![Daffodil logo]

Daffodil helps Bahrain's leading hyperlocal marketplace to build a robust order management system

Client:
A Bahrain based hyperlocal ecommerce company

Industry:
E-Commerce

Country:
Bahrain

Our Role:
Software Product Engineering

About the Client

The client is Bahrain's leading hyperlocal marketplace that aims to empower local vendors to become a recognized name in the regional market. It connects consumers to multiple vendors thereby offering them a variety of goods and services.

It has a large network of vendors for delivering products in a wide category including grocery, maintenance & services, cleaning services & laundry, food & catering, etc.

Key Facts

1000+	100,000+	5000+
vendors onboard	products	daily orders delivered

Services Used

Software Engineering

Technology Stack

- Kotlin
- Laravel
- { REST }
- MySQL

The Situation

The eCommerce platform serves consumers of hyperlocal markets in various regions across Bahrain. As the platform scaled and started to serve a larger user base, it required the automation of a few services. For example, the delivery management services which included assigning drivers for delivery and notifying them was handled manually through spreadsheets and phone calls.

However, this manual intervention was causing delays in deliveries. To resolve the shortcomings in the system, team Daffodil was reached out to provide a technological solution for last-mile delivery management.

The high-level requirement of the project included the development of a web application that will automate the cycle of assigning drivers for delivery and a mobile app that will be used by drivers to get delivery details & notifications. Other than this, the key requirements included:

- Building a scalable infrastructure on the web app to accommodate a nationwide ecosystem of small-scale vendors that is ever-expanding.

- Creating interfaces on the web-app to allow customizable vendor and product listings that vary for different regions.

- Maintaining a module for standardized commission management for delivery persons.

- Integrating a simplistic UI on the delivery person's mobile app that is easy for an untrained user to operate and connect with customers.

The Solution

Team Daffodil started with a few brainstorming sessions with the client to understand the workings of Bahrain's regional markets and the engagement between consumers and also small businesses serving as vendors to the client.

While creating the driver mobile app, the Daffodil team took careful consideration in relating to the challenges faced by drivers. Additionally, they aimed to make a web app that would make the entire delivery management ecosystem robust.

Web-App For Delivery Management

The web app was developed on the PHP framework Laravel, which supports caching the backend. This ensures fast functionality on the web app without any performance issues. The vendor and product listings, which are ever-expanding, are always revised and kept up to date without any system downtime.

Once a customer places an order for a product on the e-commerce platform, the admin can assign vehicles and schedule drivers' shifts based on the number of vendors in a particular region. In case of the unavailability of a driver, the web-app auto-assigns the next closest available driver so that customers are served in time. The system decides which order to assign to which driver based on real-time dynamic delivery calculations.

Mobile App For Delivery Agents

The mobile app provides drivers with unbound flexibility in their delivery assignments and job satisfaction at the end of the day. They have the convenience of forwarding their orders to other available drivers in case of unavoidable circumstances.

A standardized commission management mechanism ensures fair incentives for drivers who deliver orders in quick time and receive positive customer feedback. Moreover, drivers can raise grievances and get them redressed with little to no processing time.

**Leveraging Capabilities of PubNub**

Daffodil's team built APIs for letting drivers have live chats with customers and also for navigation using PubNub's global ecosystem of tools. PubNub allows the delivery of real-time messages with no concurrency limits. This allows multiple simultaneous chat windows on the mobile app for communication between drivers and customers.

The Navigation API gives the admin on the web-app full control in customizing the delivery person's journey to avoid any delays. PubNub's Data Stream Network was leveraged to manage server processing load and memory consumption when onboarding a nationwide network of third party vendors onto the app.

The Impact

The web app needs minimal manual intervention for vendor and driver assignment. The mobile app has helped delivery drivers by simplifying their route and schedule planning, in addition to optimizing customer communication processes. Drivers have reported ease-of-use with the mobile app and also timely redressal of their grievances. The superior performance of the entire delivery management system and end-user satisfaction ensured by Daffodil can potentially boost the economy of regional markets comprising small businesses in Bahrain.

Product Screenshots
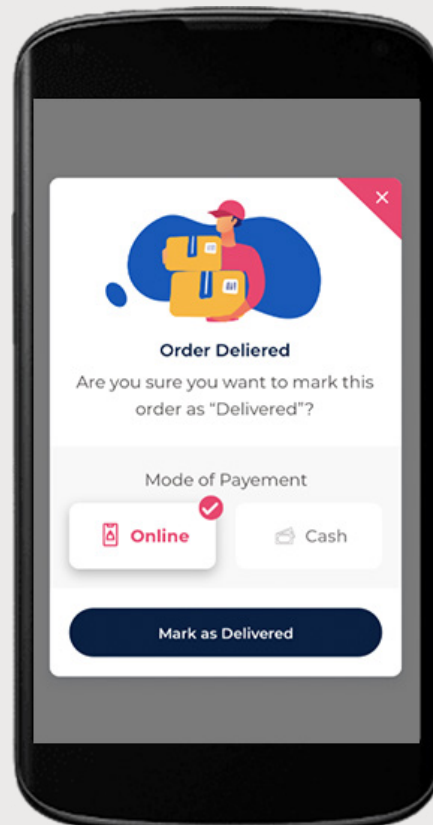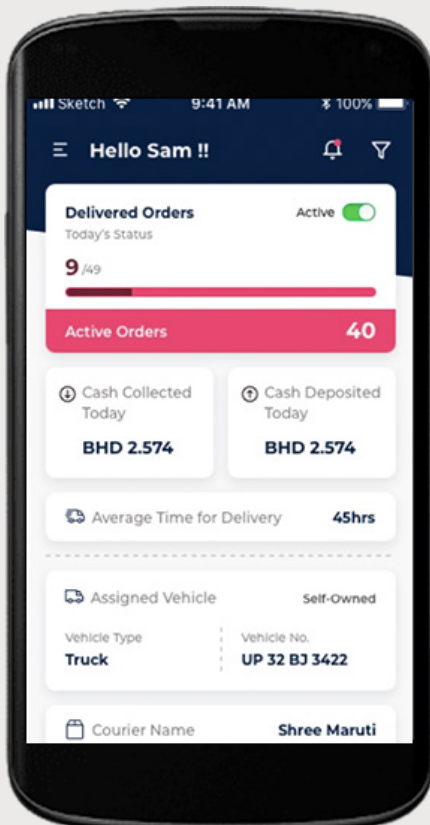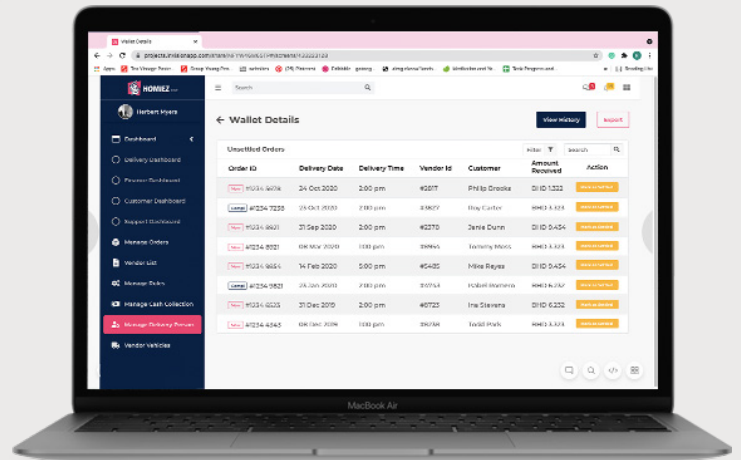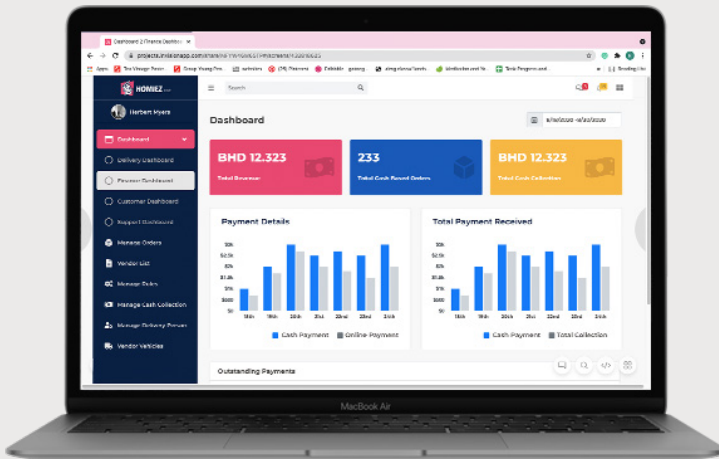
About Daffodil

For more than 20 years, Daffodil Software has been a trusted software technology partner to organizations across the globe. We take pride in our ability to look beyond technologies & deliver innovative solutions.

Daffodil is a CMMI level 3 accredited organization with innovation, tech agility & process orientation rooted deep within the core. Our team of 1000+ technologists strive to shape the tech industry and help businesses elevate their value proposition through technology.

Technology Partnerships & Certifications

Microsoft Partner Silver Application Development partner	**Google** Cloud Premier Partner	**aws** partner network
Microsoft Partner Silver Collaboration and Content	UiPath Partner	PubNub
ISO 9001:2015 CERTIFIED COMPANY	ISO 27001:2013	ISO 20000

Awards & Accolades

Deloitte. Technology Fast500 APAC Winner	IT EUROPA EUROPEAN IT & SOFTWARE EXCELLENCE AWARDS	zinnov ZONES	Great Place To Work® Certified INDIA
mobileweb award 2020	INDIA'S MOST ADMIRED BRAND 2020 INDIA'S CHOICE	CMMI level 3	THE ECONOMIC TIMES BTb BEST TECH BRANDS 2021

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