Case Study

International Shipment Booking System

AltexSoft Helps Digitalize Freight Booking and Customer Management for International Shipment Provider

Node.js, React.js, Digital Ocean cloud

altexsoft

Background

The client is an Australia-based shipment service. The company provides its customers with international shipments of heavy and multiple-package goods using freight transport.

The partnership with AltexSoft was initiated to automate the client’s shipment booking and management workflow. Prior to the engagement, the client had to manually configure the delivery process using spreadsheets.

AltexSoft team designed and implemented a delivery constructor allowing the customers to configure their international freight and road transport options. They engineered a price calculator, and a customer management functionality that streamlines back-office operations.

Challenges

The product was built from the ground up, and the AltexSoft team was engaged in all design and engineering processes.

The project tasks included:

1.

Designing UX and UI for a delivery builder, price calculator, and CRM

2.

Providing back-end architecture and engineering with cloud deployment

3.

Ensuring Incoterms (International Commercial Terms) compliance

altexsoft

Value Delivered

1. Intuitive shipment builder with price calculator.

Configuring international freight shipments is no easy operation as it requires accounting for different types of transport (ships, planes, surface transportation), customs and port fees, type of goods, and package dimensions. All these details must be configurable by a user via a web interface. The AltexSoft design team broke down the delivery builder workflow into three steps: 1) package configuration, 2) international freight and ground transport options, 3) price summary with booking confirmation. This modular approach simplified booking, making it intuitive and clear for customers.

2. Customer management module automating booking operations.

The existing customer relationship workflow was fully manual. Customers contacted the client's managers to negotiate package dimension, shipment pricing, and schedules. As the new web interface allows customers to directly define their shipments, the back-office database keeps customer data and shipment configuration. So, managers can reduce the time spent on negotiations and focus directly on freight delivery management.

3. Scalable cloud-based architecture integrated with road transportation provider APIs.

The back-end architecture is built using a **Node.js** environment and deployed on the Digital Ocean cloud computing platform that enables scalability and smart computing resource allocation. To allow for "door to door" transportation and pricing, the engineering team also integrated multiple APIs for such providers as FedEx, DHL, and others. The web interface is built using **React.js**.

4. Incoterms compliance in business logic.

International Commercial Terms is a set of predefined rules that apply to international sales, including freight operations. They are aimed at clearly defining tasks, costs, and risks associated with international transportation. The Incoterm rules are reflected in business logic and are automatically accounted for during price and schedule calculations.

altexsoft

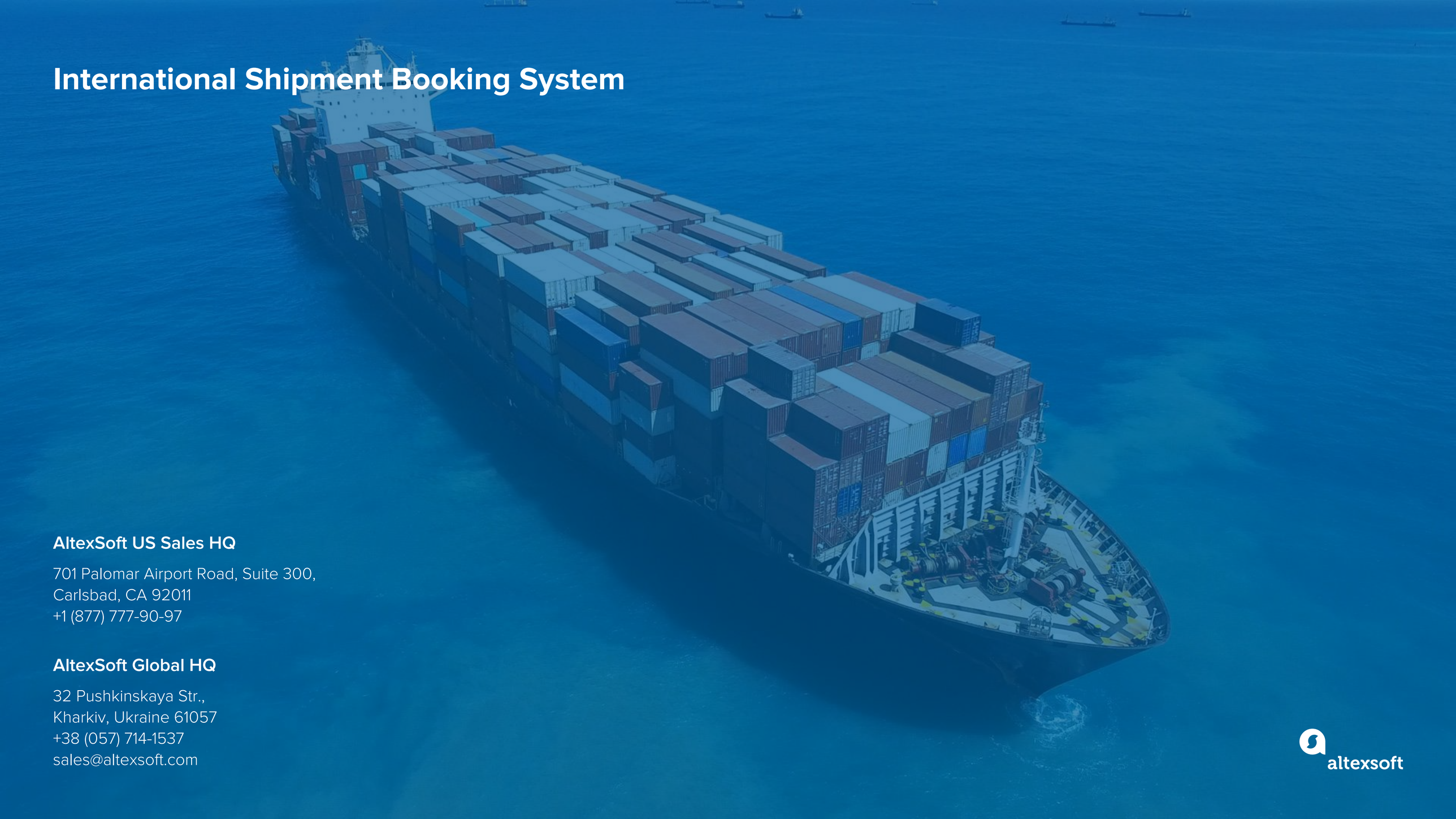
Approach and Technical Info

The project team consisted of a software architect, a back-end **Node.js** engineer, a front-end **React.js** engineer, a quality assurance specialist, a UX specialist, a UI specialist, a project manager, and a business analyst.

The technology stack included **Node.js**, **React.js**, **Digital Ocean cloud**.

The duration of the project was about 6 months with total scope of work completed at about 3-man years.

International Shipment Booking System



AltexSoft US Sales HQ

701 Palomar Airport Road, Suite 300,
Carlsbad, CA 92011
+1 (877) 777-90-97

AltexSoft Global HQ

32 Pushkinskaya Str.,
Kharkiv, Ukraine 61057
+38 (057) 714-1537
sales@altexsoft.com

altexsoft