



1. From zero to Alpha version of the product in 60 business days
2. Continuous Integration and Extreme Programming practices to get to the next milestone of Beta software in another 60 days
3. State of the art eLearning module called the eGuide based on Flash animations and voice over professional Audio artists.
4. Based on latest .NET paradigm of Smart Client applications using Web Services backend.
5. Distributed application development from several locations - CT Regular Requirements Analysis workshops), Upstate NY (Beta testing partner site for regular code releases, demos and alpha / beta testing), New York City NY (Voice artists for recording the playback of the eLearning module), NJ (Architectre, high level design, daily code integration) , Gurgaon India (.NET Experts performing detailed design, development and QA of the main Application as well as development of Flash based eLearning module).

CLIENT TESTIMONIAL on the speed of development at the time of Beta release, exactly after 8 weeks of Alpha release...

“This was definitely a **milestone**. Thanks to the entire team for meeting today's deadline. It was important and I appreciate your combined efforts to make sure we **delivered**.”

- President

Client Objective's Summary

This client was a startup company with a brilliant idea to build implement and support a custom software application to enable and facilitate strategic planning within large enterprises. The client had approached a local supplier and created a browser-based application prototype. But that project was considered a failure mainly due to usability with the user interface as well as unpredictable delivery timelines. With limited budget, prior negative experience and a will to create a software product, the client issued a formal RFP. After tough competition, ebusinessware was selected to be the ideal partner for outsourcing development, implementation and support of this full lifecycle new product development initiative e software application.

ebusinessware believes the main reasons why we were selected over our competition were -

- Good references from other satisfied client
- An attractive price and delivery timeline that met client expectations
- A Live demonstration of UniRAD - our software development process

This product development initiative e project was partially funded by a leading Fortune 500 network and communication manufacturing company. This company is also the first beta testing client's partner for this product.

Our client's vision for this project was to create a business application to facilitate, automate, integrate and optimize the planning process within an organization. This project would create a powerful planning tool aimed at assisting enterprise level projects, product lines and business teams in developing strategies grounded in the realities of the marketplace and focused on satisfying customer needs. This automation of their existing facilitative consulting practice would benefit a larger group of users. Through this project the client was keen to:

- Transform the process of consulting from a consultant-centric one to a facilitative consulting form.
- Transform the paper-based linear approach to strategic planning software, which would make their services available to a larger user base with a "tools and process" focus rather than a consultant focus.
- Use the added advantages of this model to create an online database and facilitate a random access to an enterprise wide knowledge repository.

The ebusinessware project team devised the solution. A Smart Client application and a database intended to enable and facilitate strategic planning within large enterprises. The application consisted of a number of discrete planning modules linked to a custom database and designed to enable individuals and cross-functional teams to develop, implement and monitor project and product strategies and plans.

The project development milestones were calculated on the basis of modules, which were built individually, to enable users to undertake specific analyses such as assessing competitive strengths, segmenting their market or developing a value proposition. However, the true strength of the software lay in the underlying planning database and the linkage and the leverage obtained by having these modules combined into a single comprehensive planning solution.

And with this began the implementation of the task.

ebusinessware's Approach

ebusinessware created a team of experts in the fields of Microsoft .NET and the C# language coupled with strong Object Oriented analysis and development skills.

During the preliminary analysis, it was clear to the Project Management Team:

- That the time frame within which the deployment was required would necessitate a rather big team completely trained on the processes and relevant technologies. Some additional members were inducted at this stage.
- That the software would have to be developed in a way that after deployment at the client site, it would have to be finally deployed at the client's buyer end.
- That using the UniRAD solution handbook of templates and checklists, requirements were to be codified and spread around the teams and users. Following are some of the deliverables that came out of the initial envisioning sessions:
 - Client's objectives summary
 - Team Allocation Chart / Roles and responsibilities Summary
 - Quality goals (e.g., number defects permitted per person-month)
 - Timelines, milestones and targets
 - Using the UniRAD framework as a guideline
- That there existed a design constraint. The release of individual modules within Version 1.0 of the application would include elements that did not exist within that same module at the time of the Version 2.0 and Version 3.0 release of the application. These elements would be required for the stand-alone operation of these modules but could well be 'plug-ins' in the final Version 3.0 application, i.e. links that would be sourced from elsewhere within the application.
- That in order to ensure an enjoyable, interactive and rich experience to the user, with the use of graphics and examples were a must. Video tutorials were also a part of the application.
- That developing this project as a SMART CLIENT application would provide the client the flexibility of adapting all features of SMART CLIENT in future releases. This would allow the client immense benefit of offline functionality (an important requirement in the application), making use of local and network resources, support occasionally connected users and Caching.

Description of Product Under Development

The software application would be developed in Microsoft's .NET framework v 1.1 and would use a MS-SQL 2000 database. The testing and deployment environment would be set up in the corporate intranet of the client's buyer company. The software was designed to replace and improve upon this strategy client's current Market-Led Strategies (MLS) quasi-manual process and tool set.

Core Architecture

In line with industry-best practices and ebusinessware's past experience in building enterprise systems, a clean and layered architecture for the application was followed. In addition to this, various architecture options were presented to the client. The project team also provided details on a simple POC (proof-of-concept) application that was built to validate the architectural principles and patterns outlined before finalizing them for use in the project.

Architecture Options

Smart Client after proposing various architecture options Web based application; Smart Client; Client-Server; Use of Web Services etc, the final solution architecture was agreed upon that included the following features

- Occasionally Connected Smart Client (offline functionality)
- Make use of local resources

- Make use of network resources
- Support occasionally connected users
- Provide intelligent installation and auto-update through web
- Provide client device flexibility
- Flexible XML based Data Handling
- Local Caching of data for faster response
- Communication using standards based Web Services model.

Documentation Norms

Documentation Norms pertaining to Project Development, Status Reporting and User Documents were finalized because the culture in the organization makes it mandatory to provide clients with well-documented solutions.

Training Sessions

To cover different aspects of skill enhancement requirements and in-house project management procedures, the following trainings sessions were conducted during the first month of the development cycle:

- UniRAD Understanding
- TUTOS (The Ultimate Team Organization Structure)
- CVS
- Email Standards
- Documentation Standards
- .Net Walkthrough
- NAnt Understanding

Proof of Concept

Proof of concept was an equally important and parallel activity that was pursued by the team. A sample application was developed using the proposed architecture and patterns. This was approved by the client.

Team Organization

Teams were divided into three categories: Core Architecture, Development Team, Designers' Team and the QA Team.

- The Core Architecture Team, with some onshore and some offshore members, worked on the Fundamental aspects of architecture and developed the basic templates, which were later used by the development team.
- The Development Team was in charge of the codes and senior members took the lead in the case of the more complicated tasks.

- The Designers' Team worked on the creative inputs that were mandatory for the eGuide being developed for the application. This team was responsible for the design and development of the guide using the latest Macromedia Flash version and Adobe Photoshop.

UniRAD

Apart from the able leaders, the guiding force in the entire team's development efforts all through was **UniRAD**, ebusinessware's solution implementation methodology. (See <http://www.ebusinessware.com/files/pdf/ebwBROC-UniRAD.pdf>)

UniRAD documentation requirement as integral part of the ebusinessware Center of Excellence was never compromised in spite of very challenging and severe deadline demands on the team.

UniRAD Specified Quality Standards were respected by the team throughout the project life cycle. At the end of each of the stages entire team would dedicate itself to analyze and track down any open defects in a very careful and diligent way. This exercise helped the team to identify many of the defects before they could even hit the system at any of the later stages.

ebusinessware invoked the Product Development processes within the UniRAD framework and then tailored this process to enable the team to be innovative and to quickly capture and adapt to client needs. This included concepts from Extreme Programming that require high level of participation from the client during requirements gathering.

UniRAD follows a very rapid development approach without losing the benefits of systematic documentation. It also borrows from the best practices from Extreme Programming like Continuous Integration. Essentially the Analysis/Design part of the lifecycle is broken down into the following disciplines.

1. Domain Modeling
2. Requirement Modeling
3. Use Case Analysis and Prototyping
4. Robustness Analysis
5. Detailed Design
6. Code Generation

Challenge

Engaged for a long duration project entailing phased releases, an application to be developed that would transform the business practice of a consultant company. The application would handle data in the first phase, process data and yield results in the second and suggest strategies in the third release. In short, building an application that would progressively get smarter.

Innovation

The team developed an object-oriented Smart Client Application using C#, MS SQL Server, .Net user and custom controls with the enhanced support of web services to facilitate the interaction of the SQL Server with database. Most important in the whole process was the suggestion to the client that developing this project as a SMART CLIENT application would provide the flexibility of adapting all its features in all the releases. That the client accepted the recommendation validates ebusinessware's efforts to innovate.

Conclusion

The timely delivery of the first release in a planned series of four releases the Version 1.0 Build # 0.3.0.0 with all specifications completed was successfully deployed at the client's buyer end.

The client's transition from a linear to a facilitative approach to consulting had begun. Once completed, this solution would not only spell commercial success for the client, but also create a smart application.

The team's innovations yielded the way to the future releases in the application. While summing up the challenge and innovation

About ebusinessware

ebusinessware's process discipline is based upon learning from the successes and challenges of past engagements and is rooted in the leading thoughts of quality driven metrics from movements such as the total quality or Six-Sigma initiatives. Borrowing from the existing literature on the subject, we are aiming for two types of quality:

Customer Quality

We want to ensure that customers receive the proposed benefits of outsourcing such as cost reduction, risk reduction.

Engineered Quality

We would like to ensure that we provide reduced defects in association with our service offering. With the goal of continuously measuring and controlling quality, we arrive at a process transition that does not lose the drive towards innovation. We follow this framework because it enables ebusinessware to fulfill all three elements of our value proposition.

Our value proposition

