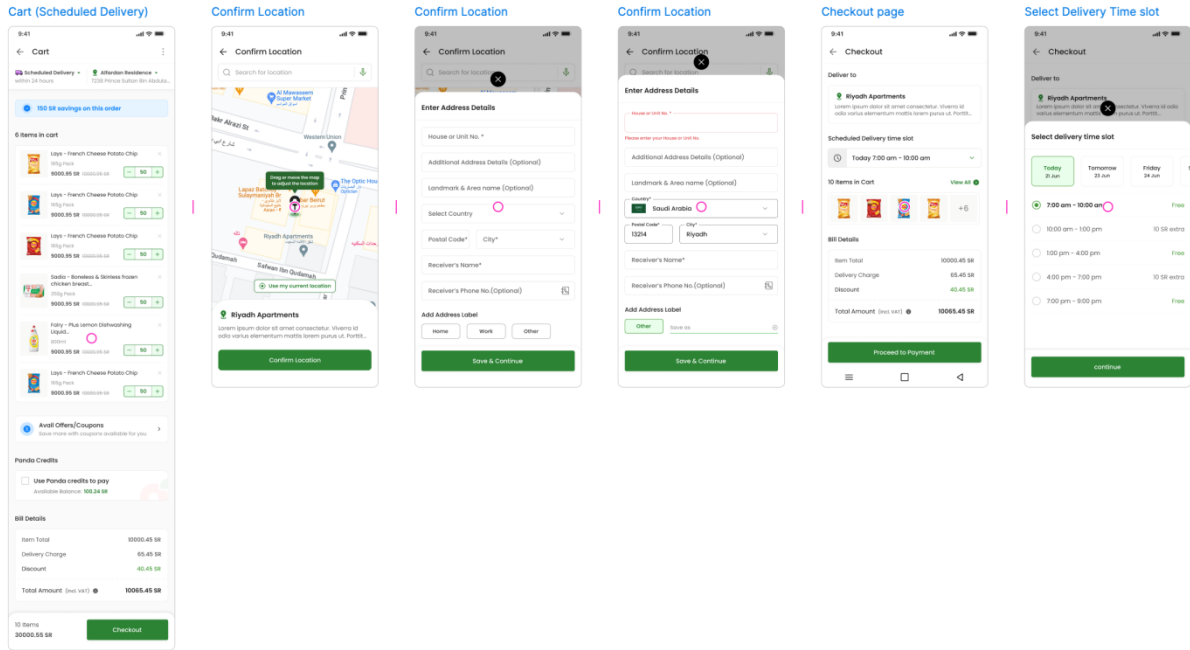


Figure 20: Scheduled delivery cart pages

Source: Author

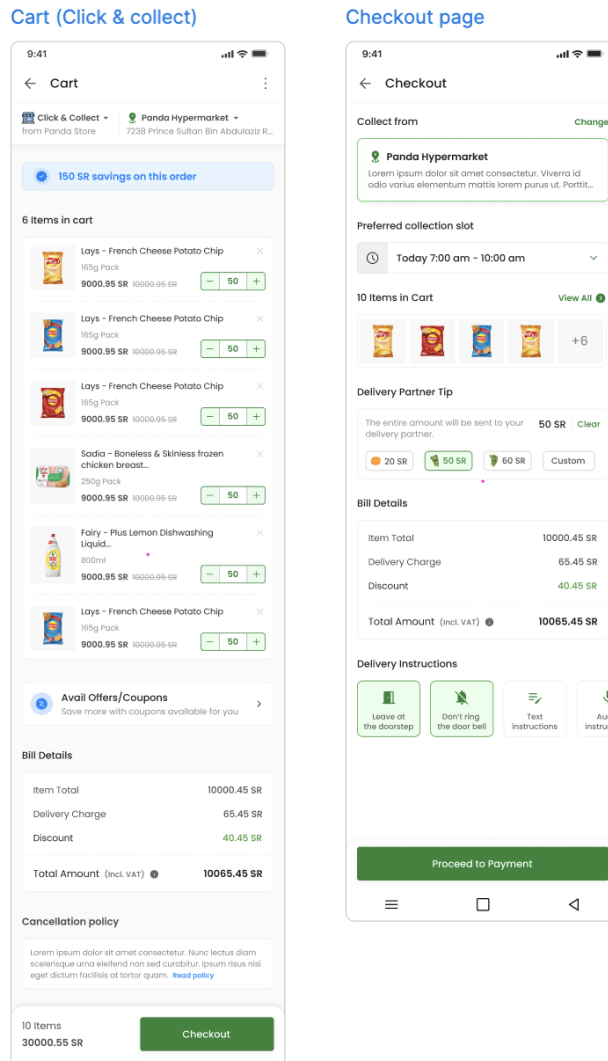


Figure 21: Click & Collect pages

Source: Author

1.6. Coupon & Payment Page

Visible coupons consist of one like a 20% discount. The "Apply Coupon" screen uses entry of a coupon code by a user.

"Payment Options" gives the entire amount along with its various payment methods like credit/debit cards and some more wallets and pay-on-delivery options.

The "Order Successfully Placed" window shows up with an order that is placed and currently available for pickup or delivery.

It would show that the "Transaction Failed"- meaning, the transaction was unsuccessful. A button saying "Retry Payment" would be provided. (refer figure 22.)

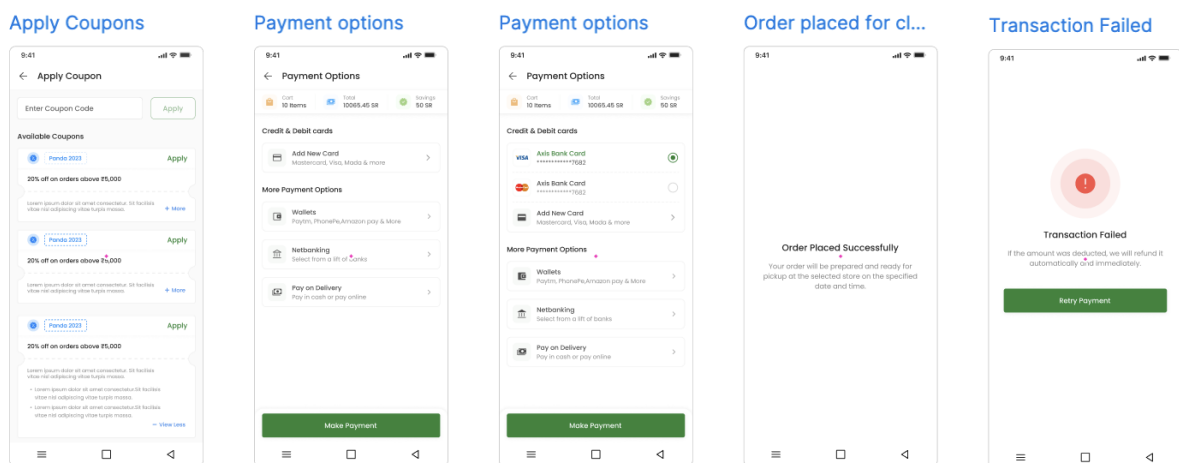


Figure 22: Coupon & Payment page

Source: Author

1.7. Search Screens

Three distinct screens portray a typical search facility for an e-commerce website. The images show all three different screens and represent all sorts of searches concerning the food item such as Lays, Chicken, Meat, Sugar, Salt, Coriander, and Halawa.

The second screen displays the search result page of three rice products (viz. Basmati Rice, Brown Rice, and Rice Bran Oil). The query submitted is rice. For each product, it mentions the name, the price, and an "Add" button.

However, the third screen presents the apology message when there are no results found for the search "cxy." This message indicates that the platform could not find the requested item and reminds the user to double-check if he has entered the right name or keywords. (refer figure23.)

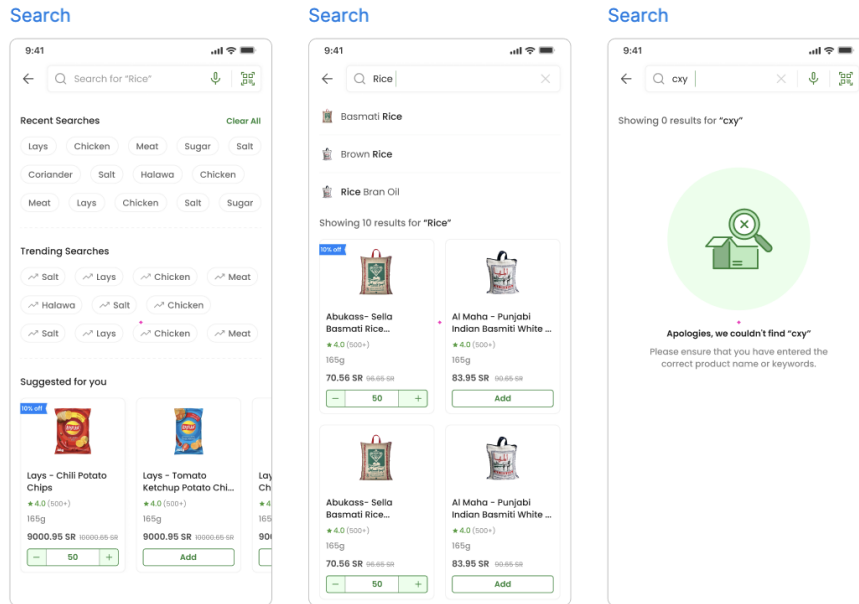


Figure 23: Search Screens

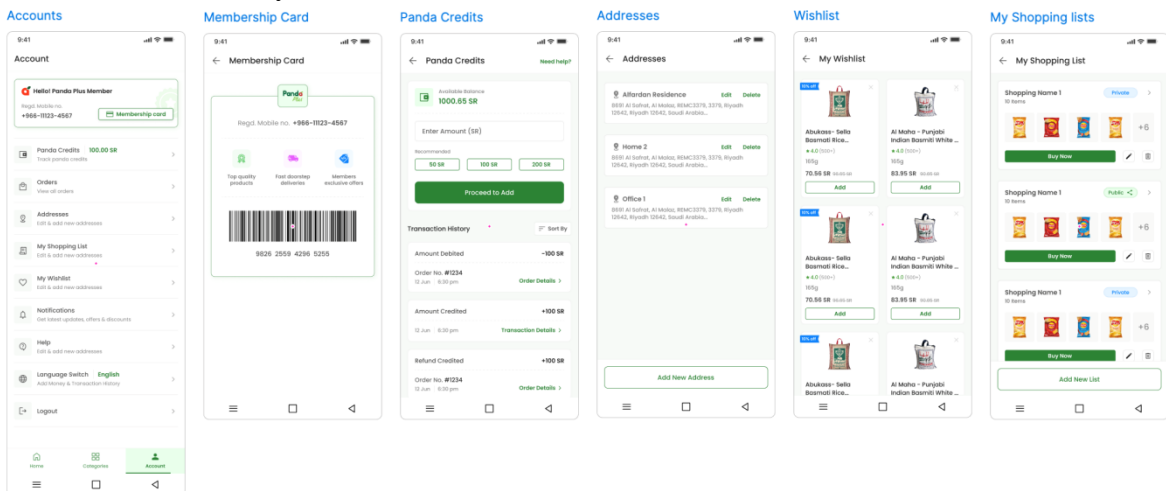
Source: Author

1.8. Accounts Screens

Layout Consistency: Similar structure in a screen with a top navigation bar, an area for content, and a navigation unit at the bottom indicates a cohesive user experience for the user. (refer figure 24.)

Clear Hierarchy: Clear labeling divides information into sections (example: Account, Membership Card, Panda Credits), so users can easily find and take the desired functionality.

Intuitive Navigation: Icons, back buttons, and contextual actions such as "Edit" and "Delete" conveniently allow users to move between screens and tackle similar tasks.



.Figure 24: Accounts Screen

Source: Author

1.9. Orders Screens

These are the different screens within the order management that give the user an overall picture of his orders. Orders shows scheduled deliveries, active orders and click & collect options. Track Order shows delivery status along with map, delivery fees options and contact info. Order Details shows summary of the order like refund status and total amount. The entire arrangement provides a very convenient experience for the user. (refer figure 25.)

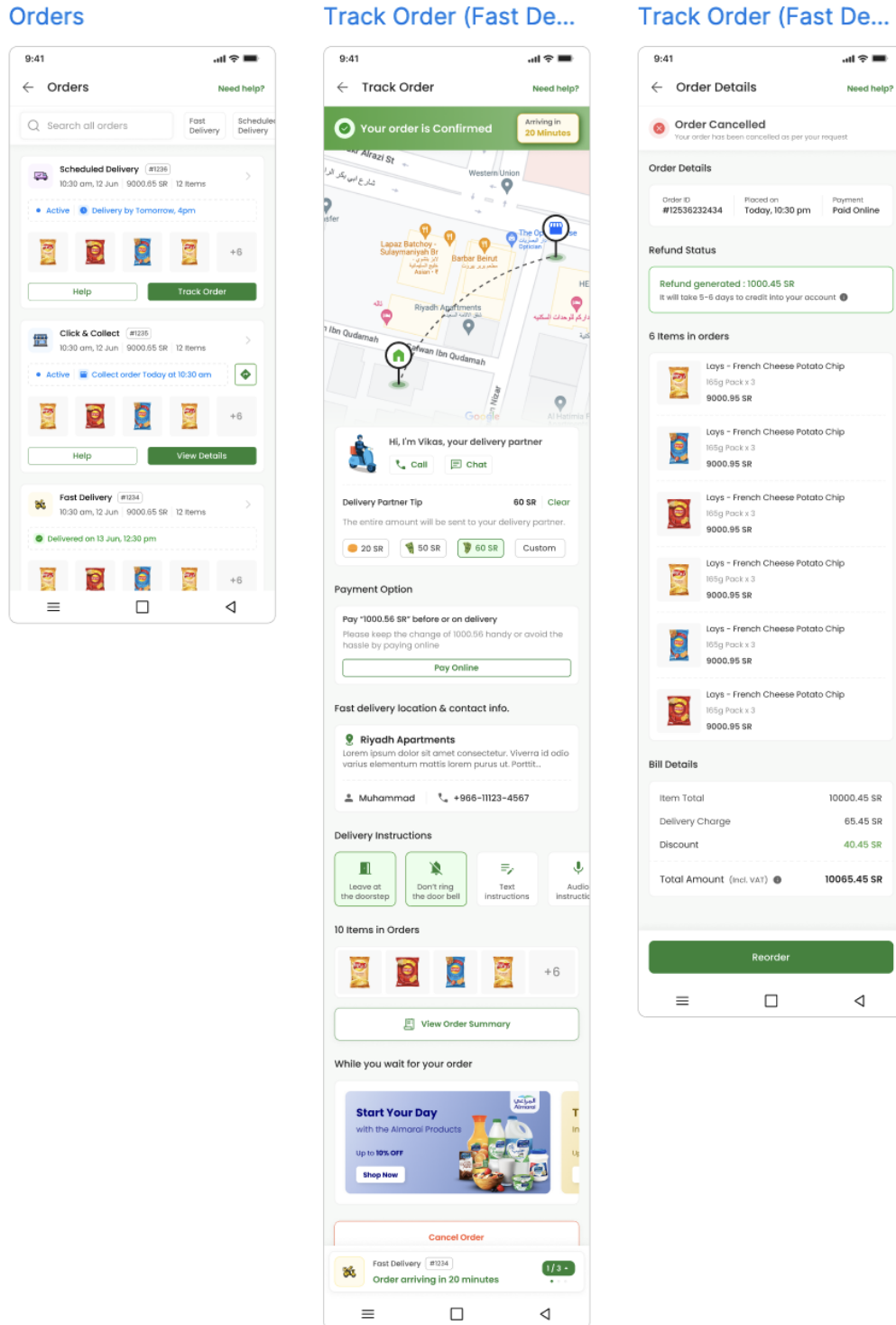


Figure 25: Orders Screen

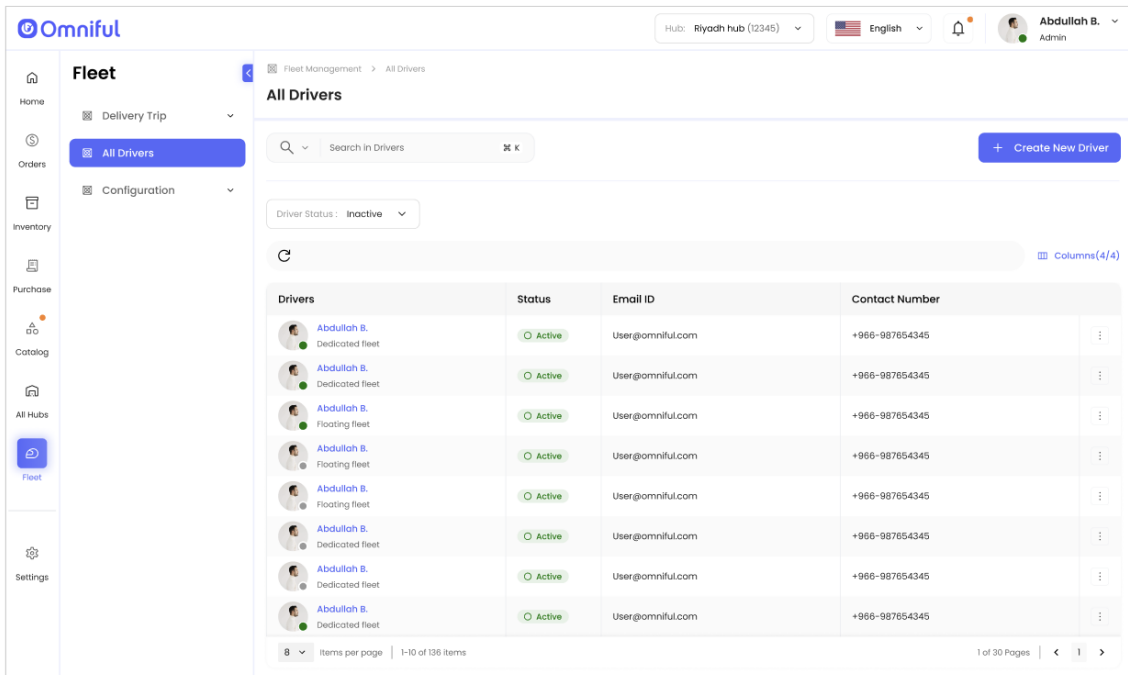
Source: Author

2. Fleet Management Dashboard

2.1. All Drivers

The screen presents for "All Drivers" an overview of active drivers for deliveries: the user's ability to filter by driver status, view driver details, and create new drivers. The layout is simple: show the driver list, pagination controls, and user information. (refer figure 26.) (refer figure 27.) (refer figure 28.) (refer figure 29.) (refer figure 30.)

Active Status Drivers



The screenshot shows the Omniful Fleet Management Dashboard. The main content area is titled "All Drivers" and features a search bar, a "Create New Driver" button, and a table of active drivers. The table has columns for Drivers, Status, Email ID, and Contact Number. The drivers listed are all active and have the same email address and contact number.

Drivers	Status	Email ID	Contact Number
Abdullah B. Dedicated fleet	Active	User@omniful.com	+966-987654345
Abdullah B. Dedicated fleet	Active	User@omniful.com	+966-987654345
Abdullah B. Floating fleet	Active	User@omniful.com	+966-987654345
Abdullah B. Floating fleet	Active	User@omniful.com	+966-987654345
Abdullah B. Floating fleet	Active	User@omniful.com	+966-987654345
Abdullah B. Dedicated fleet	Active	User@omniful.com	+966-987654345
Abdullah B. Dedicated fleet	Active	User@omniful.com	+966-987654345
Abdullah B. Dedicated fleet	Active	User@omniful.com	+966-987654345

Figure26: Active Drivers

Source: Author

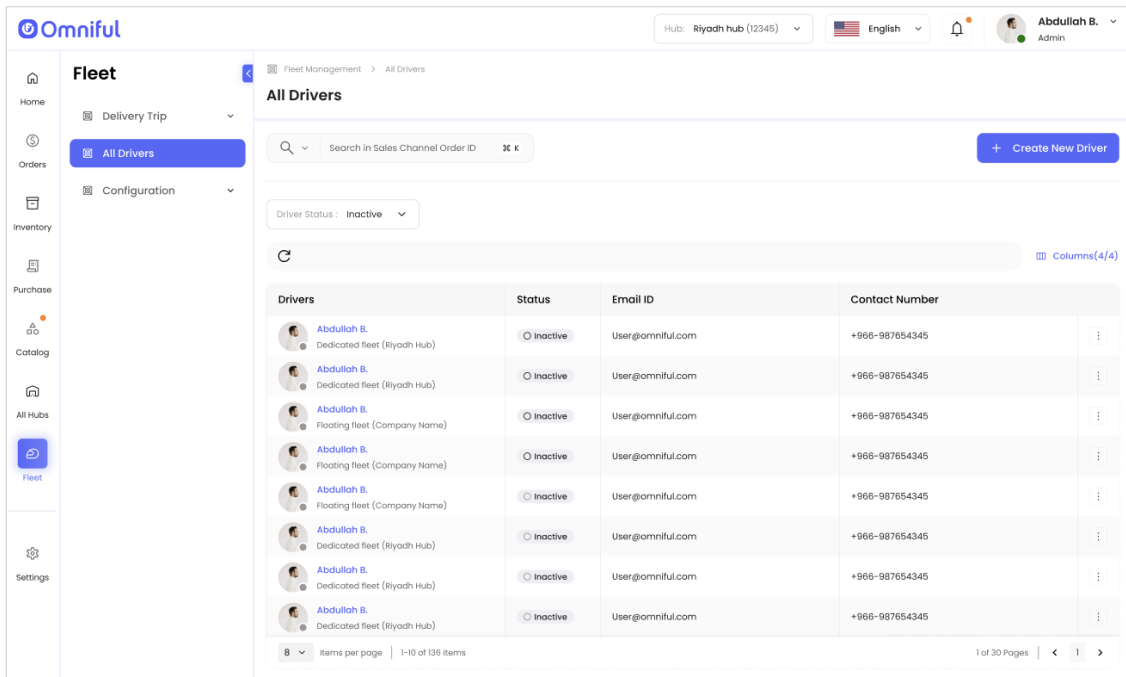


Figure27: Inactive Drivers

Source: Author

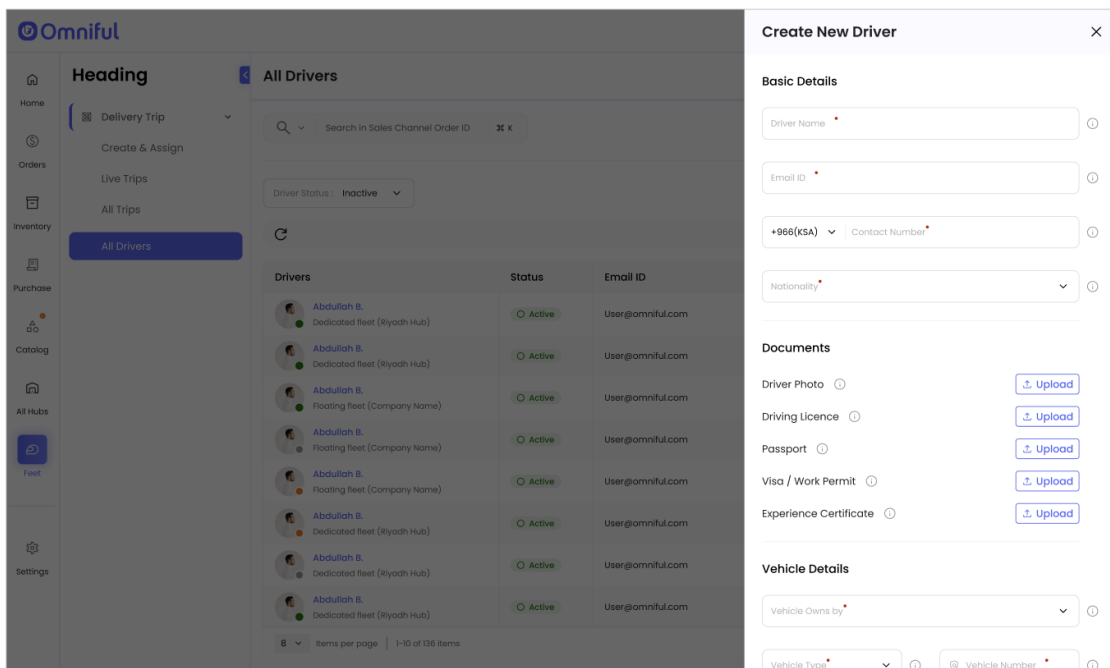


Figure28: Add New Driver

Source: Author

Delete Driver

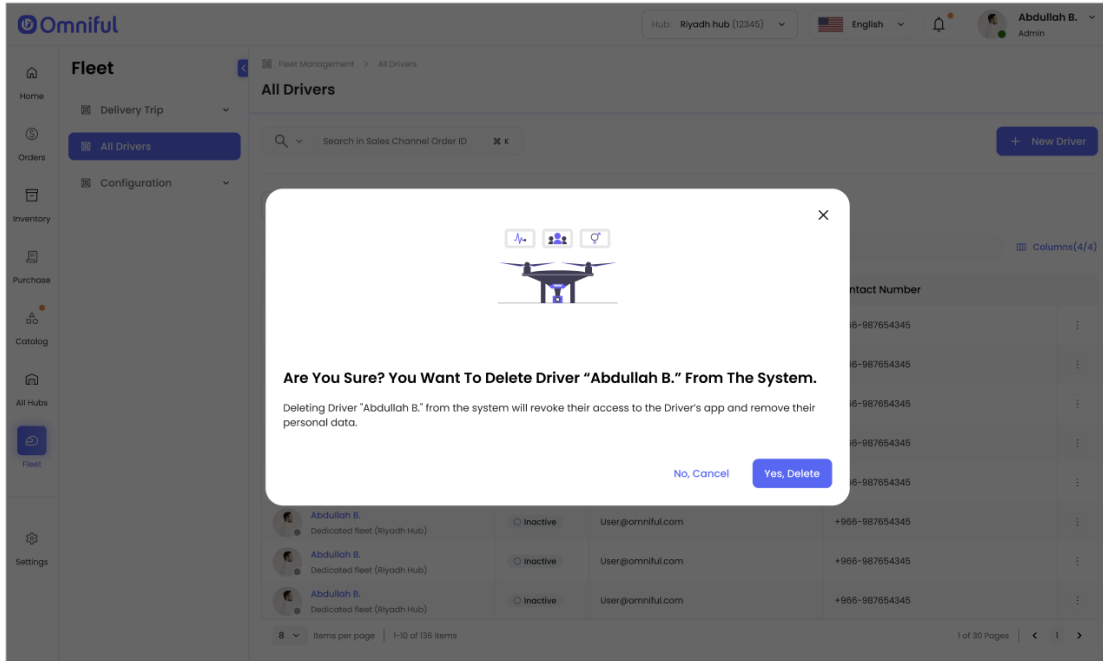


Figure29: Delete Driver

Source: Author

Driver Details

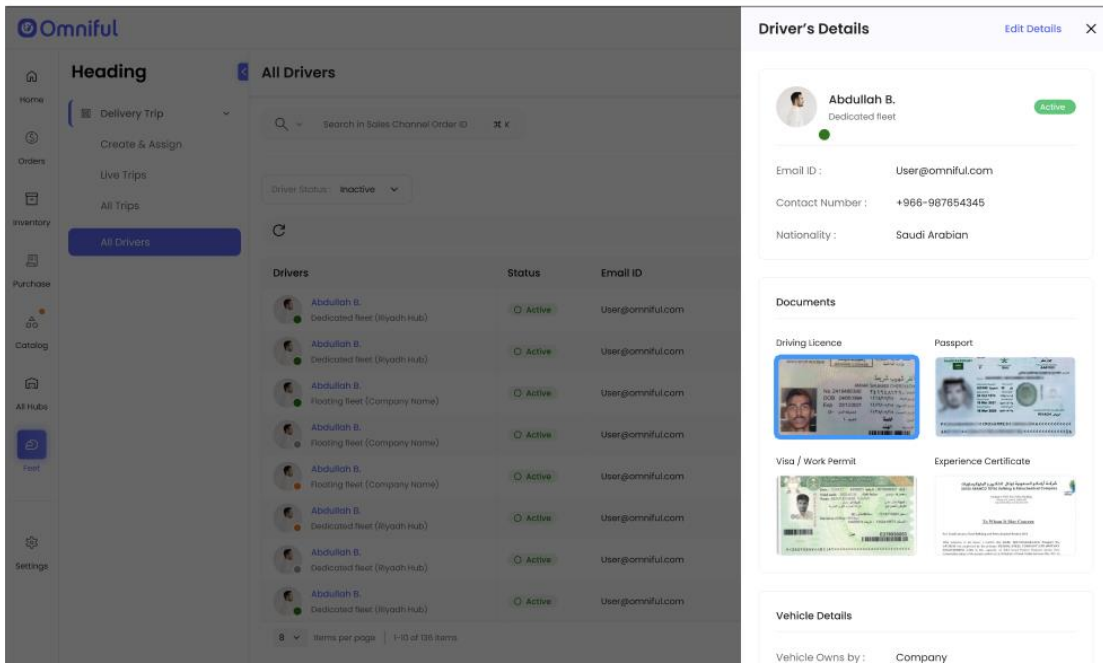


Figure30: Driver details

Source: Author

2.2. Delivery Trips

The 'Create & Assign' section is designed to contain a table projecting details of the delivery trip such as sales channel order ID, delivery date/slot, number of packages, number of SKUs, and total IT. This table currently schedules nine deliveries across several pages. Furthermore, there is a map view indicating the location of the deliveries. (refer figure 31.) (refer figure 32.) (refer figure 33.) (refer figure 34.) (refer figure 35.)

Create & Assign

SN	Sales Channel Order ID	Delivery Date/Slot	No. Packages	No. SKUs	Total It
1	12345678	July 20, 2023 / 12:00PM - 3:00PM	4 <small>Need insulated bag</small>	2	10
2	12345678	July 20, 2023 / 12:00PM - 3:00PM	2	1	12
3	12345678	July 20, 2023 / 12:00PM - 3:00PM	5	2	6
4	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	4	4
5	12345678	July 20, 2023 / 12:00PM - 3:00PM	1	2	5
6	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	2	3
7	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	3	5
8	12345678	July 20, 2023 / 12:00PM - 3:00PM	1	1	1
9	12345678	July 20, 2023 / 12:00PM - 3:00PM	2	4	4

Figure31: Create & Assign

Source: Author

Create & Assign

SN	Sales Channel Order ID	Delivery Date/Slot	No. Packages	No. SKUs	Total It
1	12345678	July 20, 2023 / 12:00PM - 3:00PM	4 <small>Need insulated bag</small>	2	10
2	12345678	July 20, 2023 / 12:00PM - 3:00PM	2	1	12
3	12345678	July 20, 2023 / 12:00PM - 3:00PM	5	2	6
4	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	4	4
5	12345678	July 20, 2023 / 12:00PM - 3:00PM	1	2	5
6	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	2	3
7	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	3	5
8	12345678	July 20, 2023 / 12:00PM - 3:00PM	1	1	1
9	12345678	July 20, 2023 / 12:00PM - 3:00PM	2	4	4

Figure32: Create & Assign

Source: Author

Assign Driver

Hub: Riyadh hub (2345)

Assign Driver

Search here

SN	Sales Channel Order ID	Delivery Date/Slot	No. Packages	No. SKUs	Total It
1	12345678	July 20, 2023 / 12:00PM - 3:00PM	4 <small>Need Insured bag</small>	2	10
2	12345678	July 20, 2023 / 12:00PM - 3:00PM	2	1	12
3	12345678	July 20, 2023 / 12:00PM - 3:00PM	5	2	6
4	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	4	4
5	12345678	July 20, 2023 / 12:00PM - 3:00PM	1	2	5
6	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	2	3
7	12345678	July 20, 2023 / 12:00PM - 3:00PM	3	3	5
8	12345678	July 20, 2023 / 12:00PM - 3:00PM	1	1	1
9	12345678	July 20, 2023 / 12:00PM - 3:00PM	2	4	4

Items per page | 1-10 of 108 items | 1 of 30 Pages

Assign Trip

Driver Assigned

Hub: Riyadh hub (2345)

Assign Driver

Driver Assigned For This Trip

Amit Kumar
Dedicated Fleet

Create Next Trip

See Ongoing Trips

Figure33: Assign driver

Source: Author

Live Trips (Table View)

Trip ID	Status	Drivers	Created at	Total orders	Delivered	Returned
TR-0507-0001	Ongoing	Abdullah B. Dedicated fleet	03 July, 2023	9	5	0
TR-0507-0001	Picking Orders	Abdullah B. Dedicated fleet	03 July, 2023	13	0	0
TR-0507-0001	Picking Orders	Abdullah B. Floating fleet	03 July, 2023	14	0	0
TR-0507-0001	Ongoing	Abdullah B. Floating fleet	03 July, 2023	13	9	1
TR-0507-0001	Ongoing	Abdullah B. Floating fleet	03 July, 2023	13	13	0
TR-0507-0001	Ongoing	Abdullah B. Dedicated fleet	02 July, 2023	13	12	1
TR-0507-0001	Ongoing	Abdullah B. Dedicated fleet	02 July, 2023	13	12	1
TR-0507-0001	Ongoing	Abdullah B. Dedicated fleet	02 July, 2023	13	13	0

Live Trips (Map View)

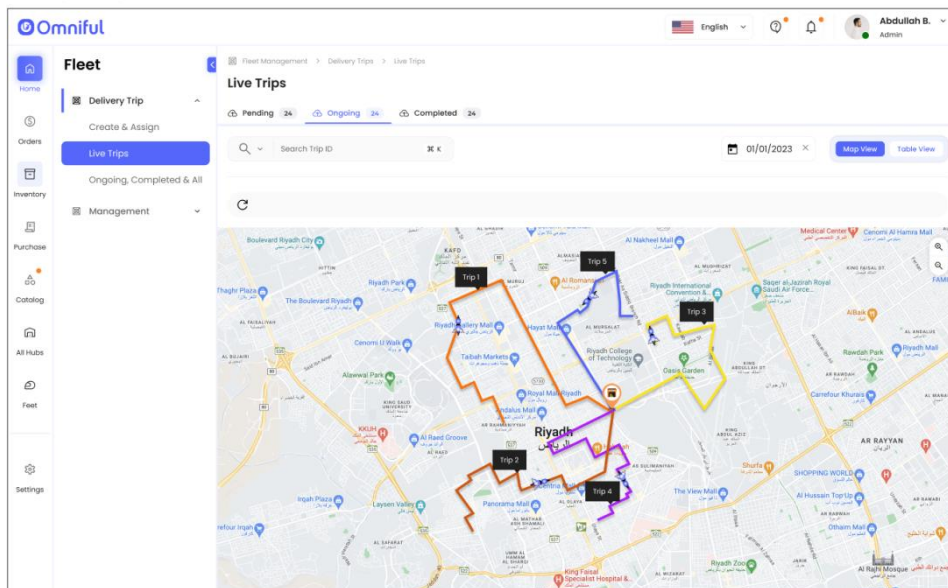


Figure34: Live trips

Source: Author

Ongoing trip Side Sheet

Trip: TR-0507-0001 Ongoing

Search Order ID

Trip & Driver Details

Created at: 04 July, 2023
 Vehicle Type: Bike
 Vehicle Number: 4302 RUA
 Driver: Amit kumar (Dedicated Fleet)

S.N.	Order ID	Status
1.	12345678	Delivered
2.	12345678	Delivered
3.	12345678	Delivered
4.	12345678	Returned
5.	12345678	Yet To Deliver
6.	12345678	Yet To Deliver
7.	12345678	Yet To Deliver
6.	12345678	Yet To Deliver
7.	12345678	Yet To Deliver
8.	12345678	Yet To Deliver
9.	123456789	Yet To Deliver

Figure35: ongoing trip side sheet

Source: Author

2.3. Configurations

Configuring a screen in Users will enable controlling various settings on the Driver's App, some of which include picking orders, deliveries, payments, and messaging. (refer figure 36.)

Configuration screen

The screenshot displays the Omniful web interface for configuring the Driver's App. The left sidebar contains navigation options: Home, Orders, Inventory, Purchase, Catalog, All Hubs, Fleet, and Settings. The main content area is titled 'Driver's App (Configuration)' and is divided into several sections:

- Order Picking:** Includes a toggle for 'Allow Assigned Driver To Scan AWB Barcode' set to 'No'.
- Order Delivery:** Includes a toggle for 'OTP (One-Time Password) For Delivery' set to 'Yes' and a toggle for 'Photo Proof Of Delivery' set to 'Yes'.
- Signature Of Customer (Order Receiver):** Includes a toggle set to 'Yes'.
- Payment:** Includes a toggle for 'Proof Of Payment (COD)' set to 'Yes'.
- Messages:** Includes a toggle for 'Order Delivery Message' set to 'Yes', a checked checkbox for 'Company's Name' (Panda), and unchecked checkboxes for 'Order ID' and 'Driver's Name'. A message preview shows: 'Hello, I'm [Driver Name] from [Panda] to deliver your order [OD032342]'. A 'Reset to default' link is present below the message preview.

A 'Save Changes' button is located at the bottom right of the configuration area.

Figure 36: Configuration sheet

Source: Author

3. Driver's App UI

3.1. Accept Ride screens

The screens in a driver's application designed for warehouse pickups and customer deliveries should exhibit clarity and efficiency in their design, thereby allowing the driver to readily see the pickup location (warehouse), delivery address, estimated delivery time, order size/weight, and any additional instructions(refer figure 37.)

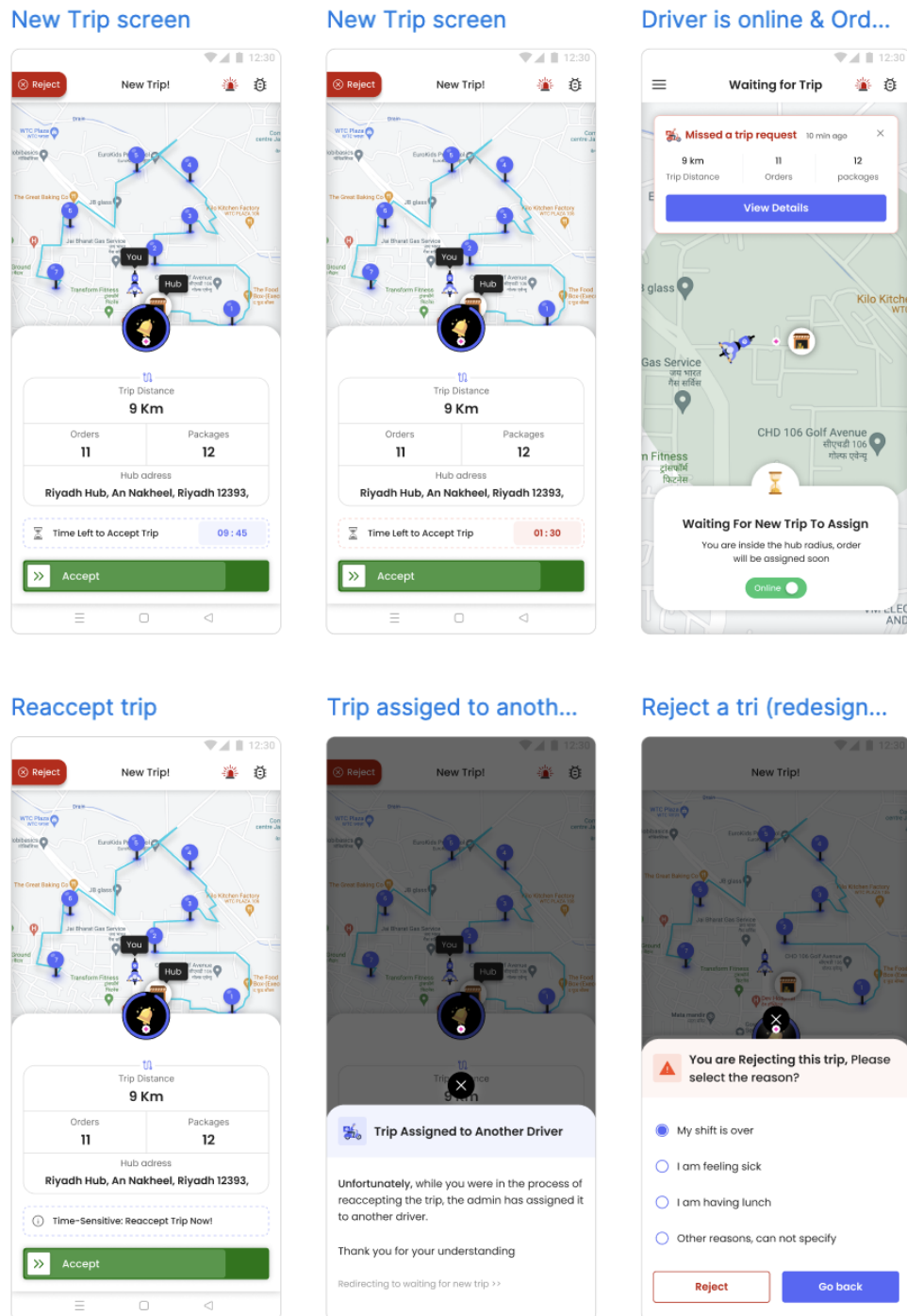


Figure 37: Accept Ride Screens

Source: Author

3.2. Order Picking Screens

The "Order Picking" application screens for the driver's use should make hub pickups as straightforward as possible with the most relevant information for the job. Derived from the hub location, order ID (s), quantity of individual items, and any special handling instructions, the screen must have a well-organized checklist or step-by-step guide, which simplifies the process of verifying the item and picking it up. (refer figure 38.)

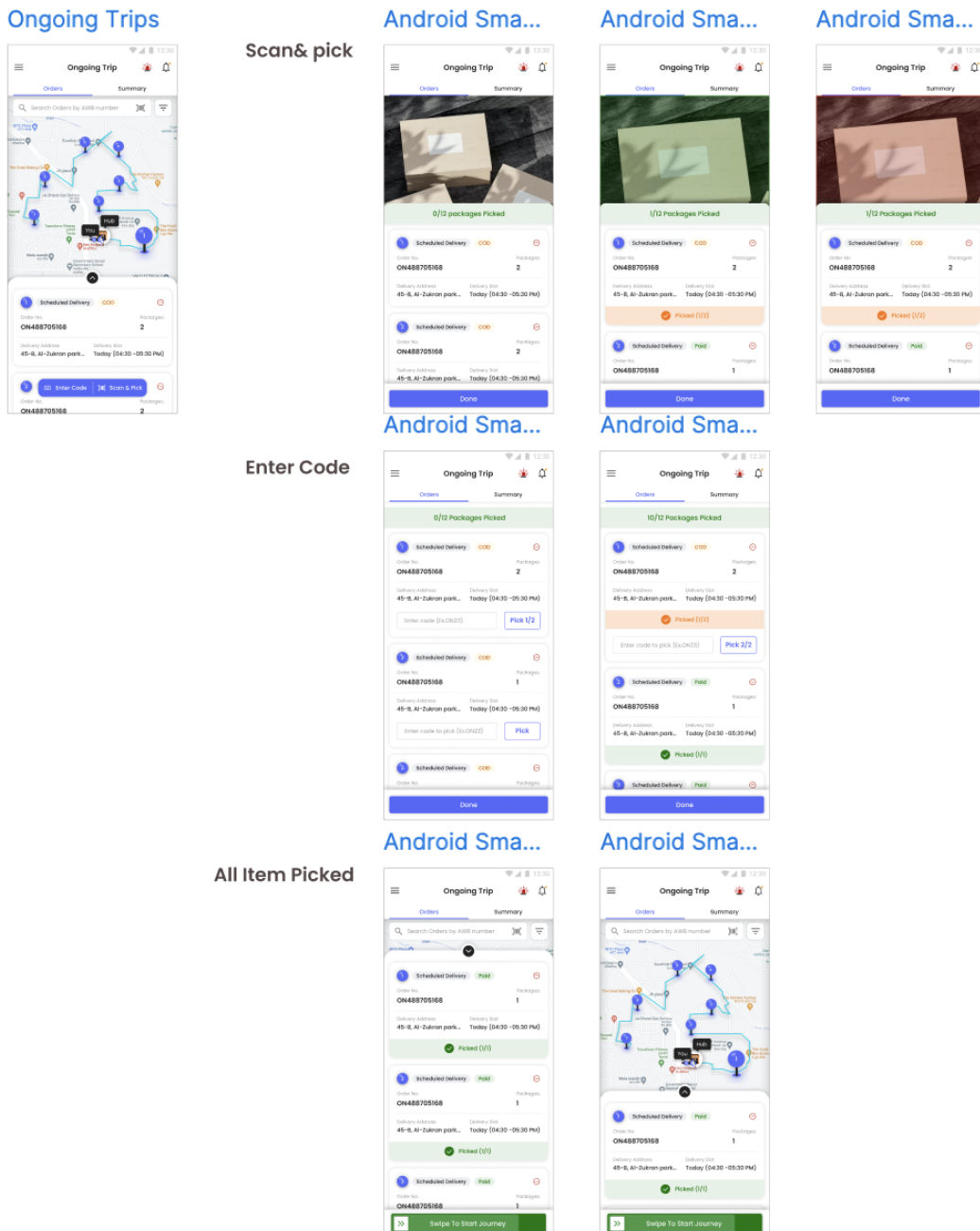


Figure 38: Order Picking Screens

Source: Author

3.3. Order Handover Screens

The display "Order Handover to Customer" in the application designated for drivers must make the handover process accurate and smooth. This should include the customer's name, address, order details (ID, item list), and any special instructions. Key actions such as "Mark as Delivered" or "Confirmation of Handover" should be easily accessible with a provision to allow customers to use a digital signature or OTP for their verification. Also, the display should capture proof of delivery like customer acknowledgment or photographs. (refer figure 39.) (refer figure 40.)

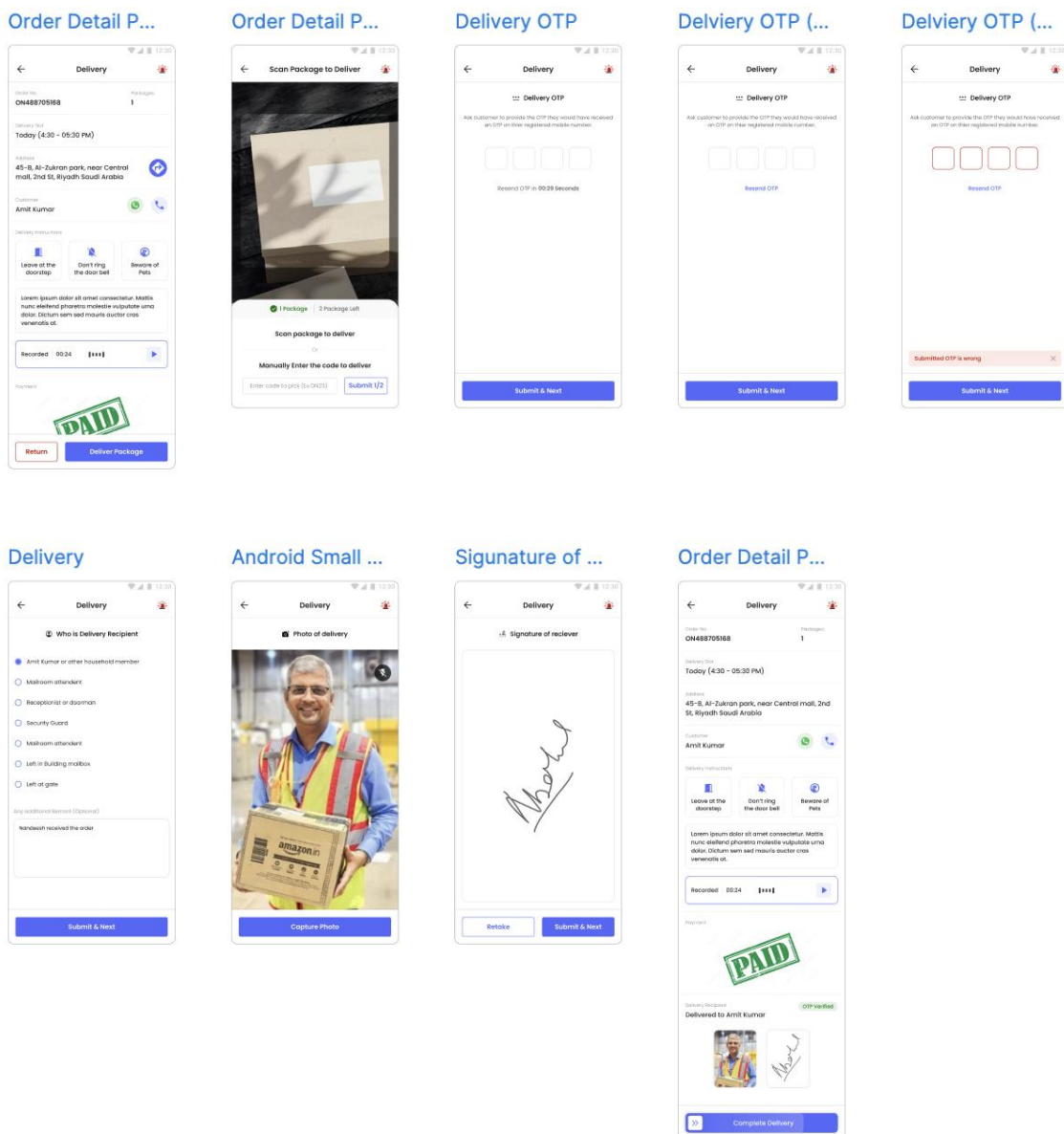
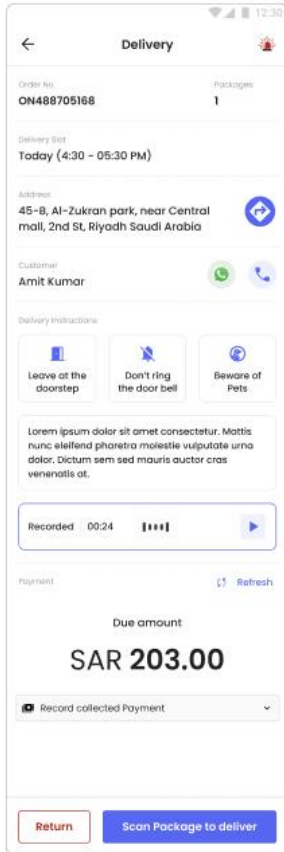


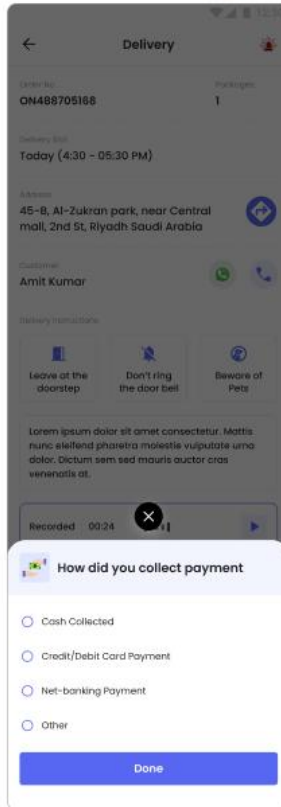
Figure 39: Order Handover Screens

Source: Author

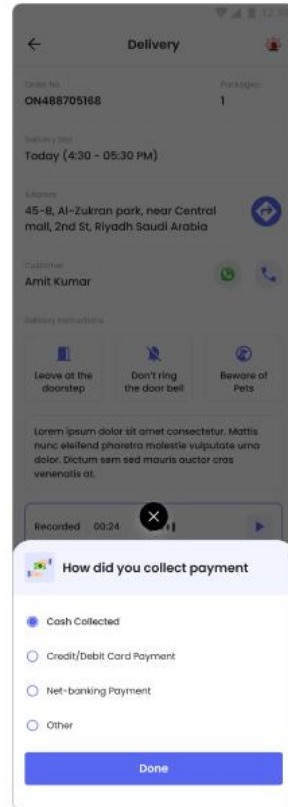
Order Detail Page



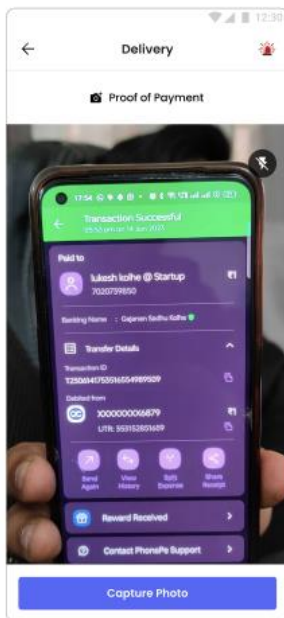
Order Detail Page



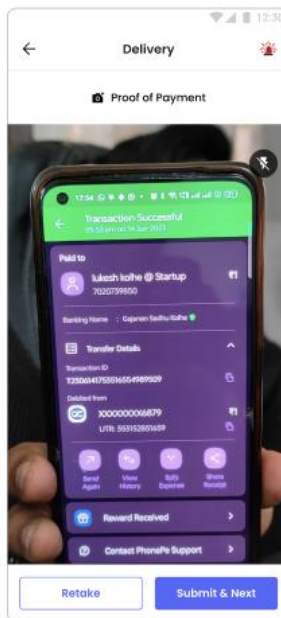
Order Detail Page



Android Small - 3...



Android Small - 3...



Order Detail Page

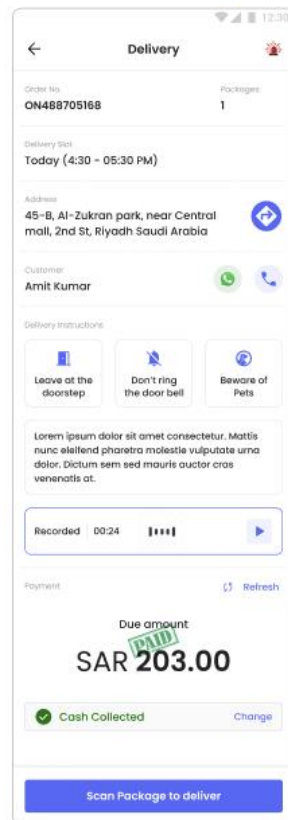


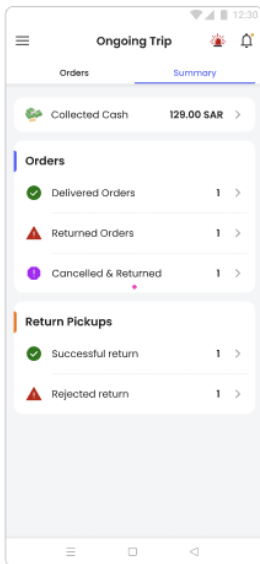
Figure 40: COD Order Handover Screens

Source: Author

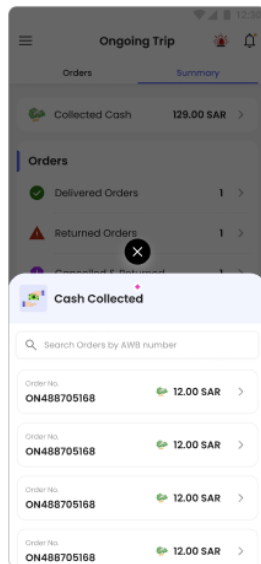
Trips Summary & End Trip

Within a driver's app, the overview of completed and pending tasks within the trip is found on the Trips Summary & End Trip screen. Important information in the Trips Summary are as follows: total number of orders, number of orders delivered, failed orders, distance traveled, and time taken. It may also indicate actions that still need to be completed or stops that are left to be made. (refer figure 41.) (refer figure 42.) (refer figure 43.) (refer figure 44.)

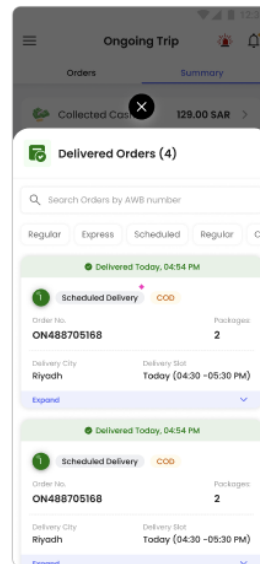
Android Small - 3...



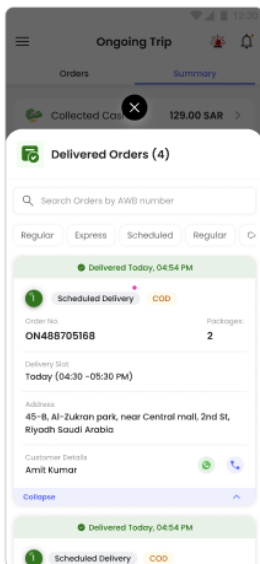
Android Small - 3...



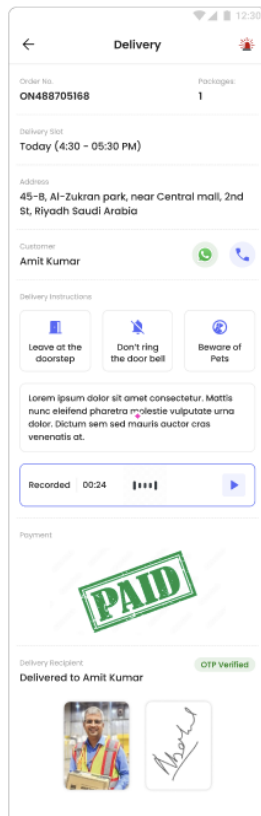
Android Small - 3...



Android Small - 3...



Order Detail Page



Order Detail Page

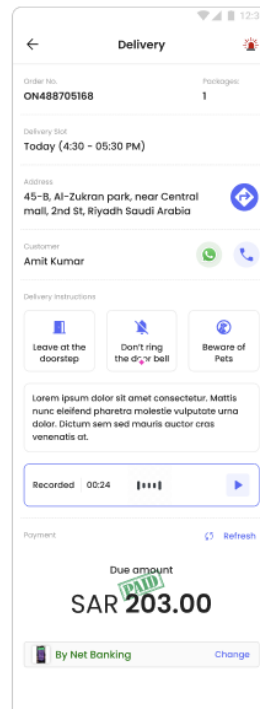
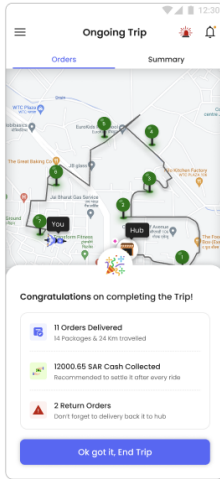


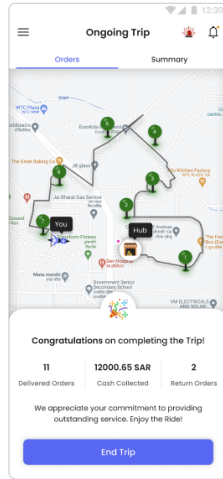
Figure 41: Trips Summary & End Trip

Source: Author

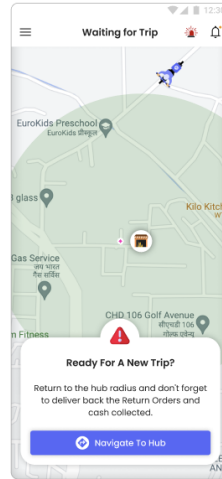
All Order delivered (n...



All Order delivered (n...



Driver is online & out o...



Driver is online & Orde...

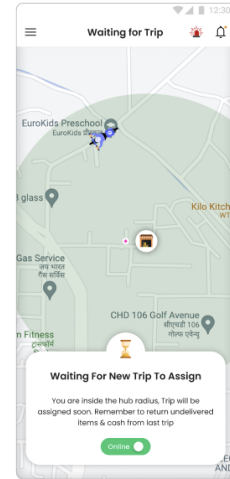
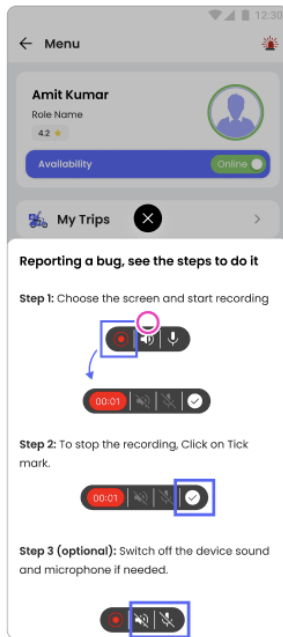


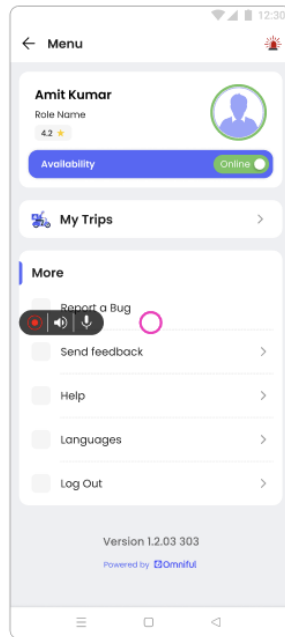
Figure 42: End Trip Summary

Source: Author

Menu



Menu



Frame 1000004699

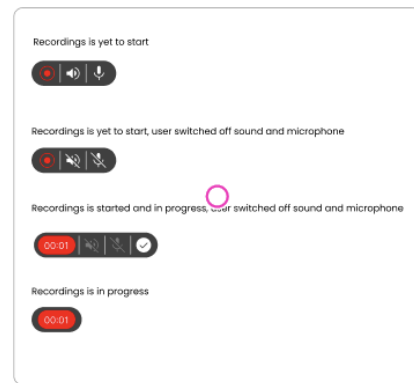
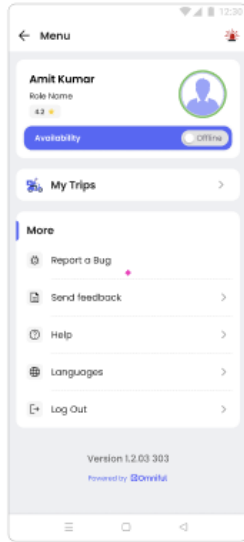


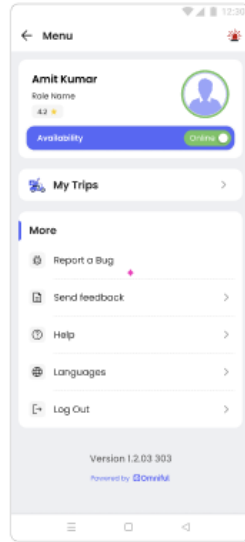
Figure 43: Report Bug

Source: Author

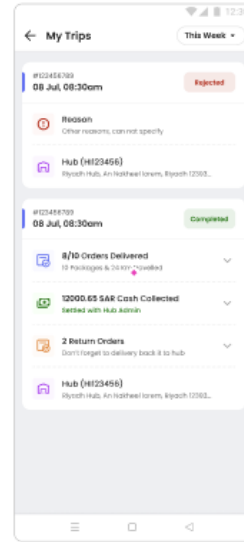
Side Sheet (...)



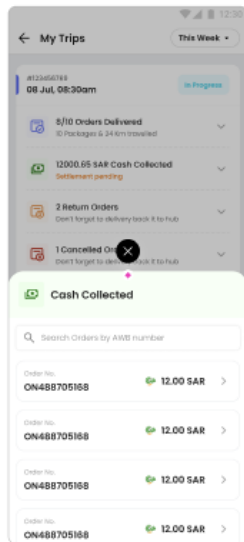
Side Sheet (...)



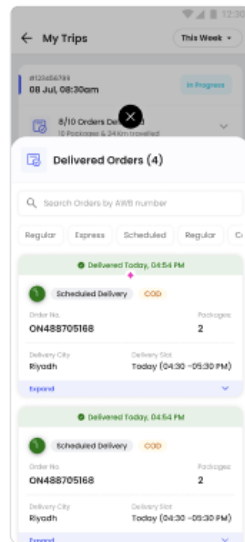
My Trips



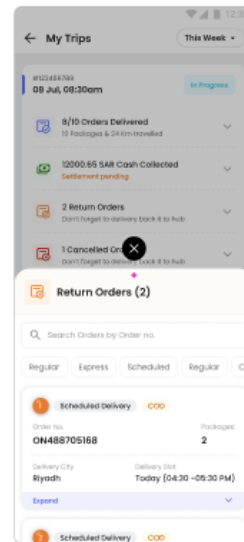
My Trips



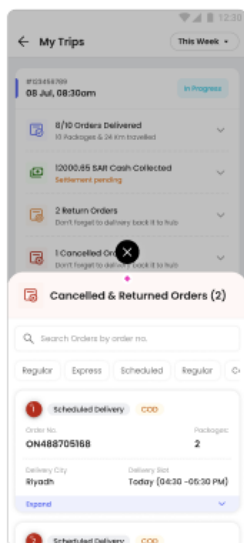
My Trips



My Trips



My Trips



My Trips

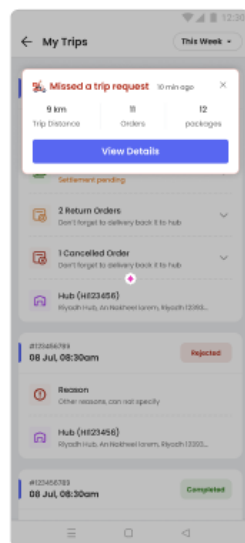


Figure 44: Side Menu Designs

Source: Author

Chapter 6

CONCLUSIONS AND FUTURE SCOPE

1. *Conclusion*

The Omniful White Label E-commerce Ecosystem comes as a full blessing in rejuvenating and consolidation of e-commerce activities. Basically, through the White Label E-commerce Application, White Label delivery partner application, and Fleet Management System, the platform allows businesses to roll out and expand their online presences rapidly in a holistic way. Built keeping customization and operational efficiency as priorities without compromising the overall user experience, this system enables businesses to adapt to the heightened customer expectations prevailing in the competitive environment today.

The study defined the actual operational condition of the system, defined its functional aspect, and established the best features within the framework of this thesis. An example of how the platform solves many business challenges that an average customer would give is when he wants out-of-the-box disjointed processes and the brand stores need a delay in deliveries. There is always more that can be done to improve the system such as increasing advanced customization, predictive analysis, and integration with third parties.

Indeed, the Omniful ecosystem speaks volumes towards adequately meeting some of the ever-changing dimensions of e-commerce, logistics, and supply chain management. The innovative customer-driven model allows firms to have competitive advantages while deploying in a rapidly changing market, which is most beneficial to a developing e-commerce industry.

2. *Future Scopes*

Future scope with Omniful's ecosystem includes:

1. More Customisation Options - Integrating complex business tools to enable customisation in workflows, pricing models and storefront designs.

2. Predictive Analytics and AI - Use of machine learning in demand forecasting, stock replenishment optimization and inventory management. AI route optimization in real-time for delivery partners based on traffic, weather, and order priority information.

3. Multi-Modal Logistics Sufficiency - The fleet management will be further improved to multi-modal delivery services, such as by drone, bike, and micromobile, to meet the urban and rural needs.

4. Globalization Characterization - Providing support for multilingual capability and localization tools to serve international markets. Compliance with laws and regulations from regions related to payment, logistics, and taxation.

5. All Reverse Logistics-Create integrated returns order management solution including automated refunds, item restocking, and condition based disposition workflows.

6. High-End Reporting and Dashboards- Analytics dashboards are to be enriched with real-time insights into operational metrics as well as customer behaviors and performance KPIs. Predictive insights along with alerts for automatic issues like delivery delays or stock outs.

7. Of Late Added Eco-Friendly Features - Consider factors of sustainability such as carbon tracking for deliveries, eco-friendly packaging recommendations, and optimization of delivery such that fuel consumption and carbon emissions are minimized.

8. Enhanced Offline Capabilities - This application works much better in low-connectivity or offline scenarios, such as enabling offline order placement and tracking businesses in regions that are really far away from connectivity.

Focusing on these aspects will see Omniful strengthen itself as a market-leading white label in e-commerce solutions. It will thus provide a next-gen platform that will be relevant and competitive in the dynamically evolving digital economy. This futuristic vision will heighten the value proposition of the ecosystem and keep businesses on the growth track while delivering satisfied customers.

References

1. Smith, A. (2022). The Evolution of White Label Platforms in E-Commerce. Harvard Business Review.
2. Green, J. (2023). Last-Mile Delivery Challenges and Innovations. MIT Sloan Management Review.
3. Omniful AI Official Website. Retrieved from <https://www.omniful.ai/>
4. Shopify Blog. (2023). White Label vs Custom E-Commerce Solutions: Key Considerations. Retrieved from <https://www.shopify.com>
5. TechCrunch. (2023). Emerging Trends in Fleet Management Software

