Case Study

Software Product Development – Apartment Management System

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Case Study

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The Client

Saudi Arabia based client of Elegant MicroWeb is a well-established, reputed software solution provider involved in providing a variety of software solutions and services for different verticals including hotels and apartments across the country. They target various industries and offer time-tested, comprehensive solutions to clients in order to improve and enhance overall efficiency of the organization.

The Objective

The client required a software product for hotel and apartment owners that would automate the manual process of reservations, front desk, point of sales (PoS) and billing transactions.

The conventional method of room reservations over phone was cumbersome and prone with errors. Also, manual recording process for managing front desk, in-house facilities, point of sale and invoicing was time-consuming and tedious. It was quite difficult where hotel had multiple properties/branches in the country.

The existing processes created multiple challenges such as:

- Tedious job of manual management of data
- Error-prone calculations
- Time-consuming operations
- More human resource requirement
- Difficulty in business analysis
- Difficulty in consolidation of multiple properties’ data and reports
- Operational issues due to lack of online reservation system with backend operations systems

The need for a robust yet cost-effective centralized system that can effectively manage complex operations had become paramount for big hotels and apartment properties.

The client needed a solution that could:

- Consolidate data from multiple sources like PoS, service centers, branches
- Provide centralized system for staff and managers
- Automate various operations and save time

- Facilitate online booking
- Provide easy to use interface to monitor room occupancy
- Provide insight on daily money flow
- Have the provision to view history data
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- Provide various reports on booking and billing transactions
- Integrate website reservation and customer service portal with core backend operations systems
- Integrate data and reports from multiple properties
- Support Arabic and English user interface
- Implement in minimal time with minimum investment for various clients

The Solution

“Apartment Management System now makes the life of hotel staff and managers easy by making all the operations computerized, accurate and expedited. Staff can focus more on the customer service and satisfaction with seamless integration of online reservation system and backend operations systems. Managers have sufficient data and reports to gather clear picture of the business at individual property and group level.”

The system developed based on the understanding of the crucial requirements made the entire process paperless. Centralized system made it easy for managers to understand and verify the business transactions at different branches of the hotel/property irrespective of their location(s). The Role based interface provided a set of features to specific user(s) to accomplish tasks in respective work areas. Admin panel of the system provided the ease to add new users and allocate appropriate roles to users. It also provided easy to use content management system to update content on property portal. Customers can search for room availability, facilities, tariff and make online bookings. Additionally, the system also provides the facility to maintain the corporate accounts of the companies whose employees travel and visit the hotel frequently.

Features

- Customer Interface (Online Reservation and Customer Service Portal)
  - Search window to search rooms, check amenities etc.
  - Customer Registration
  - Customer Profile Management
  - Apartment Reservation Management

- Staff Interface
  - Front Desk Management (Guest check in, check out etc.)
  - PoS Management
  - Dashboard Management (Occupancy Status)
  - Reservation Management
  - Transaction Management
  - View and Generate reports
  - Customer Feedback Management
  - Mobile Messaging Management
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- Admin Interface
  - Property Configuration and Management
  - Amenity Management
  - Content Management
  - User Profile Management
  - Email Templates Management
  - MIS Reports

The Technology

- Platform/OS : Windows, Linux etc.
- Technology/Frameworks : Java/J2EE, Spring 3.0, Hibernate, Spring Security, Apache Tiles, Mobily SMS API, iText Library
- Back-end (Database) : Oracle, MySQL, MSSQL etc.
- Web server : Apache Tomcat 6

Elegant MicroWeb Role

Elegant MicroWeb’s development team helped the client develop a comprehensive solution for hotel and apartment owners which covered all necessary operations and processes. The Elegant team prepared detailed system requirement specifications after understanding the problem areas of the client. It was crucial to derive a robust and credible software product in minimal time and investment to minimize the risks associated with such products.

Spring, an open source framework was used to develop the application based on MVC (Model-View-Controller) pattern while Apache Tiles framework was integrated to implement tiles based layout for enhanced maintenance of the design. Spring Security was used to implement Role based Data Access mechanism that ensured clean, robust security architecture. Hibernate ORM facilitated interoperability with various relational databases. Mobily SMS API allowed sending mobile messages to customers on the occurrence of events like booking, check-in, check-out, payment etc. iText Library was used for creating PDF reports, used by managers to gain business insight based on routine business transactions. A bilingual interface with Arabic and English language support was integrated during development stage.
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A fully featured product was developed using Agile methodology where client was consulted regularly and inputs taken into account in the incremental versions of the product. The product accommodated the technical and functional architecture which was scalable and pragmatic enough to meet the growing customer requirements.

Team Elegant helped client with customer staff training where the customer feedback integration transformed the final product into one satisfying the needs of the customer with full computerization of all operations successfully.
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Conclusion

Adopting an Agile approach, understanding the client needs, market requirements, and subsequently creating a product having technical and functional architecture that is scalable to meet growing customer requirements was the need of hour.

Elegant MicroWeb proved to be an excellent value proposition for the client in developing the software product. With more than a decade experience in software product engineering, development, and support, we were able to give our client a robust product developed with industry standard practices and scalable architecture, software which was easy to install, easy to use and readily maintainable, requiring no extra efforts. This helped strengthen our partnership and we left no stone unturned in serving them with the best in class technical support and guidance.

With our experience of working with software products for ourselves as well as many other customers and IT partners, we could provide enterprise class product with minimum investment and risk.