

## Project Scope

Your yacht rental web app will be designed to provide an intuitive and seamless experience for both yacht owners and renters. The platform will include:

### Core Features:

#### 1. User-Friendly Booking System

- A dynamic booking system that allows users to search, filter, and book yachts instantly.
- Users can select rental duration, departure location, and additional services (e.g., crew, catering).
- Integrated real-time availability calendar to prevent double bookings.
- Automated booking confirmations with email and SMS notifications.
- **Integration with Nausys API** to fetch real-time yacht availability and display updated listings dynamically.

#### 2. Yacht Owner Dashboard

- A dedicated portal for yacht owners to manage their listings, pricing, and bookings.
- Owners can upload high-quality images, set availability, and define pricing models.
- Dashboard analytics to track revenue, occupancy rates, and customer reviews.
- AI-powered insights to suggest optimal pricing strategies based on demand and competitor analysis.

#### 3. Customer Dashboard

- Customers can view their booking history, track upcoming trips, and make modifications.
- Secure payment processing and invoice generation.
- Personalized yacht recommendations based on past bookings and preferences.
- Wishlist functionality to save favorite yachts for future bookings.

#### 4. AI-Powered Recommendations

- AI-driven suggestions based on user behavior, preferences, and booking history.
- Dynamic personalization, offering recommended yachts based on previous selections.
- Machine learning algorithms that improve suggestions over time.

#### 5. Smart Pricing Model

- AI-powered pricing engine that adjusts rental costs dynamically based on factors like seasonality, demand, and competitor rates.
- Automated discount suggestions for early bookings or last-minute deals.
- Custom pricing rules for yacht owners, allowing flexibility in promotions and rates.

## 6. Live Chat Support & AI Assistant

- AI chatbot for real-time assistance, helping users with booking queries and recommendations.
- Human support escalation for complex inquiries, ensuring seamless customer service.
- Multilingual chat support to cater to an international clientele.

## 7. Secure Payment Gateway

- Integration with Stripe and PayPal for seamless and secure transactions.
- Multiple payment options including credit/debit cards, bank transfers, and digital wallets.
- Secure encryption protocols to ensure data protection and fraud prevention.

## 8. Advanced Search & Filters

- Customizable search options, allowing users to filter yachts by size, type, location, amenities, and price range.
- AI-powered search optimization to suggest relevant results based on user intent.
- Interactive map search to explore available yachts based on geographic locations.

## 9. Multi-Language & Currency Support

- Global accessibility with automatic language translation based on user location.
- Multi-currency support, allowing customers to view prices and pay in their preferred currency.

## 10. Reviews & Ratings

- Verified customer reviews to build credibility and trust.
- AI-powered sentiment analysis to detect and highlight key insights from reviews.
- Detailed rating breakdowns for cleanliness, service, and overall experience.

## 11. Mobile-Responsive Design

- Fully responsive UI/UX, ensuring seamless usability on desktops, tablets, and smartphones.
- Progressive Web App (PWA) support for app-like experience on mobile devices.
- Offline browsing for saved yachts and previously visited pages.

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## AI Integration for Business Growth

Artificial intelligence will play a crucial role in optimizing user experience and business operations:

- **AI Chatbot:** Provides instant responses to customer inquiries, reducing operational workload.

- **Predictive Analytics:** Identifies booking trends and suggests optimal pricing strategies.
  - **Fraud Detection System:** AI-based monitoring to prevent fake bookings and fraudulent transactions.
  - **Automated Marketing Campaigns:** AI-driven emails and notifications to re-engage customers.
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## Tech Stack & Deployment Infrastructure

**Frontend:** React.js (Next.js for SEO optimization)

**Backend:** Nest.js (Node.js with TypeScript for scalability)

**Database:** PostgreSQL (Relational Database) & Redis (Caching)

**AI Services:** OpenAI API for chatbot & recommendation system

**Hosting:** AWS (EC2, S3, RDS, CloudFront for CDN)

**Security:** SSL encryption, OAuth 2.0 Authentication

**Third-Party API:** Nausys API for real-time yacht availability and booking synchronization

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