



## USE CASE

# Procurement Platform Interface Modernization from JSF to React

## CLIENT PROFILE

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The HRS eRFP platform, also known as the HRS procurement or sourcing platform, is a comprehensive solution developed by HRS Group to streamline corporate hotel procurement processes. This platform enables efficient communication between corporate clients and hotel suppliers, facilitating tasks such as submitting bids, managing negotiations, and selecting suitable accommodations.

## INITIAL CHALLENGE

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The customer-facing application was built using legacy JSF framework, which resulted in:

- Limited flexibility in UI/UX design
- Performance bottlenecks
- Poor maintainability
- Difficulty in implementing modern features

## PERFORMANCE ISSUES

### Dense data rendering issues

- The interface shows a large grid with multiple columns and complex data
- Each row contains numerous data points, calculations, and icons

The screenshot shows the HRS interface with a dense data table. At the top, there's a header with 'HRS' logo and 'Logout'. Below it, a summary row shows 'RFP: Siemens Transient RFP 2022 APAC' with metrics for 'HOTELS: 2139', 'NIGHTS: 404015', 'RESPONSE: 90.23%', 'DEADLINE', and 'STATUS: in progress'. A 'Recalculate' button is visible. Below the summary, there's a comparison table for 'SAVINGS' and 'LRA INCL. BF' between 'HRS OPTIMAL PORTFOLIO' and 'YOUR DECISION'. The main table has columns: HOTEL NAME, CLEAN & SAFE, GREEN STAY, CATEGORY, RATING, DISTANCE (KM), SECURITY SCORE, AVAIL., PRICE CORR., ROOM NIGHTS, CURRENT AWR, BEST RATE OPTION (AWR), AMENITIES, HRS (Optimal portfolio, Strategy), and HOTEL SUB MASTER. The table lists hotels like Evergreen Hotel Chiayi, Evergreen Laurel Hotel, and Holiday Inn Express Chiayi with various data points and icons.

## UI/UX LIMITATIONS

### Information Overload

- Multiple metrics, percentages, and values crammed into single rows
- Small, hard-to-read icons and numbers
- Complex tooltip system (as shown in Image 2) that overlays critical information

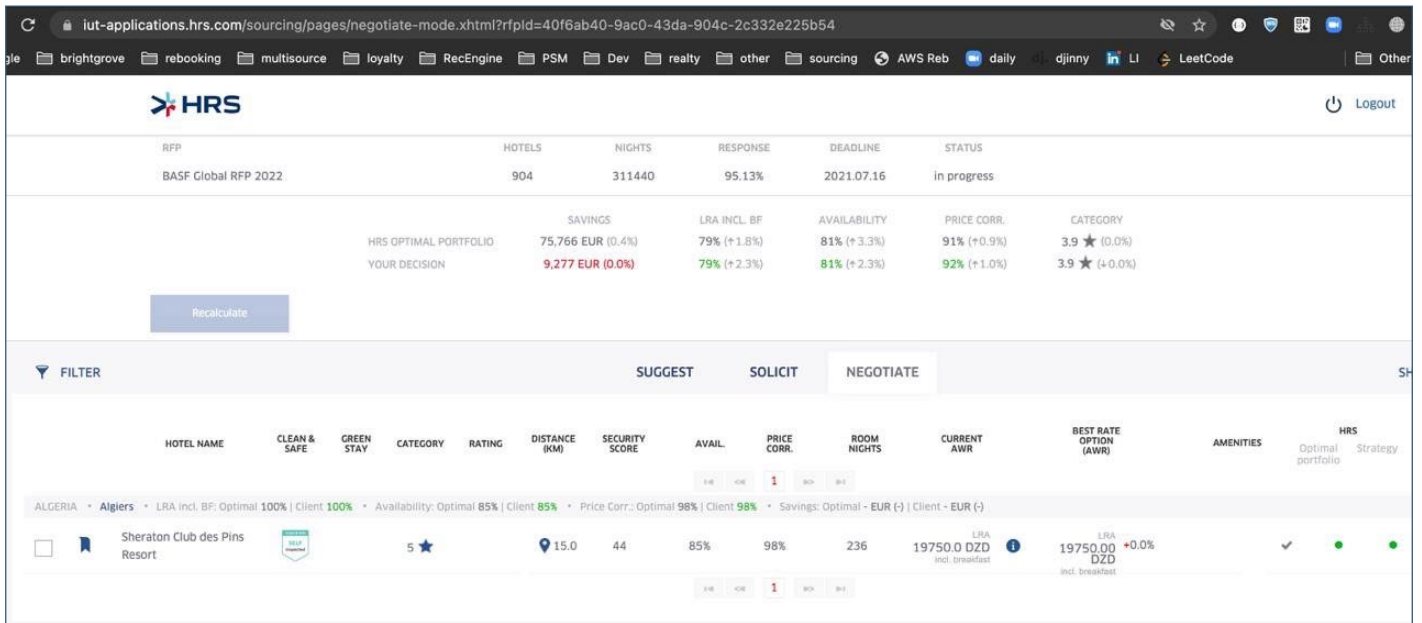
### Poor Information Hierarchy

- All data points appear with equal visual weight
- Critical business metrics blend with secondary information
- Difficult to quickly scan and find important information
- Status indicators (green/red dots) are small and easy to miss

This screenshot shows a different view of the HRS interface, focusing on a table of hotels in Tirana, Albania. The table has the same columns as the first screenshot: HOTEL NAME, CLEAN & SAFE, GREEN STAY, CATEGORY, RATING, DISTANCE (KM), SECURITY SCORE, AVAIL., PRICE CORR., ROOM NIGHTS, CURRENT AWR, BEST RATE OPTION (AWR), AMENITIES, HRS (Optimal portfolio, Strategy), and HOTEL SUB MASTER. The table lists hotels like Lot Boutique Hotel, Maritim Hotel Plaza Tirana, and Rogner Hotel Tirana with various data points and icons. A tooltip system is visible, showing detailed information for each hotel entry.

## INTERACTION DESIGN ISSUES

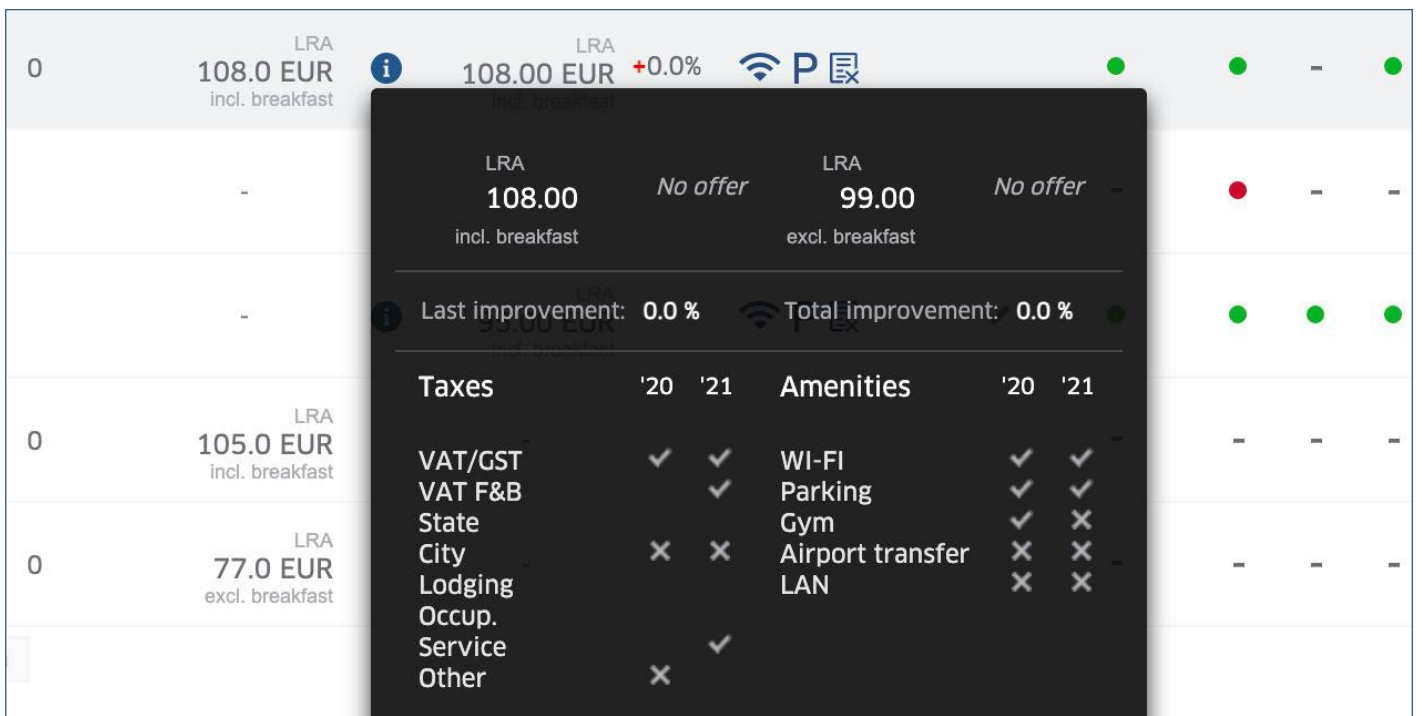
- Multiple nested levels of information
- Many columns requiring horizontal scrolling
- Complex bookmark/flag system
- Small click targets for interactive elements



## TECHNICAL LIMITATIONS

### Monolithic Architecture Impact

- Each data update likely required full row or table refresh
- Synchronization between different data points was probably sluggish
- Changes in filters or sorting would trigger heavy server requests



## State Management Issues

- Complex state with multiple interdependent values
- Many calculated fields that needed constant updates
- Synchronization issues between different table sections

## Browser Performance

- Heavy DOM manipulation with many elements
- Complex CSS calculations for layout and styling
- Resource-intensive rendering of large data tables
- Poor handling of real-time updates

RFP	HOTELS	NIGHTS	RESPONSE	DEADLINE	STATUS													
Schneider Electric NAM RFP 2022	504	293872	97.82%	2021.08.13	in progress													
		SAVINGS	LRA INCL. BF	AVAILABILITY	PRICE CORR.	CATEGORY												
	HRS OPTIMAL PORTFOLIO	-62,173,882.866 EUR (-242,483.9%)	93% (+0.5%)	84% (+2.6%)	95% (+1.3%)	3.2 ★ (+0.1%)												
	YOUR DECISION	-62,173,806.405 EUR (-240,406.1%)	92% (+0.2%)	84% (+1.9%)	95% (+1.2%)	3.2 ★ (+0.2%)												
<button>Recalculate</button>																		
<input type="checkbox"/>	Hilton Cambridge-Waterloo Ontario	3 ★	1.2	80	90%	90%	7	122.0 CAD incl. breakfast	122.00 CAD incl. breakfast	+0.0%	📶	🛡️	✓	●	●	●	●	🗨️
CANADA • Edmonton, AB • LRA incl. BF: Optimal 100%   Client 100% • Availability: Optimal 95%   Client 95% • Price Corr.: Optimal 98%   Client 98% • Savings: Optimal -1 EUR (-)   Client -1 EUR (-)																		
<input type="checkbox"/>	Holiday Inn & Suites WEST EDMONTON	3 ★	4.5	71	96%	95%	326	114.0 CAD incl. breakfast	114.00 CAD incl. breakfast	+0.0%	📶	🛡️	✓	●	●	●	●	🗨️
CANADA • Halifax, NS • LRA incl. BF: Optimal -   Client - • Availability: Optimal -   Client - • Price Corr.: Optimal -   Client - • Savings: Optimal - EUR (-)   Client - EUR (-)																		
<input type="checkbox"/>	Holiday Inn CONFERENCE CTR EDMONTON SOUTH	2 ★	15.7	70	91%	96%	115	108.0 CAD incl. breakfast	108.00 CAD incl. breakfast	+0.0%	📶	🛡️	✓	●	●	●	●	🗨️
CANADA • Halifax, NS • LRA incl. BF: Optimal -   Client - • Availability: Optimal -   Client - • Price Corr.: Optimal -   Client - • Savings: Optimal - EUR (-)   Client - EUR (-)																		
<input type="checkbox"/>	ALT Halifax Stanfield Halifax	3 ★	9.3	28.3	80	77%	97%	50	-	-	-	-	-	-	-	-	-	🗨️
<input type="checkbox"/>	Future Inns Halifax	3 ★	2.5	80	44%	100%	31	105.0 CAD incl. breakfast	-	-	-	-	-	-	-	-	-	🗨️
<input type="checkbox"/>	Sherwood Inn	4 ★	1259.3	81	-	-	50	-	90.00 CAD incl. breakfast	-	-	-	-	●	-	-	-	🗨️
CANADA • Hamilton, ON • LRA incl. BF: Optimal 100%   Client 100% • Availability: Optimal 93%   Client 93% • Price Corr.: Optimal 98%   Client 98% • Savings: Optimal - EUR (-)   Client - EUR (-)																		
<input type="checkbox"/>	Holiday Inn BURLINGTON-HOTEL & CONF CENTRE		-	78	88%	99%	62	119.0 CAD incl. breakfast	119.00 CAD incl. breakfast	+0.0%	📶	🛡️	✓	●	●	●	●	🗨️
CANADA • Kingston, ON • LRA incl. BF: Optimal -   Client - • Availability: Optimal -   Client - • Price Corr.: Optimal -   Client - • Savings: Optimal - EUR (-)   Client - EUR (-)																		
<input type="checkbox"/>	Courtyard Kingston Highway 401/Division Street	3 ★	4.4	80	85%	97%	31	127.07 CAD incl. breakfast	-	-	-	-	-	●	-	-	-	🗨️
CANADA • Mississauga, ON • LRA incl. BF: Optimal 80%   Client 80% • Availability: Optimal 90%   Client 90% • Price Corr.: Optimal 98%   Client 98% • Savings: Optimal 5,294 EUR (2.4%)   Client 5,294 EUR (2.4%)																		
<input type="checkbox"/>	Courtyard Toronto Mississauga/West	3 ★	3.2	79	60%	100%	656	144.0 CAD incl. breakfast	144.00 CAD incl. breakfast	+0.0%	📶	🛡️	✓	●	●	●	●	🗨️

## FRONT-END MODERNIZATION SOLUTION

### Core Technology Stack

- Migrated from JSF to React 17 (later upgraded to React 18)
- Implemented Redux for state management
- Integrated Redux-Saga for side-effect handling
- Utilized Next.js for server-side rendering capabilities

### Architecture Improvements

- Component-Based Structure
- Developed reusable component library
- Implemented micro-frontend architecture for gradual migration
- Created feature flags system for controlled rollout
- Performance Optimizations
- Implemented code-splitting
- Added lazy loading for improved initial page loads
- Utilized React.memo for component memoization
- Applied useMemo for computation optimization
- Initial data rendering optimization: achieved ~80ms per row load time
- SEO Enhancements
- Server-side rendering for critical pages
- Dynamic meta tags implementation
- Structured data integration

## TECHNICAL IMPLEMENTATION DETAILS

### State Management

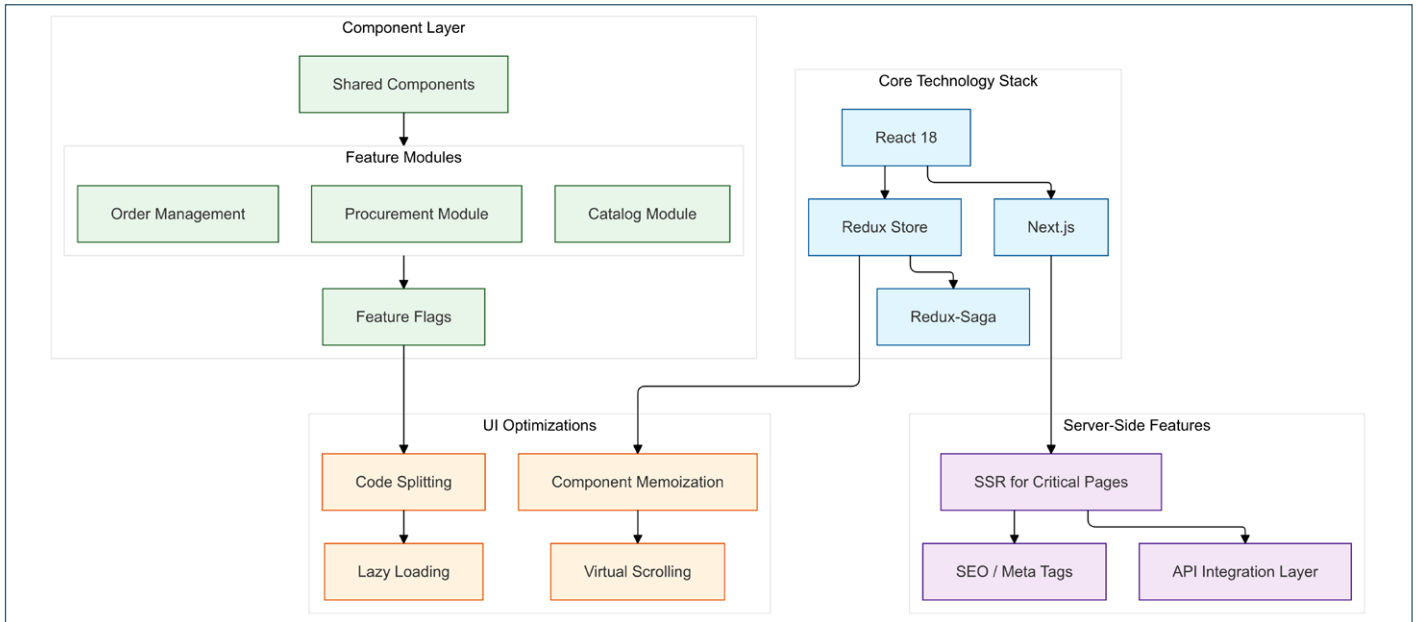
- Centralized Redux store
- Saga middleware for complex operations
- Optimized state updates for performance

### Component Architecture

- Atomic design principles
- Shared component library
- Modular styling system

### Loading Optimizations

- Dynamic imports
- Route-based code splitting
- Asset preloading strategies



## IMPLEMENTATION APPROACH & MIGRATION STRATEGY

### Gradual Transition

- Micro-frontend architecture allowing incremental updates
- Feature flags for controlling new React component deployment
- Parallel operation of old and new systems during transition

### Development Timeline

- Core React Application Development: 6 months
- Incremental Feature Migration: 12 months
- Performance Optimization: 3 months

## MEASURABLE OUTCOMES

The platform upgrade delivered substantial improvements in both performance and development efficiency. These measurable outcomes demonstrate the significant impact of our strategic technology investments.

### Performance Improvements

- 50% reduction in initial page load time
- Successful handling of 300% increased data load
- Optimized rendering performance (80ms per row)

### Development Efficiency

- 40% faster time-to-market for new features
- 50% reduction in feature integration time
- Improved code maintainability through component reuse

This modernization effort successfully transformed the user interface while maintaining system stability and improving overall performance metrics.

Ready to take the next step? Reach us today at [info@brightgrove.com](mailto:info@brightgrove.com)