

CASE STUDY TITLE

Loyalty Program web portal development using MERN stack for a North-America based hospitality Company

CLIENT OVERVIEW

Company: USA based multi-chain hospitality company having presence over food & beverages, rental stay, resorts and entertainment areas

Industry: Hospitality & Entertainment

Operations: USA

Services: Providing full service hotel, resort, fast-food restaurants and entertainment zones

BACKGROUND & BUSINESS CHALLENGE

Our client is a mid-sized hotel chain targeting both business and leisure travelers. Facing increased competition from online travel agencies (OTAs), the company aimed to strengthen direct customer relationships and reduce dependency on third-party booking platforms as well as building a loyalty-based customer engagement program.

- **Low customer retention** – repeat booking rate was below 18%
- **High OTA commissions** – nearly 30% of bookings came via third-party platforms, eroding margins
- **Limited customer data** – guest preferences and spending patterns were fragmented across systems

To address these issues, the management decided to **launch a digital loyalty program**—accessible through a **dedicated web platform and mobile web app**—to improve engagement, boost repeat bookings, and gather actionable customer insights.

PROJECT OBJECTIVES

- Develop a scalable, cloud-native loyalty program platform
- Enables guests to **sign up, earn, and redeem points** across all hotels/resorts
- Delivers a **personalized member experience** with offers and rewards
- Integrates seamlessly with the company's existing **Property Management System (PMS)** and **Customer Relationship Management (CRM)** tools
- Operates efficiently across **North American regions**

KEY COMPONENTS & MODULES

We help our client to design and build the Loyalty Rewards Platform using the MERN (MongoDB, Express, React, Node.js) technology stack, deployed on Microsoft Azure.

The platform includes:

- **Public website:** Information on rewards, benefits, and tier details.
- **Member portal:** Personalized dashboard showing points, booking history, and available offers.
- **Admin console:** Tools for managing campaigns, member data, and analytics.

- **Integration layer:** Real-time sync with booking systems and payment gateways.

TECHNOLOGY STACK

Layer	Technology Used		Description
Front-End	React.js (Next.js framework)	Responsive website + PWA with multilingual support	
Back-End	Node.js + Express.js	REST APIs for member services, authentication, and rewards	
Database	MongoDB (Atlas on Azure)	Stores member profiles, transactions, and campaign data	
Cloud Platform	Microsoft Azure	Hosting (App Service), Storage, and Monitoring	
Authentication	Azure AD B2C	Secure identity management with social logins	
Caching & Queues	Azure Cache for Redis / Service Bus	Optimized performance and message handling	
Analytics	Power BI + Azure Synapse	Business insights and campaign performance tracking	

KEY TAKEAWAYS

- ROI achieved within 16 months due to savings on OTA commissions and higher repeat bookings
- Customer lifetime value (CLV) increased by 35%
- Strengthened brand loyalty and reduced dependence on third-party channels
- Created a foundation for mobile app development

LESSONS LEARNT

- Started with a **modular microservices architecture** to ease future feature expansion
- Early investment in **DevOps and CI/CD** pipelines reduced deployment friction
- Integrating analytics from the beginning ensured better ROI tracking
- Real-time personalization drives higher member engagement

CONCLUSION

This case study of a semi-government fleet in the Middle East shows how telematics, IoT hardware, dashboards, and automation can transform fleet operations: from reactive and manual, to proactive, visible, safe, and cost-efficient. The solution provides real evidence of what works in the region, including features like toll/fine analytics, driver monitoring, real-time tracking etc.

The Loyalty Rewards Platform demonstrated how a MERN-based, Azure-hosted solution can empower hospitality brands in North America to:

- Build direct, lasting relationships with guests,
- Increase repeat revenue, and

- Reduce operational dependence on OTAs.

The project combined **modern web technology**, **cloud scalability**, and **customer-centric design**, positioning our client as a leader in digital transformation within the hospitality industry.

