Cloud based ERP Platform

Client is a London based software solutions company delivering high quality, high-value business and mobility solutions allowing organizations to integrate their employees, customers and partners into business processes.

Project Vision

Project was development of integrated business suite supporting ERP, CRM and e-Commerce capabilities targeted at small and medium enterprise where application modules can be accessed using Software as a Service (SaaS) delivery model where application users will have flexibility to configure and subscribe set of application modules. Application modules can work seamlessness in integration with other modules or independently depending on user subscription module configurations.

We envisioned development of following core business modules as a part of business suite along with plug-in modules and plug-in business tools.

- Sales Management
- Staff Management
- Stock and Inventory Management
- Project Management
- Customer Relationship Management (CRM)
- Financial Accounting and Bookkeeping
- Data analysis and workflow management
- Business Intelligence and Reporting
- Document and Workflow Management

Future releases of the application will support mobile user access capabilities with accessing alerts and updates on handheld devices along with integration of communication and location based services.

Major Functional Modules

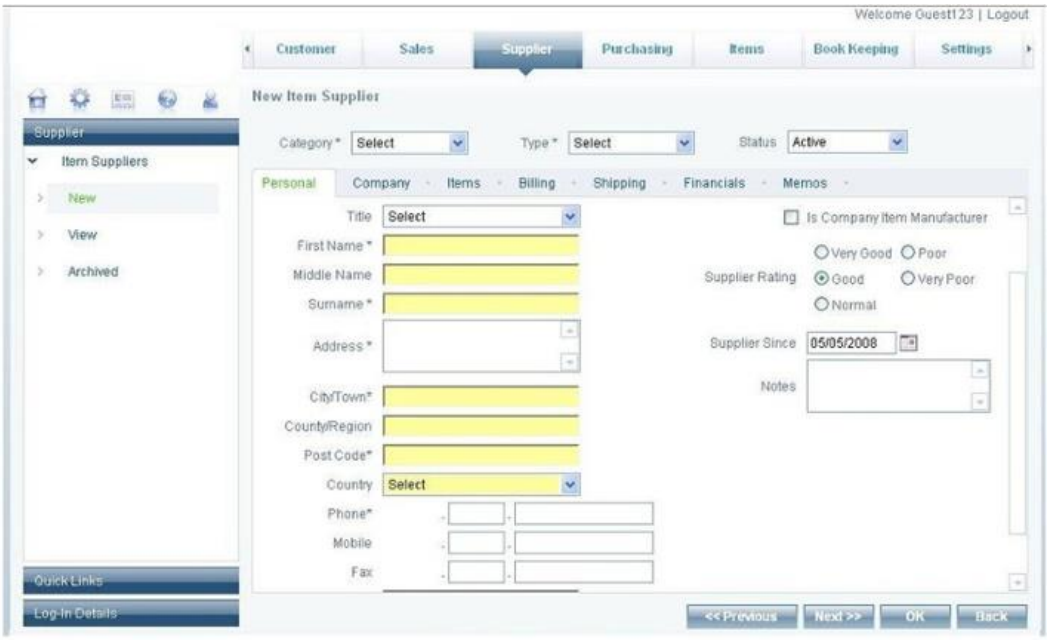
Sales: The Sales module is a complete set-up and operation of the sales item system. It is overall setup of the Lead management, Order process management, Service process management, Return and Cancellation management, inbuilt Sales item and services, and Supplier management. Lead management: is a tracking system of Leads to be convert to customer and the communication maintain within the lead. Contract/Order process management: is making the sales of item by contract or providing the independent order against the customer. And tracking the sales item under different life cycle (Like Pick and Pack, Shipping, invoice, etc) till goods is in hand of customer. Contract/Service process management: is making the sales of service by making contract or providing the independent service order for the customer. And tracking the sales service under different life cycle (Like invoice, billed etc) till Service is in hand of customer. Return and Cancellation management: Maintains the information of data of goods return from subscriber to supplier. Inbuilt Sales item and services: Its management which provides its own items and services in absence of his warehouse setup and project module. Supplier management: Maintains supplier information system who supplies the goods in absence of his warehouse setup.

Financial Accounting and Bookkeeping: This module covers following major activities

- Financial Accounting processes from general entry, ledger entry, trial balance, profit and loss account to generation of balance sheet
- Tax and Accounting Calculations
- Management of accounting processes related to account payables and receivables
- MRP, Payroll and Inventory Information management
- Interfacing with sales and purchasing modules for bookkeeping related to sales and purchase quotes, invoices and receipts
- Business transactions management along with banking transactions bookkeeping
- Tracking, audit trial, search and financial reporting capabilities
- Managing module interfaces for customer, sales, purchasing modules

Customer Module: It manages information related to customer details under user subscription such as about company, contacts details, Shipping details, Billings, File uploads and other user credential information along with the communication media to customer for the daily updates of transactions. The shipping details are specified for items to be dispatched and the location specified where services are to be performed related to Sales/Orders.

Purchasing module: Purchasing module act as interface module for bookkeeping. Purchasing functionalities and features resemble the accounts payable section the bookkeeping module. This module manipulates purchase orders, purchase contracts, debit notes, purchase receipts, expense report and returns to vendor.



Staff Module: This module helps in managing staff details. Major functionalities in staff module are related to staff details, work orders, staff schedules, Work groups and notice boards, staff details and work groups has details like details, schedule, work orders, equipment, expenses accounts, bonus accounts, files and history

Project Module: Project module is for manipulating information related to projects. Project module has functionalities for Add/Edit/Delete project details, project schedule, project tasks, project stock, project equipment, project account, transactions, docs & memos and project files

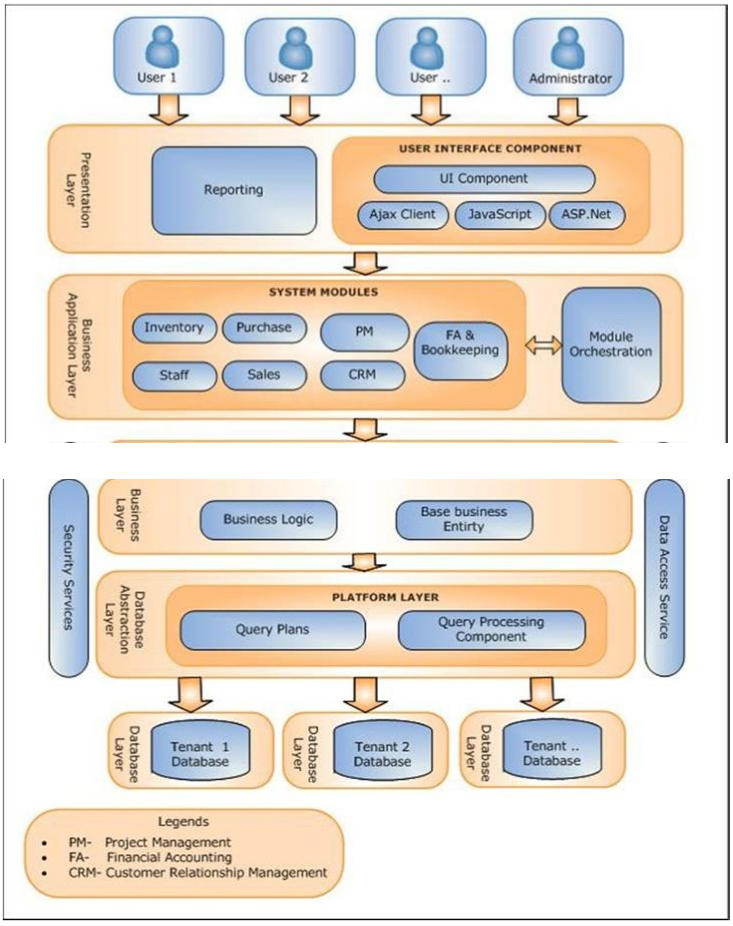
Stock Module: Stock consists of Item details such as Item storage conditions, Item location, related manufacturer and suppliers, stock Inventories, stock management for items in warehouses as capacity of storage, balancing the item quantity at various locations, for organizing the items they distributed in different categories and types through setting, and transactions related to items added/removed as well as costing of items at various location etc.

Challenges

- Managing loosely coupling of the modules i.e. if any of the Module is not available in ERP for management the dependent module have proper data flow
- Building architecture that maximizes the sharing of resources across tenants, but still able to differentiate data belonging to different customers.
- Ensuring that task of configuring application is simple and easy for the customers.
- Use of .Net Framework 2.0 with extensive AJAX capabilities without compromising on security aspects
- Managing data for different subscriptions in different databases
- Managing development for all modules in parallel
- Managing module dependencies
- Close coordination with highly technical and professional client for project management and domain knowledge acquisition activities.
- Resource ramp-up on very short notice from client for providing higher resource scalability based on clients time to market requirements for business suite product.

Solution Architecture

e-Zest's solution architect group architected SaaS based application architecture with following architectural highlights:



- Development of multi-tier architecture using .NET technologies with Web Forms with AJAX for presentation tier, C# for business logic components and ADO.NET for data access layer accessing persistent data store from SQL Server 2005 database.
- Object based model using UML for overall software design. System architecture was modeled in such a way that all objects in the system are communicating with each other in the system with the help of multiple interfaces provided.
- Architecture provided loose coupling between components.
- Scaling to maximize concurrency, and using application resources more efficiently—for example, optimizing locking duration, statelessness, sharing pooled resources such as threads and network connections, caching reference data, and partitioning large database.
- Provided extensible interfaces for capabilities such as connection detection, and queuing.
- Proprietary highly secure, stable and high performance relational database MS-SQL Server 2005 was used for centralized persistent storage of object information.
- A working architectural prototype was prepared to evaluate architectural framework; address risks by measuring performance, scalability, and ease; as well as to gain confidence that proposed approach works.

Solution Benefits

- Efficient workflow management with automation of business processes reducing total operational costs for customers.
- Built on scalable and high performance .NET platform with multi-tier application architecture with AJAX in presentation tier for rich client interface.
- Ability subscribe modules depending on customers' business requirements

Conclusion

We successfully developed and implemented SaaS based ERP platform which takes advantage of the benefits of centralization through a single-instance, multi-tenant architecture, and provides a feature-rich experience competitive with comparable on premise applications using subscription based licensing model.