STATE OF THE ART HOTEL MANAGEMENT ERP

Client Overview

Our client is one of the leaders in providing software solutions to the manufacturing and hospitality industries worldwide. Our client's systems deliver multi-departmental hotel management software for every department of the hospitality business, including financial and asset teams; central reservations or corporate office; on-property operations; sales, marketing, and loyalty teams; maintenance groups; coordinators of labor and staffing schedules.

Our client's hotel property management solutions connect hospitality-specific strategy and plans for front- and back-office systems which help in making better decisions. With approximately 5,000 customers in more than 100 countries now actively using their manufacturing and hospitality products, our client has established a global infrastructure for distribution, development and support of enterprise software.

Engagement Situation and Challenges

Our client currently offers several enterprise solutions from financial management software to food and beverage management software, hotel property management software, central reservations, gaming management, and more. These comprehensive solutions allow our client's customers to manage accounts, kitchen operations, reservations, guests and avail the in-house services.

Our client was seeking a partner to enhance their hotel property management product, for developing many new features and functions to manage their hospitality business effectively. As the versions advanced, the client approached Xoriant for much more additional functionality and was confident enough to give the complete modules to Xoriant for development. Xoriant even developed functionality to correctly handle region specific taxation systems like VAT or Goods and services Tax (GST), so that the product could be tailored and sold in the European Economic Community regions.

Our client was focused on touching all the needs of an event starting from financial Management to food and beverage management, customized events and amenities. Xoriant not only developed the complete modules but also contributed significantly in the requirement analysis and Use Case development. Once these modules were successfully developed, the client wanted to change the UI to make it HTML5 compliant UI and also user friendly.

Some of our client's key business requirements were to work on the following modules of the hotel management system:

1. Modules :

✔ **Event Scheduling and Management module**

- Flexibly configure event meeting room space and room layout options
- Manage event menus, items and rates as per the requirement
- Book and manage event reservations
- Report on event schedules, details and management
- Link event details to group reservations
- Manage the payment and accounts.

✔ **Tax Invoicing module**

- Allow tax invoice system settings
- Provide tax invoice description and layout (final invoice)
- Provide tax summary/breakdown section
- Include additional region wise tax laws
- Provide a new list screen besides the Menu for viewing and printing functionalities
- Generate comprehensive PDF reports of the invoices and related documents.

✔ **Group Sales module**

- Manage group bookings

- View group availability

- Define traces

- Manage events

✔ **Profiles module**

- Manage guest, company, and booking agency profiles

- Add billing information to profiles

- Add and view consortium information to booking agencies

- Blacklist profiles

- Merge guest profiles

✔ **Housekeeping module**

- Add housekeeping employees

- Maintain work orders

- Create housekeeping assignments

- Update room status

✔ **Sundry Module**

- A module for selling miscellaneous items that is available to guests for purchase

- Some common hotel sundry items are toiletries, over the counter medications, snack foods, and bottled water

- These items are usually offered in the hotel gift shop, or in vending machines located in the hotel

2. HMS-RMS integration :

With the release of Hospitality Management System with the new modules, the client wanted to integrate HMS with RMS (Revenue Management System) product.

3. New HTML5 UI :

With the new modules to be implemented, client wanted to take an opportunity to completely revamp the front-end of the apps by migrating to a new HTML5 frontend from the existing one.

Xoriant Solution

Xoriant along with our client team developed an engagement roadmap starting from complete analysis of the hotel management solution to design and submission of use cases for the new event scheduling and management module. Also, Xoriant trained our client's resources on the enterprise framework, thereby ensuring quick turnaround for the enhancements.

Xoriant Contributions:

1. Modules :

✔ **Event Scheduling and Management module**
  - Designed and developed a template to allow selecting conference room on the basis of type, layout and configuration
  - Flexibly configured food and beverage, equipment, audio visual and amenity items including inventory and pricing along with a text editor feature for menu items and Banquet Event Orders

- Developed complex procedures to calculate and configure rates
- Enabled viewing event schedules with move and change functionality with filters to display on daily, weekly and monthly basis and also create and book new events using drag and drop facility
- Developed a reporting mechanism to generate the desired client facing reports and documents
- Developed a customized display for event charges and a complete payments module with foreign currency support to manage the accounts

✔ Tax Invoicing Module :

- Designed and developed a mechanism where the property can turn the tax invoicing on/off along with numerous other settings like:
    - o Tax Id (of the Hotel)
    - o VAT Id (of the Hotel)
    - o Invoice Payment Due Days etc.
- Formulated and designed a standard invoice description and layout following the laws for the requisite header, bottom and posting information to be included on an invoice printout.
- Designed and developed a detailed form summary and breakdown of the entire invoice as per of country specific tax laws
- Developed document/reports exporting capability by integrating with Cognos reporting that allows the following functionalities:
    - o Review, review and email Invoices (Print/Preview)
    - o Export invoice data to Excel.

✔ **Group Sales Module :**

- Designed and developed a Group Sales module for Group Managers, Group Reservation Coordinators, and Sales Managers who can use the screen to create room blocks, set rates, manage billing, create rooming lists, and send messages to the group.
- Architected and developed three components for Group Booking for booker (organization or booking agency profile), group bookings, and delegates
- Developed a group booking tab which included : Room Types, Rates, Block, Auto Transfer, Preferences, Delegates, Events, Traces, Transportation

✔ **Profiles Module :**

Designed a new profile module to the existing framework which addresses some of the request like:

- Creating a new guest as well as an organization profile
- Adding a billing profile to a guest profile
- Adding rewards program information to a guest profile
- Adding preferences to a guest profile
- Viewing stay details for a guest profile
- Blacklisting a guest profile
- Merging guest profiles

✔ Housekeeping Module :

Designed a new profile module to the existing framework which addresses some of the request like:

- Designed an Adding employees tab for new records
- Developed a complex work orders form for various activities like room status, inventory, service type, employee assigned etc. also,, can modify, cancel and copy the work orders
- Generated a form with housekeeping assignments like assigning rooms to housekeepers automatically, assignment details, changing room service type etc.
- Integrated a new Room status update form with various description details in terms of cleanliness and inspection

✔ Sundry Module :

Designed and developed a "Maintain Global Codes" page which Configures

- Sundry item category codes for a given property
- Sundry item type codes and functionalities
- Sundry item prices and discount reason codes
- Sundry modifier type codes for modifiers
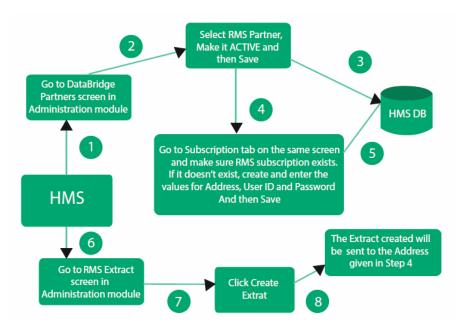- Gift card configuration

2. HMS-RMS Integration :

- Developed the mapping of the different fields between the HMS and RMS systems
- Developed the XML format in which to send over the data from HMS to RMS
- Developed the Webservices in the HMS which can be called by the RMS to gather the required data
- Created a process to integrate HMS with RMS
- Configured HMS to send zip file to RMS and receive recommendation messages back in the form of extracts

3. New HTML5 Frontend :

- In the current engagement, the client decided to convert the UI to be HTML5 compliant. For this Xoriant helped the client to come up with a new Front-end framework which can be used with the new UI. ExtJS was extensively used in the new UI
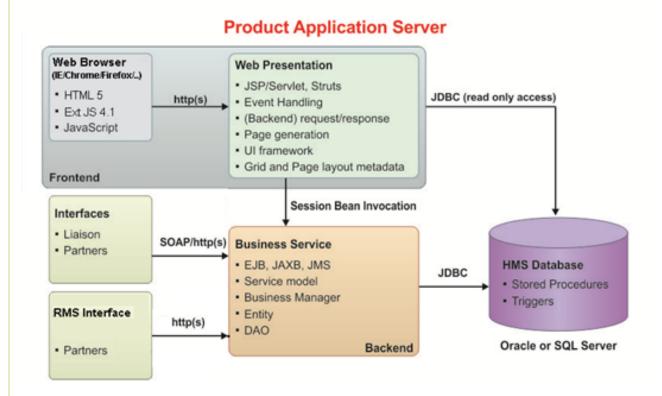- Xoriant converted around 75% of the screens to the new UI

Xoriant Key Contributions

- Enhanced the existing framework to accept the entity model xml as well as database model xml and based on that generated the following:

    o The scripts for table creation, triggers and constraints

    o Skeleton code for EJB related class like entity bean, remote Interface, home interface, etc

    o API's to convert from the Entity to DAO and DAO to Entity

    o API's to convert from UI (JSP variables) to Entity and Entity to UI

- Used design patterns such as Session Façade, Business Delegate, DAO, Value Object, etc
- Developed XML Schemas for the entity and request and response schemas for all the functionalities which were exposed as web services
- Integrated with the Cognos Reports to generate the desired reports; Created a facility to store the PDF's and email them
- The new UI pages were generated by reading the configured values stored in the database

All the modules were incorporated into the existing product version to broaden the functionalities and hence marketability of the product.

Architecture Diagram

Product Application Server

Web Browser
(IE/Chrome/Firefox/..)
- HTML 5
- Ext JS 4.1
- JavaScript

Frontend

http(s)

Web Presentation
- JSP/Servlet, Struts
- Event Handling
- (Backend) request/response
- Page generation
- UI framework
- Grid and Page layout metadata

JDBC (read only access)

Session Bean Invocation

Interfaces
- Liaison
- Partners

SOAP/http(s)

Business Service
- EJB, JAXB, JMS
- Service model
- Business Manager
- Entity
- DAO

Backend

JDBC

HMS Database
- Stored Procedures
- Triggers

Oracle or SQL Server

RMS Interface
- Partners

http(s)

Tools &Technologies

Java,J2EE, Jboss, extJS, Oracle 10g, SQL Server, Struts, AJAX, XML Schemas, SOA (Web Services), AXIS (web services)

Key Benefits

- Increased client's revenue from the new events module of hotel property management product and hence profitability by 20%
- Reduced the turnaround time by 20% due to prior knowledge of enterprise framework
- Reduced development time for all developers by 10% and improved the productivity and minimized the probability of manual errors
- Improved Customer Service by 15-20% which was end goal of our client
- Increased the marketability of the product in new markets with advanced versions and functionalities
- Saved the time spent on taxation invoicing by 20% with the new tax invoicing module
- HMS can be accessed now using any web browser like IE, Chrome, Firefox, etc

Client Testimonial

Our goal to enhance the functionalities of our hotel property management product and hence marketability was very well understood by Xoriant team. Xoriant team's expertise and prior experience on the framework helped us achieve our goal with faster time to market. I would like to acknowledge the proactive and significant efforts of all Xoriant team members for helping us achieve this.

VP-Engineering