Case Study

AltexSoft & Travel Booking Platform

AltexSoft Rebuilds an Online Travel Agency

JavaScript, React, Typescript, Node.js, NATS, Kong S3, Prometheus, Grafana, iOS, Android, and Amazon Web Services.

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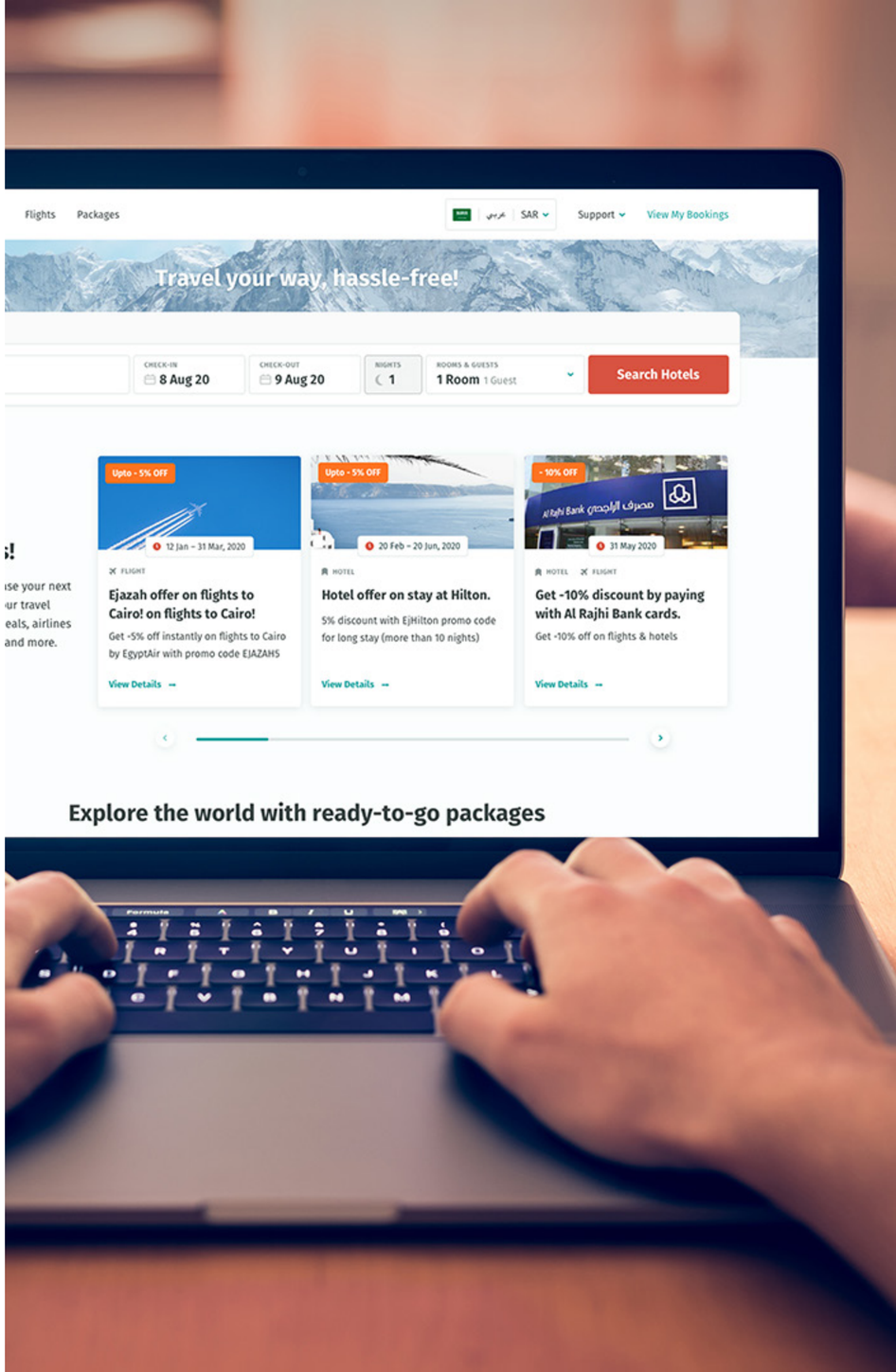
Background

Our client is a Saudi Arabia-based travel company that targets the GCC region. They provide a leading online travel platform that helps travelers find and book flights, hotels, and holidays all over the world. The company, which had an outdated platform, reached out to AltexSoft to build a new system with extended functionality and high stability to provide their customers with faster and more convenient service. As a result of the cooperative effort, our team developed a completely new platform that embraces both the customer-facing application and the back office. Currently, the platform offers flight and hotel booking with a car rental feature on the way.



Challenges

Working on the product, the team solved the following challenges:

1.

Integrating a global distribution system (GDS) into a platform

2.

Improving booking and ticketing flow

3.

Creating an adjustable commission engine

4.

Achieving a high level of system performance

5.

Designing web and mobile UX/UI

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Value Delivered

1. Integrating GDSs and third-party services

As the platform's main focus is flight and hotel booking, our team connected it to Sabre GDS (with Amadeus planned) for flight booking, and Qtech API for hotels. To get listed in metasearch engines, the OTA is integrated with Skyscanner and Wego. Besides, the AltexSoft team has enabled the platform with a Checkout payment gateway.

2. Developing a booking engine with customizable search rules

Our team has created a booking engine with a search and ticketing capabilities running through Sabre GDS. On the back-office side, the engine allows the OTA's travel product managers to choose particular product suppliers depending on the type of a user search. This way, the OTA managers can search the deals from suppliers that they partner with.

3. Building an adjustable commission engine

To run a pricing strategy, any OTA needs a commission engine. We've built a flexible commission engine that allows for configuring how markup and discounts are applied to different travel products depending on various factors, e.g. city pair, traffic source, type of travel, carrier, etc. This helps company's revenue managers be as adjustable as possible and keep the OTA pricing both competitive and meeting revenue goals.

4. Creating robust architecture

Every day the platform deals with numerous search and booking requests and has to process data coming from GDSs. This can result in overloading and service unavailability. To ensure zero downtime, our team has chosen a microservice approach to the architecture, making all microservices stateless. Also, engineers have created an industry-standard logging solution, based on AWS and S3. As an orchestration gateway, the engineers employed Kong API. For communication between microservices, they used NATS system, AWS EKS, and Kubernetes as an environment.

5. Designing product's UX/UI

The team of designers created a minimalistic design for the platform and a localized version for the GCC region. The website has rich navigation to simplify travel product search and booking. Our team also designed an admin panel for back-office and the customer-facing design of the OTA. The design embraced the web and mobile versions (iOS and Android).

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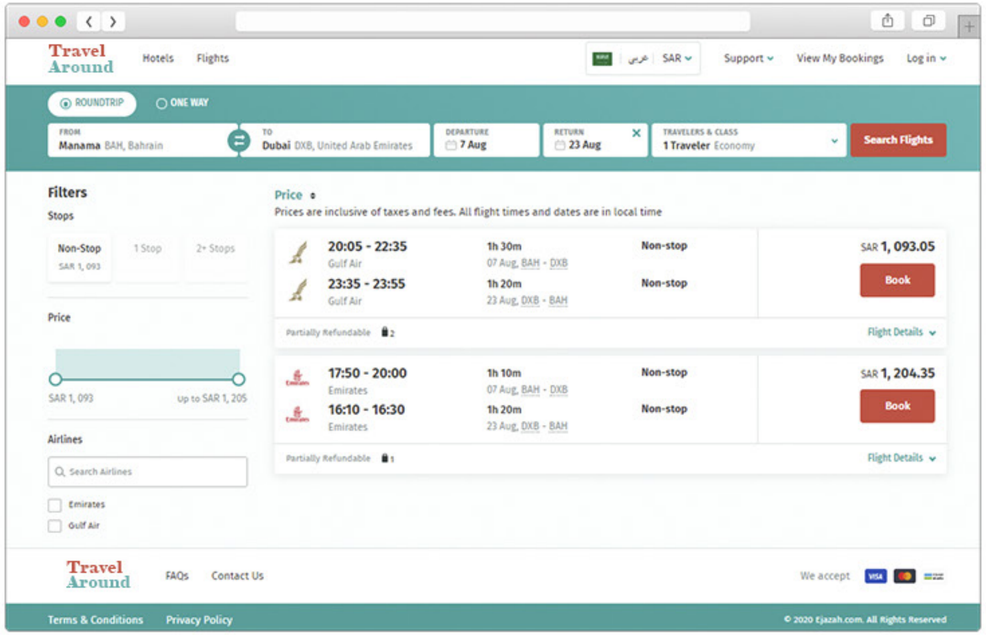
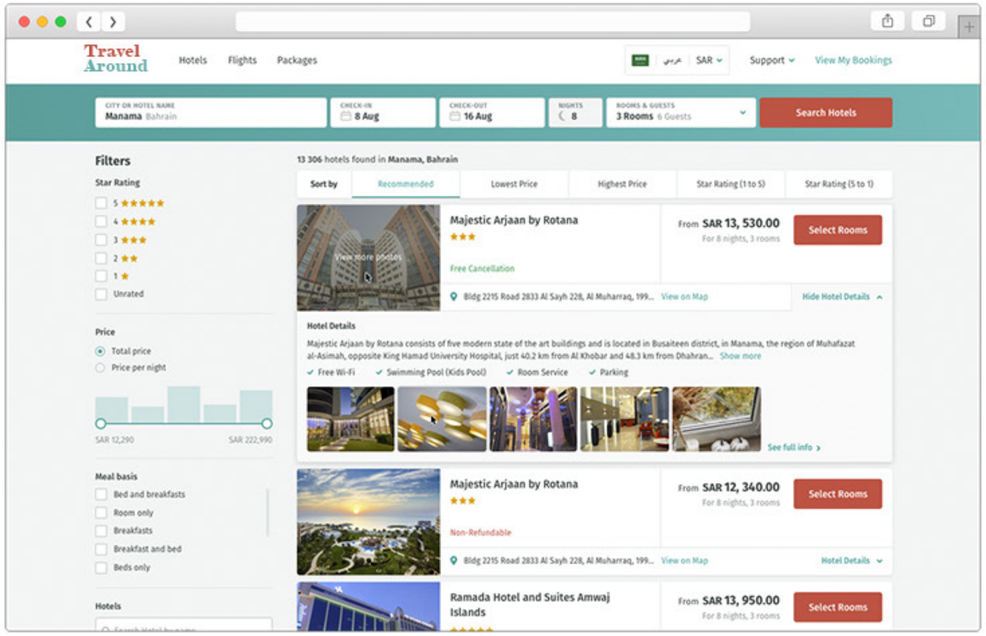
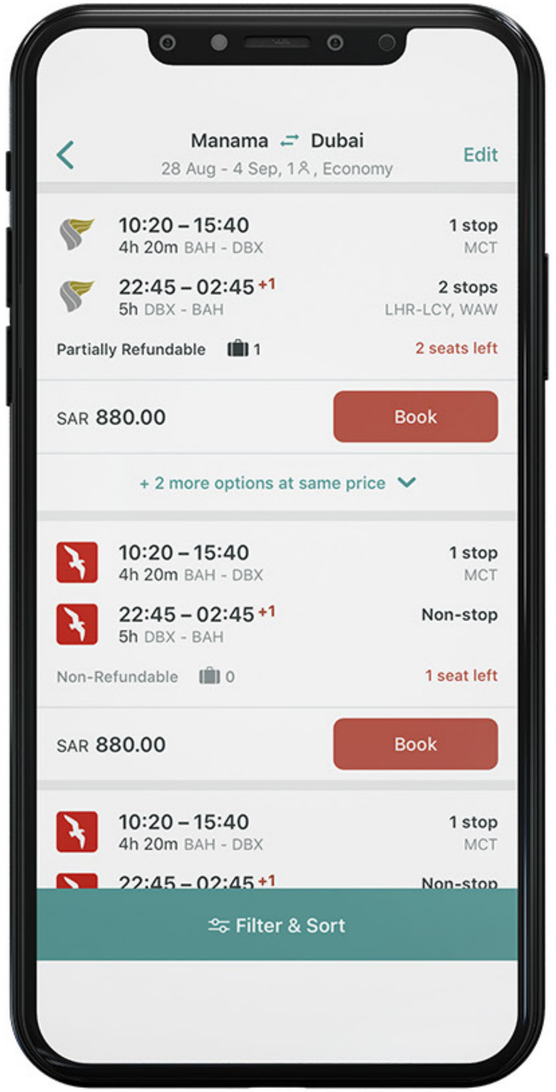
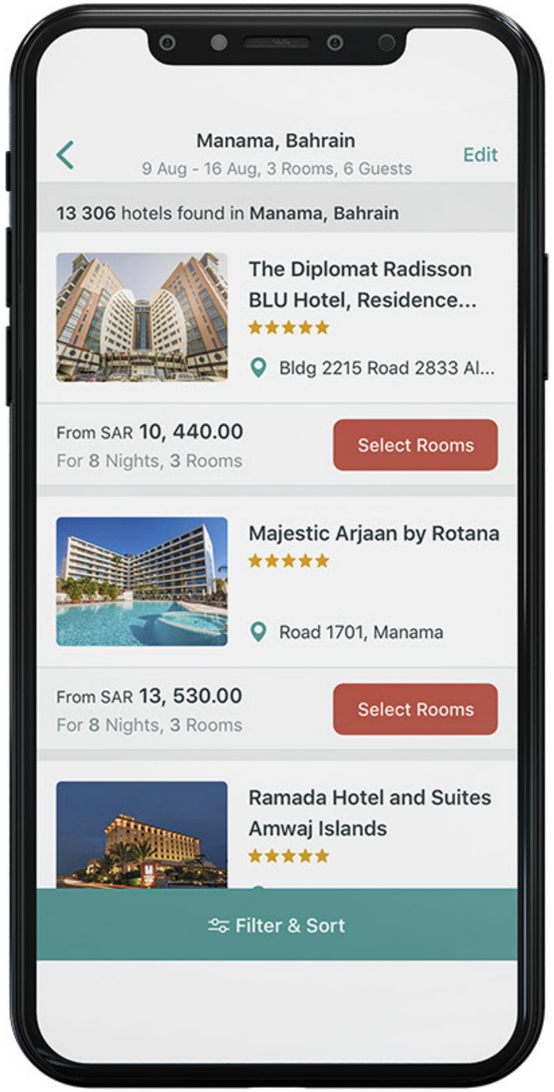

Travel Around
Hotels
Flights
Support
View My Bookings
Log in
ROUNDTRIP
ONE WAY
Manama BAH, Bahrain
Dubai DXB, United Arab Emirates
7 Aug
23 Aug
1 Traveler Economy
Search Flights
Filters
Stops
Non-Stop
1 Stop
2+ Stops
Price
Airlines
Search Airlines
Emirates
Gulf Air
Price
Prices are inclusive of taxes and fees. All flight times and dates are in local time
20:05 - 22:35
Gulf Air
1h 30m
Non-stop
23:35 - 23:55
Gulf Air
1h 20m
Non-stop
SAR 1, 093.05
Book
Partially Refundable
Flight Details
17:50 - 20:00
Emirates
1h 10m
Non-stop
16:10 - 16:30
Emirates
1h 20m
Non-stop
SAR 1, 204.35
Book
Partially Refundable
Flight Details
FAQs
Contact Us
We accept
Terms & Conditions
Privacy Policy


Travel Around
Hotels
Flights
Packages
Support
View My Bookings
Manama Bahrain
8 Aug
16 Aug
8
3 Rooms 6 Guests
Search Hotels
Filters
Star Rating
Price
Total price
Price per night
Meal basis
Bed and breakfasts
Room only
Breakfasts
Breakfast and bed
Beds only
Hotels
13 306 hotels found in Manama, Bahrain
Sort by
Recommended
Lowest Price
Highest Price
Star Rating (1 to 5)
Star Rating (5 to 1)
Majestic Arjaan by Rotana
From SAR 13, 530.00
For 8 nights, 3 rooms
Select Rooms
Free Cancellation
Hide Hotel Details
Hotel Details
Majestic Arjaan by Rotana
From SAR 12, 340.00
Non-Refundable
Select Rooms
Ramada Hotel and Suites Amwaj Islands
From SAR 13, 950.00
Select Rooms


Manama Dubai
28 Aug - 4 Sep, 1, Economy
Edit
10:20 – 15:40
4h 20m BAH - DBX
1 stop
MCT
22:45 – 02:45 +1
5h DBX - BAH
2 stops
LHR-LCY, WAW
Partially Refundable
1
2 seats left
SAR 880.00
Book
+ 2 more options at same price
10:20 – 15:40
4h 20m BAH - DBX
1 stop
MCT
22:45 – 02:45 +1
5h DBX - BAH
Non-stop
Non-Refundable
0
1 seat left
SAR 880.00
Book
10:20 – 15:40
4h 20m BAH - DBX
1 stop
MCT
Filter & Sort


Manama, Bahrain
9 Aug - 16 Aug, 3 Rooms, 6 Guests
Edit
13 306 hotels found in Manama, Bahrain
The Diplomat Radisson BLU Hotel, Residence...
Bldg 2215 Road 2833 Al...
From SAR 10, 440.00
For 8 Nights, 3 Rooms
Select Rooms
Majestic Arjaan by Rotana
Road 1701, Manama
From SAR 13, 530.00
For 8 Nights, 3 Rooms
Select Rooms
Ramada Hotel and Suites Amwaj Islands
Filter & Sort

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Approach and Technical Info

The project was completed over the course of 14 months by a team of twenty-eight professionals: **2 business analysts, 12 JS engineers, a solution architect, 4 QA engineers, 3 UX/UI designers, a project manager, a DevOps engineer,** and **4 mobile engineers.**

Cooperation between the client and AltexSoft is ongoing.

The team used the **Scrum framework** in the workflow. The technology stack included **JavaScript, React, Typescript** (for frontend), **Node.js** (for backend and microservices), **NATS, Kong API Gateway, Kubernetes** (for microservices), **S3, Prometheus, Grafana** (for logging and monitoring), **iOS, Android, and Amazon Web Services.**

Services provided within the project framework: Travel Technology Consulting.

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