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REGIS UNIVERSITY

SCHOOL FOR PROFESSIONAL STUDIES

MASTER OF SCIENCE
IN
COMPUTER INFORMATION TECHNOLOGY

Development of an Online Business-to-Business
Gift Box Company

PROFESSIONAL PROJECT

Jason R. Lynn
April 12, 2005

1. Abstract

The Silvered Leaf & Co. project addresses a potential on-line web solution and e-business for marketing, selling and distributing specialized and contemporary theme-based gift baskets featuring products produced and manufactured on the Western Slope of Colorado. Currently, there are many web-based businesses that offer gift baskets with a variety of goods. However, all of the available options duplicate each other in quality, selection of products, and overall appeal. In addition, the web content and solutions on the existing sites are limited and cluttered. Each provides a few features that are appealing but none contain the majority of the important features users need to have a “personalized” experience.

The Silvered Leaf & Co. project will seek to create the framework of a technologically, advanced and dynamic web site that will feature a variety of unique, theme-based gift baskets unlike any other available option. The web site will offer critical features that are most important to both the external and internal users. This potential online solution will also address important security issues that will allow a network to exist between the external and internal web sites, while protecting the integrity of the data passing through. By developing a secure, well planned, and dynamic e-business featuring unique theme-based gift baskets, the Silvered Leaf & Co. will be the key to capitalizing on the existing opportunity.

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2. Introduction and Background

2.1 Mission Statement:

The Silvered Leaf and Company is focused on developing a cost effective on-line solution to market high quality, "Colorado Western Slope" gift baskets providing primary attention to Businesses and Hotels; with completion taking place on November 25, 2005 in order to capitalize on the Christmas shopping season.

2.2 Problem Statement

Currently, many e-based companies offer gift baskets containing a large variety of contents. However, the majority of the available baskets are generic and do not provide unique options for businesses and consumers to choose from. This results in a basket that is not fully enjoyed by the consumer.

Therefore, other organizations have not differentiated their baskets from those of their competitors. The competing gift basket companies have also targeted individual buyers who buy one basket at a time when an occasion arises.

Therefore, their focus is solely a B2C environment. However, other important markets, such as the Travel and Tourism industry and fortune 500 companies, have not been targeted. These large organizations often buy baskets more often than individual consumers for activities such as company holiday meetings, when an employee has a child or gets married. Additionally, hotel chains regularly

receive requests for baskets to be awaiting a guest when he or she arrives at their hotel. Both of these markets present an unfilled niche, where B2B environment is created, that could result in a successful business opportunity. In addition to the content of the baskets and the market they are targeting, the web sites for these organizations are also outdated and cluttered, promoting confusion and frustration for the customer. Upon entering any of the competing sites, a visitor is bombarded with clutter and a feeling of pressured sales techniques exude from the site's page. Because of these large gaps created by the existing players in the gift basket industry, an opportunity is available for the Silvered Leaf and Company. The Silvered Leaf and Company will be able to provide individual buyers and large organizations with unique, theme-based gift "boxes" online. These theme-based gift boxes allow a user to choose a box based on what event they are celebrating as opposed to what a basket looks like. The contents of each theme-based gift box will be identified by the event it represents. For example, if someone wants the "baby leaf" box, items such as a chocolate covered plastic silver spoon and a bib will be included. If a buyer wishes to purchase the "leaf me alone" box, the recipient will receive a box with bath salts and other items to pamper themselves with. Through creating these unique gift boxes, the recipient will enjoy an experience as opposed to, simply a basket full of goodies. When the recipients experience a Silvered Leaf and Company gift box, brand loyalty will be created and residual business will be created. Additionally, the customer will receive positive feedback and will return for future purchases as well.

On a technical level, the Silvered Leaf and Company will be offering unique, theme-based gift boxes on a superior ecommerce system where customers will be able to order with state of the art and highly functional features. Equally important is that this system will be easy to use, but also take advantage of the best the Internet has to offer.

2.3 Project Objectives

Three objectives, or end points, must be attained during the project. First, this project should provide The Silvered Leaf and Company with a clear competitive advantage by having the web site functional, bug free and accessible to individuals, businesses and hotel chains by November 25, 2005. Without having the web site functional and bug free, a major revenue building opportunity will be lost from the holiday shopping season, seasonal travel and company holiday events. If the web site is launched successfully during the Holiday season, the revenue generated will allow the Silvered Leaf and Company to sustain the necessary growth throughout the following year. Second, the e-commerce project should be designed to promote brand loyalty among businesses for our products by attaching the Silvered Leaf and Company logo to all products through themes representing categories (The “leaf me alone” box, the “baby leaf” box etc). By creating personalized theme boxes in which boxes can be created to celebrate a specific occasion, the customers will fulfill the specific needs of their consumers and recipients. By fulfilling the specific needs

of the consumers and recipients, brand loyalty and repeat business will be created. This should be accomplished by November 30, 2005. Third, the e-commerce project should support the effort to provide high-quality goods for a reasonable price through associating all of the Silvered Leaf and Company boxes with value. A large contributor to the value of the Silvered Leaf products comes from the ability to create brand loyalty but also from the quality of materials used to make the products. Only high-quality materials will be used in the building of the boxes and their contents. Again, the third objective should also be accomplished by November 30, 2005.

2.4 Project Users and Scope

Since the Silvered Leaf and Company e-commerce project will be geared primarily toward B2B customers and the internal users such as customer service personnel and warehouse fulfillment staff, it is important to first understand who the Silvered Leaf and Company's primary customer base and staff are and how to best fulfill their needs. In order to accurately profile the author's customers, specific attributes need to be targeted. The current assumption is that hotel and company purchasing professionals will be the Silvered Leaf and Company's primary liaisons with a given organization. The purchasing professional is accountable for purchasing on behalf of the entire hotel and plays the key role in whether a relationship is established or not. The purchasing professional is most concerned with the ability to track orders, search product availability and

research related resources via links to the wineries and orchards where the basket contents originated. Product searches will be equally important with results providing plenty of USABLE information for comparative shopping. Contact information for customer service weighs heavily as the purchasing professional must feel secure in knowing that the Silvered Leaf and Company is accessible in case questions or concerns arise. Since the purchasing professional has individual responsibility for managing the financial inflows and outflows, credit card storage and shipping history are extremely important features that need to be included on the site as well.

The role of the purchasing professional can be further explored by evaluating their online shopping skill sets. The purchasing professional's skill-sets may be categorized in one of three groups, Online Buyers, Shoppers, and Searchers. Therefore, The Silvered Leaf and Company site will require enough information to adequately satisfy the needs of any of these groups. For sophisticated online buyers who are very familiar with the process of conducting online transactions, the site must be sophisticated and detailed oriented. Online shoppers are primarily interested in finding contacts for future purchases but may not be apt to purchase immediately. Thus, the Silvered Leaf and Company's site must provide the most treasured information in an efficient manner as well as contact information in order the prospective customer to feel a desire to return. Like the shopper, the searchers are not as likely to purchase immediately but play an import part in obtaining information for future purchases. Again, in this situation the site must provide the most valuable information in an efficient

manner in order to draw the prospective customer back to the site. In essence, the site must represent three qualities, professionalism, sophistication, and efficiency in order to capture the attention of all types of skills in the buying process.

In addition to understanding “whom” the customer is, it is equally crucial to determine the specific and unique needs of the customer. Therefore, a method of information gathering should be established as well as the type of information required and how that information should be obtained. This will involve determining what interview processes should be used, which, market research agency will be utilized and if focus groups are appropriate for this situation. In addition to the external customers, internal users such as customer service staff and warehouse fulfillment personnel are stakeholders in this process as well. The customer service and the warehouse fulfillment staff need to be capable of accessing all customer and product information regularly, as well have access to reference material in order to answer customer questions and fulfill orders effectively. The primary objective of these two groups is to serve the customer by answering questions and fulfilling orders in a timely manner.

2.5 Barriers to Success

The major barriers associated with this project that could potentially prevent this project from succeeding would include missing key deadlines, overlooking or skipping critical steps of the development and implementation

process, and ignoring valuable information derived during focus groups, interviews and surveys that will be conducted.

Unalterable deadlines have been established in order to capitalize on the holiday shopping and travel seasons. Missing these deadlines would ultimately cause the forfeiture of revenue that could be derived during the holiday season.

In addition to meeting key deadlines, all of the steps outlined in the Completion Schedule (*Appendix D, figure 11.3.2*) must be completed. In many situations when key deadlines are in danger of being missed, critical steps are skipped or modified in order to create “short-cuts.” This will not happen in order to ensure that this project is successful. Prototyping the site will be an important and in fact essential step that cannot be skipped. Since the deadlines fall so close to the time of the year with the greatest impact on the success of the Silvered Leaf And Company, the evaluation of the prototype, prior to launch, will be critical.

Finally, differentiating The Silvered Leaf and Company. from other gift basket manufacturers who work in a B2C environment and promote directly to the general public is critical to both the success of this project and the company as a whole. Therefore, being cognizant of the information derived during the information-gathering phase, and more importantly implementing significant ideas or changes, is equally important. The author is currently involved in the information-gathering phase and is expected to meet the deadline of April 29th, 2005. This is the only phase that has been initiated so far.

2.6 Definition of Terms

B2B – A Business-to-business relationships are those relationships between a business and a customer. Frequently, customers are mistaken with consumers. B2B customers are more controlled users, in that they typically have a preexisting relationship with the business. Needs are more clearly defined and stringent.

B2C – Business-to-Consumer relationships are those relationships that are built between, a business providing a good or service and an individual. These relationships are less complex than B2B relationships

Ecommerce – Any transaction of a good or service conducted in part through the use of the Internet.

External Relationships – Those relationships that exist with customers out side the boundaries of the organization

Internal Relationships – Those relationships that exist within an organization. This could include the relationships between departments.

Off-The-Shelf Software – Software that is generic enough to fulfill the needs of various situations but can also be modified to meet the needs of a more specific situation.

Quality Assurance – Any process or procedure that provides a system of checks and balances in order to maintain integrity.

The Silvered Leaf & Company – A start up organization focusing on the development and online marketing of custom, theme-based gift boxes offering products grown or produced on the Western Slope of Colorado.

Theme-Based Gift Boxes – Unique, gift boxes offering a variety of products within hand-made, decorative wood boxes.

Web-based Research – Web-based research is the use of the Internet and World Wide Web to access, normally unattainable information.

3 Review of Literature

3.1 Review of Literature

Several forms of literature were referenced throughout this project: The Internet, textbooks from courses taken, and other professional projects. Each of these resources played a key role in the development of this project.

Due to the diversity of information found over the Internet, accessing obscure and relatively unknown web services was rather easy. Researching e-businesses throughout the United States that offer different types of baskets allowed the opportunity to “size-up” the competition and verify that the Silvered Leaf and Company. truly does have a unique opportunity. Having the opportunity to tap into these web resources also allowed for the chance to evaluate the content, aesthetics and overall flow of other web sites offering a similar product. Ultimately, this type of information was invaluable in being able to evaluate what similar products are available, how they are being marketed, and whom the competition is in order to create a niche.

The textbooks utilized throughout the MSCIS program created an incredible knowledge that requires reference during this project. These tools are critical in order to accurately implement the skills learned. Therefore, the textbooks were utilized throughout this project as a guide for critical processes and models. Without these references, much of the acquired information during the MSCIS program would have been overlooked and omitted from this project.

Past projects were also very important during the development of the Silvered Leaf and Company project. By evaluating various professional projects composed by past students, an opportunity was created to develop a style of writing based on the likes and dislikes of those projects assessed during the research phase of this project. By utilizing past projects, the hard work of others was evaluated in order to alleviate the pains of developing a unique and complex project such as the Silvered Leaf and Company.

3.2 Review of Research

After the research was conducted, the next task was to make sense of the information gathered. Since the Silvered Leaf and Company is a new organization, the task of evaluating the research conducted needed to be thorough and deliberate. By meticulously sifting through the notes acquired during web based research and sorting through highlighted textbooks, the framework of this project was constructed.

While researching various gift basket web sites, information regarding the content of the site, how it was displayed, the ease of use while navigating through the site; as well as the difficulty in finding the desired product and creating an order were all taken into account. In addition, it was also necessary to evaluate what the demand was for this type of product, who should be the focus of the promotional efforts and how would the site be developed to best service those customers. By doing this, weaknesses were identified in order to

provide insight as to how the Silvered Leaf and Company could capitalize on the other organizations' vulnerabilities. Through this process, it was determined that there wasn't currently an organization that catered to business and hotels specifically.

The review of textbooks used in prior courses was a culmination of the studies conducted through the MSCIS program. With the end in mind, during each course, textbooks were highlighted so that they could be quickly referenced during the research phase of the Silvered Leaf and Company project. These key principles were accessed as needed and implemented in many of the processes used during this project.

Other research conducted, included the process of determining what software would be used internally. The primary requirements needed for the system would include the ability for the warehouse, customer support, accounts receivables and purchasing to all be interfaced. With this in mind, the primary consideration would be whether to use an off-the-shelf system software or have a customized system built from scratch. The author determined that an off-the-shelf system with a high level of customization flexibility would be the most appropriate. The fundamental reason for this decision was due to the size of the Silvered Leaf and Company. Since all departments will work out of the same facility, complex functionality will not be necessary. Another reason for using an off-the-shelf software system was due to the ability to have 24-hour customer support for the software. With a customized package, it would be incredibly

expensive to have a consultant come on site to evaluate our system. Therefore, with an off-the-shelf system, customer service would be readily available.

4 Methodology and Analysis

4.1 Organizational Structure

The project manager communicates with the Director of Information Systems who works directly with his Software Engineer and DBA. The project manager also works with the Director of Marketing who manages the affairs of two marketing professionals. The web developer is in constant contact with the Director of Information Systems and Director of Marketing. The Director of Information Systems and his staff are responsible for the fulfillment software, database design and all other software and hardware associated with this project. The Director of Marketing and his staff are responsible for all strategies associated with sales, customer reach and retention of our customer base.

4.2 Organizational Boundaries and Responsibilities

There are two types of relationships that existed throughout this project, internal relationships and external relationships (*See diagram 11.1.3 – Relationship Diagram*). The internal relationships exist between the Project Manager and the Director of Information Systems, the Project Manager and the Director of Marketing, the Director of Information Systems and Software Engineer/DBA, the Director of Marketing and the Marketing Professionals, and finally between the Project Manager, Director of Information Systems, Director of Marketing and the Web Developer. Specific boundaries associated with the

internal relationships include who will direct and oversee the entire project and who will be accountable for different phases of the project. During the Silvered Leaf and Company. project, the Project Manager will ensure that all aspects of the analysis, development/design, and implementation processes are completed on schedule and within budget. The Director of Information Systems and Director of Marketing will be responsible for all technical decisions associated with the analysis, and development/design phases of this project. Both the Director of Information Systems and Director of Marketing will report directly to the Project Manager in regards to any and all success and failures of the project that could impact the completion and/or budget for this project. Another critical responsibility of the Director of Information Systems is to ensure the development and institution of software standards (see section 6.3 – *Software Standards*) and the Software Engineer will report to the Director of Information Systems regarding any suggestions associated with application development and design. These suggestions may include deciding whether or not an Off-The-Shelf application would best suit the demands of this project, or if it would be more feasible to develop the desired application in-house. Like the Software Engineer, the Database Designer will report to the Director of Information Systems with any suggestions associated with the development of the customer database and the inventory database. Both Marketing Professionals will report directly to the Director of Marketing regarding suggestions associated with all marketing, branding and content strategies. Unlike the other key positions within this structure, the web developer will be considered a floater within the project

organizational structure due to the high level of communication that will exist between all parties. One of the primary tasks of the Web Developer will be to meet with the Project Manager, Director of Information Systems and Director of Marketing on a weekly basis in order to communicate the needs of the project. In addition, the Web Developer will also establish implementation strategies specific to the project. This will allow any potential communication errors to be resolved prior to implementation.

Outside involvement will be limited to the possible application development and Quality Assurance team that would be subcontracted with outside vendors at certain times during the project. If the Software Engineer and Director of Information Systems determine that it is necessary to purchase an OTC application, then the selected vendor will report directly to the Director of Information Systems and the Software Engineer regarding all required criteria for the application. The Quality Assurance team will be discussed in greater depth in section 6.2.

4.3 Discovery

At the onset of the Silvered Leaf and Company project, it was necessary to evaluate three important business elements in order to properly determine the feasibility of this project. First, what is the demand for this type of product. Second, who should be the focus of the promotional efforts. And finally how should the site be developed to best service the Silvered Leaf and Company

customers. There was one major method utilized for researching these three aspects of the project. The discovery phase of the Silvered Leaf and Company was spent on the Internet, determining if there was a need, who the Silvered Leaf and Company would compete against, who those companies do business with, and determining how they service their on line customers or consumers. After researching many of the available gift basket companies, it was determined that the majority of these companies serviced the consumer specifically, and provided similar products in a like manner. In addition, the structure of the web sites for the other available gift basket companies was designed for consumer navigation. Upon entering the site, consumers were immediately directed through a process similar to that of a retail store. In a traditional retail store sales people, who create needs as opposed to working to identifying needs, immediately bombard customers. Similarly, on the web sites of those potential competitors, a visitor would immediately feel overwhelmed with “special offers” and other gimmicks designed to promote a sale but don’t seek to understand their customers’ needs. What results are sales of generic baskets to unmoved customers.

4.4 Review of Potential Solutions

After the research was conducted and the three business criteria were evaluated, it was determined that there was in fact a demand for the service that the Silvered Leaf and Company provided. This need exists, because until now, there have been no sites that offered a B2B web environment in which the

customer would be able to have their needs met as opposed to simply meeting the requirements of a sales person's expectations. In other words, the opportunity only exists if a system is developed that thoroughly identifies the needs of the customer prior to offering solutions. This would be an alternative to the existing systems that simply show what is offered and then motivate the customer to purchase one of those products.

One of the solutions for the Silvered Leaf and Company project would involve creating a well-designed and streamlined system of placing orders. One of the most important aspects of this process would involve allowing the user to first create a profile upon entering the site for the first time. By creating a profile initially, the user would be able to identify their needs, such as whether or not their hotel is a convention center and what types of events they host. In addition, the user could also provide important information, such as purchase order and billing information that would allow the Silvered Leaf and Company to better serve that company and save the user time in the future. By immediately identifying the customers' needs, order history, and by creating a data store for billing information and other static data, the Silvered Leaf and Company will instill a sense of familiarity and trust with the customer. This will in turn create brand loyalty with the Silvered Leaf and Co. After a profile has been accessed, the customer may place an order by either reviewing past orders, if the current order is similar to a historical order, or evaluate a number of theme-based categories and place a new order from scratch. Based on the information given about the type of clientele serviced during the profile creation phase, specific categories

would be listed and others omitted in order to prevent the site from being too busy. If the order criteria are unique, then additional categories could be included at the users request.

Upon determining the specifics of the order, the user would then be directed to the order verification and finalization. In this phase of the process, the user could either pay by credit card, input a PO number or verify the billing address for direct billing purposes. Therefore, flexible billing options are offered for the customers benefit.

After the order is finalized a detailed email confirmation, which includes an order number, detailed order description, tracking number and hyperlink (for carrier used), contact information and an appropriate time frame in which they can expect to receive their order will be sent to the customer.

In addition to creating a stream lined ordering process, the aesthetics of the site will offer simple, yet sophisticated features that will not overwhelm the user with too much noise. During the research phase of this project, it was obvious that customers were bombarded with special offers immediately upon entering a given site. Unnecessary graphics caused the site to look cluttered and images of products trying to capture every item in the box were entirely too small. The Silvered Leaf and Company web site will ensure that only pertinent information will be placed on the first page. The pertinent information will include determining whether or not the customer had visited our site previously and providing some basic information regarding why that customer should continue navigating the Silvered Leaf and Company web site. By creating a web site that

is simple and sophisticated, the user will ease into the process as opposed to becoming overwhelmed by diving into too much information.

5 Management Process

5.1 Management Objectives and Priorities

There are four management objectives and priorities associated with this project, the frequency and mechanisms for project reporting, schedule, budgets for the project, and a statement of build versus buy approaches.

Both the internal and external entities who will interface with this project will be responsible for a weekly deliverable communicated via email, with the exception of the Director of Information Systems, Director of Marketing and the Web Developer who will provide weekly deliverables directly to the Project Manager in a weekly meeting. All deliverables should include a list of previous objectives, where that objective is in relation to the deadline, a listing of the objectives status. Also included in the weekly deliverable should be the new objectives that need to be completed along with a target date, as well as a listing of any attendees at the weekly meeting (specifically for the Director of Information Systems, Director of Marketing, Project Manager, and any other invited guests.

5.2 Assumptions, Dependencies and Constraints

The most obvious assumption associated with this project, is that the deadline of November 31, 2005 must be met on time. Meeting the November 31 deadline is imperative in order to capitalize on the Christmas shopping season

and company holiday conventions. In addition, a budget of thirty thousand dollars will be required in order to accomplish the tasks necessary for success. As shown in the budget located in Appendix B, figure 11.2.2 the budget, all of the major requirements have been accounted for and will be utilized. Another assumption is that the most effective site will be one that is simple and sophisticated. Establishing a time-line of events and sticking to the plan will be critical to ensure the success of this project as well. Other critical assumptions and dependencies considered include: 1. Weekly communications between the various departments involved in the process in order to ensure that the time constraints are met. 2. A two-stage phase development will be critical, with the first of the two phases being completed by September 1, 2005 and the second and final development deadline, by October 1, 2005. The available budget will also have to be managed closely. Distinguishing between necessary elements of the project and unneeded additives is critical to sticking to our limited budget. Also important to the project is creating a dynamic site that will focus on evaluating needs as much as marketing products.

5.4 Summary

It is obvious that in order for this project to be completed on time and fulfill all of the required aspects, regular meetings to discuss the progress and current status for each participant in the project is mandatory. Without regular meetings to evaluate and offer recommendations, there will be a greater chance that various

assignments for the project could head in differing directions. This would in turn, delay the achievement of deadlines and ultimately cause the demise of the project.

6 Technical Process

6.1 Methods and Techniques

In order to establish a technical methodology for the Silvered Leaf and Company project, several questions will be considered by the development team.

First, consideration was given to the use of technologies that we have not used before? The project manager needed to assess whether or not implementing a new technology would be worth the hassle. With the tight schedule that has been introduced, it is likely that the use of a familiar yet current fourth generation legacy system (4GL) will be considered for both the internal and external systems (application and database development). The primary reason for utilizing a fourth generation legacy system is due to the ease of integration compared to third generation legacy systems. Since the existing fourth generation legacy system will be purchased from an outside vendor, the implementations are already using a relational database system. Therefore the conversion of data to the Silvered Leaf and Company ecommerce environment is less complex and the need to create a relational database system from scratch will not be required. Another reason for utilizing a fourth generation legacy system is that the language applications of 4GL's typically use SQL-based code so the conversion of object-oriented systems will be less involved in the developmental phase of the project. Unix will be the operating system of choice for the internal web site because it allows applications to transfer data utilizing an operating system facility called a "pipe". The "pipe" allows data to be passed

between applications without creating a new data structure, like a database. Additionally, the Unix “pipe” uses the FIFO (first-in, first-out) access method, which mandates that once the data is read, it cannot be read again. This creates the ability to store data long after the application has terminated in memory. Thus, connecting information between ecommerce and fourth generation legacy systems can be accomplished in RAM during execution. All of these important benefits mean a reduction of overhead for the Silvered Leaf and Company as well as minimizing the need to design separate modules that would only handle data communication.

Second, what benefits will be derived from the proposed technology?

There really would not be a significant benefit to using a newer technology in the internal system because the existing technologies are sufficient for the goals of the Silvered Leaf and Company project. Although there is not a significant advantage to using a 4GL, using a fourth generation legacy system is easier to integrate with the external system when compared to the process of implementing other types of legacy systems. However, using a more recent technology in the external web environment could be what distinguishes the Silvered Leaf and Company from other eCommerce gift basket sites already in existence. Specific modifications will be administered to the external system that will be unnecessary for the internal system. These enhancements to the fourth generation language legacy systems are accomplished by converting them into an object-oriented client/server system or through business process reengineering. Making important adjustments to the external web site through

these processes will help to create a site that is fresh, new and essential to correlate with the contemporary feel of the products themselves.

Third, what type of coding is being utilized? This question has been addressed briefly in the prior section and relates to whether or not the program code and applications will be performed in-house or through an existing, modified software package. Again, due to the time constraints, it is more likely that the Software Developer will modify an existing software application package as opposed to creating an application from scratch. Keeping the time constraints in mind, yet considering the available software packages that are flexible and can be adapted relatively easily, the Silvered Leaf and Company will use Unix. Unix provides the best of both worlds and unlike Linux, provides greater technical support when in need. The use of Unix also creates more reliability for the software developer and at the same time has the power to outperform other operating systems.

XML will also be utilized for exchanging of form data and other pertinent data across the multiple tiers of the numerous web applications. XML will be the primary language of choice for the transmission of data between the customer and the Silvered Leaf and Company. Since the Silvered Leaf and Company will be utilizing applications that run off of various related databases, XML is an ideal choice. XML is also a desirable choice of mark-up languages since the majority of the clients will be utilizing differing devices to access the Silvered Leaf and Company's ecommerce site. Each organization prefers differing flavors of operating systems and other devices and therefore, requires that the web pages

be displayed differently depending on the type of devices being utilized to access the Silvered Leaf and Company ecommerce system. Ultimately, XML will be utilized not for the visual and multimedia aspects of the ecommerce system, but rather for its flexibility and effectiveness in storing and exchanging data. XML is ideal for regulating the business transactions between the customers and the Silvered Leaf and Company.

Fourth, will there be access to production-like testing environments (prototyping)? This will be a critical aspect within the project and will be addressed during the prototype phase. During the prototype phase, the Silvered Leaf and Company project will utilize both Microsoft PowerPoint and Visio to prototype system usability, create a closer match between the system and the end-user, improve quality design, better maintain the screens and ultimately reduce the amount of time to develop the site. By developing a prototype, errors within the applications and web site will manifest themselves. As a fail-safe measure, the training and launch phases will help to identify any technical errors that may have been missed. More importantly, the launch phase has been divided up into a 3-tier launch to allow ample opportunities to correct any errors prior to the final launch on November 25th and is scheduled to begin on October 28, 2005.

6.2 Software Quality Assurance Team

As mentioned several times in the mission statement and objectives for the Silvered Leaf and Company project, the highest quality is extremely important and will be critical in creating an identity for this organization. Therefore, a Quality Assurance team will be assembled during the site development phase and will consult directly with the project manager, Director of Information Systems and Director of Marketing. The Quality Assurance team will participate in various activities within each division of the project in order to ensure that the goals for quality assurance are met.

The goals of the quality assurance team for the Silvered Leaf and Company project include: 1) Define the processes and standards such as how reviews should be conducted, and when reviews should be held; 2) monitors the development process to ensure that the standards are being followed; and 3) reports the software development and other technical processes to project manager. Ultimately, the Director of Information Systems will control these three activities. However, the Quality Assurance team may be asked for advice by Project teams or individual developers, but is only responsible to the Director of Information Systems. More specifically, the Director of Information Systems is responsible for the software standards. The Quality Assurance team only proposes changes (like any developer or project team can do) and usually will implement the changes approved by the Director of Information Systems.

6.3 Software Standards

One of the most important tasks of the Quality Assurance team is the development and maintenance of product and process standards. Product standards define the characteristics that each component within the organization should exhibit. This would include each basket as well as the internal and external web sites being developed.

The standards include: 1) providing an encapsulation of best, or at least most appropriate practice, 2) provide a framework around which the Quality Assurance process may be implemented and, 3) assist in continuity where work carried out by one person is taken up and continued by another. The Quality Assurance team should base its organizational standards on national and international standards, and should draw up a standards handbook that will be kept on hand by all entities interfacing with the project

6.4 Security Measures

One of the most critical considerations with regards to the design and function of the system is how the customer's data and other vulnerable information will be protected. There will be three systems that will need security; the External Web System, Internal Web System, and the Fulfillment/Warehouse System. All three systems will work together and because they are so closely related, vulnerability will be an important issue to address during this project. All of these systems are combined to create the Silvered Leaf and Company

ecommerce system. When evaluating the Silvered Leaf and Company ecommerce system, overall consideration will be given to application security, which includes access security, data security and functional screen security. The author also evaluated the web client software that would be utilized, how the data transactions will proceed, and the web server software to be utilized. All of which are essential when conducting business online.

First, access security measures, which regulate who is authorized to access a given application will be established. Whether it is an employee of the Silvered Leaf and Company utilizing the internal system web site to process orders, or a customer accessing their account to place an order, Special consideration will be given to the regulation of access security.

Second, steps to ensure data security will be created in order to secure customer transaction data and stored data throughout the ecommerce system. It will also address how to validate these data as well.

Third, and usually the most overlooked component of application security, is functional screen security. When evaluating functional screen security, determining what features and functions are made to be accessible to which users within a given application will be considered. Without regulating functional screen security, a host of issues could arise and many individuals would have access to screens that are not appropriate for them to see. This would directly impact the integrity and security of data.

To explore the issue of application security for the Silvered Leaf and Company project in greater detail, it is critical to consider the importance of

verification, authentication/identification, confidentiality, accountability and the availability in this project's application security.

First, confidentiality must be guaranteed so that when a customer of the Silvered Leaf and Company inputs his or her credit card number and profile information, it will be protected while committing a transaction or when it is static. If the Silvered Leaf and Company ecommerce system does not guarantee confidentiality to the customer's information, credibility will be sacrificed and more importantly, the valued customer would be lost and legal issues could arise. Additionally, other personal information such as the customer's address, phone number, etc. must be protected from identity theft and other means by which this information could be compromised.

Second, the Silvered Leaf and Company ecommerce project must ensure that the correct boxes are assigned to the corresponding order and charged to the appropriate account. The Silvered Leaf and Company ecommerce system must also validate that a given gift box order is shipped to the appropriate address in the stated time. The verification and accountability of the ecommerce system must also ensure that the correct information is given to the customer based on the specifications submitted during the customer's query. Obviously, by not providing accurate information to the customer when ordering could cause them to look elsewhere for service.

The Silvered Leaf and Company system will also provide authentication and identification of the customer who is attempting to access the system. Several measures will be taken in order to authenticate the user. A

dynamic/encrypted password protocol along with preventative training for all employees must be established. As the saying goes, “nothing lasts forever”. This is true with even the most secure passwords. Although the passwords will be encrypted, periodically changing passwords will be a mandatory procedure. An issue that has been considered is the impact on customer support and the entire business process. If passwords and other identification/authentication measures are changed to frequently, then confusion will arise and service is halted. Therefore, a procedure has been established so that a reminder is automatically sent to each user to change their passwords. This will allow the employee to take ownership and responsibility of initiating the change.

In many instances, passwords are the main tool that an individual seeking to obtain valuable information illegally will utilize to accomplish their objectives. These passwords are often given freely to hackers claiming to be a legitimate customer, by customer service representatives. Training must be offered in order to address these issues and establish a protocol that will need to be followed in order to avoid this pitfall. As the old adage says, “knowledge is power!” and when the customer service representatives and other employees are well trained, costly mistakes will be averted.

Having a multi-tier firewall system will also be a critical lockdown measure and will discourage potential hackers from gaining unauthorized backdoor access. The firewall system will also screen incoming and outgoing mail, provide virus protection, secure the back-up and recovery system (including off-site storage). Having an effective firewall measure in place will also limit remote

access users on the internal and fulfillment/warehouse systems. This will isolate the external web site from the other two systems. Other important measures will include specialized tools for fraud screening such as "Verified by Visa" or another measure such as a proprietary fraud scoring system

In addition to application security and multi-tier firewall, the author of this project will also evaluate security as it relates to the web client software, data transactions and web server software. Each of these major security components and their responsibilities will create the framework of the architecture for the system.

When evaluating the web client software security issues, it is first important to understand what potential threats the Silvered Leaf and Company will be combating. With the advent of executable content applications that can be embedded into Web pages, inherent security risks have become a real problem, and one of the greatest threats for the Silvered Leaf and Company. Examples of active content that could be used for malicious purposes include Active X and java applets, which are object component programs that can be downloaded from the Internet. JavaScript and VBScript, which are run-time programs, can also be potentially threatening and can be sent over the Internet and dynamically added to during a web session. All of these types of executable content applications are not only a concern to the customer but to the Silvered Leaf and Company as well. The objective of this project is not only to have a secure ecommerce system protected from outside threats, but also to determine what types of active content should be offered to users, both internal and

externally. The potentially threatening uses of executable content applications can go both ways to affect the customer and the Silvered Leaf and Company.

One of the security considerations of using JavaScript for the Silvered Leaf and Company is that once a JavaScript file is downloaded from the Internet, a firewall can do nothing to protect the system and the system becomes vulnerable. This means that once the script is loaded, it can do serious damage to both the internal system and client side system. One option to avoid this problem was to eliminate the use of JavaScript all together. However, that would seriously be counter-productive in working towards one of the project objectives, which was to provide a high-quality and sophisticated web site for the customers. The solution to this problem was to limit the use of JavaScript to an “as needed” basis. By minimizing the use, we would be minimizing the risk of system infection.

Since much of the data transaction concern in ecommerce systems revolves around the need to secure payment transactions, it was important to consider the available data transaction systems available and utilized for ecommerce technology. There are two types of data transactions systems available, stored account and stored value. Both were evaluated but the author came to the conclusion that the most reasonable would be a stored account system, which handles credit card and debit card transactions. Because the majority of the customers are the purchasers in hotel chains and individual customers, providing this type of data transaction system seemed to be the most reasonable. It was determined after evaluating the combination between the

demographics of our customers and the type of product the Silvered Leaf and Company provides, that the most common form of payment is either credit card or the use of a purchase order. Therefore, this was the most reasonable choice of data transaction systems. In addition, the decision to use a stored account system was also based on the risk factor between the two options. A stored value system carries more risk with it since there is no intermediate bank involved in securing the transaction. Therefore, the risk factor played an important part in the decision to use a stored account system. There will be two protocols used in the Silvered Leaf and Company ecommerce system in order to provide data transaction security, SSL and TCP/IP. In order to encrypt and secure the data being transferred, Secure Socket Layer (SSL) will be utilized on top of the TCP/IP, which is the transfer protocol used to transfer data over the Internet.

The third security component evaluated during this project was the need to protect the ecommerce servers. The two servers of most concern for the Silvered Leaf and Company web servers were the database server, and application server. These were the two most vulnerable databases being utilized and are usually susceptible to malicious attacks. The database server handles all of the sensitive data such as account information and payment history. The most pressing issue with the database server security was the use of SQL, which provides the method of accessing databases from external applications. The problem that could be posed with SQL, is that once the data is accessed, it is difficult to stop the spread of any destructive acts. Completely eliminating the

use of direct query altogether isn't an option since querying is an indispensable tool used for data farming. Therefore, the only realistic option to secure against issues with SQL is to regularly examine the operating system logs and database logs.

The other vulnerable server evaluated during this project was the application server. The application is a major concern, like the database server, because it is through the application server that the customers access the Silvered Leaf and Company ecommerce system. The first-line defense against attacks through the application server is user authentication. It is through authentication that only certain portions of the system would be available to the customer. By limiting availability to the customer, the Silvered Leaf and Company would also be limiting access to the ecommerce system by those wishing to impose harm to the ecommerce system.

7 Requirements and Budget

7.1 Resource Requirements

The Silvered Leaf and Company resource requirements will identify estimates of total resources required to complete the project. There will be a total of ten personnel involved in the process, which, include the project manager, Director of Information Systems, Director of Marketing, Software Engineer, Data Base Administrator, two Marketing Professionals, a web designer, and two Quality Assurance Team Members. Approximately one-hundred and forty hours for designing and testing the three systems will be required, hardware, software, office facilities, travel training, and maintenance requirements are all typical resources that will be required for this project.

7.2 Budget Requirements

There are five phases of the project development process itself totaling twenty-four thousand dollars. However, other costs, often hidden, associated with the project exist as well. These, costs include details such as, meeting costs, phone calls, development of documents and status reports, project administration, and review sessions, etc. All these cost will be considered and included in the total project budget. It is estimated that these costs will reach approximately eighteen thousand eight hundred dollars. Other obvious costs

included for this project include hardware, software and miscellaneous services as well and are estimated to be twenty-three thousand three hundred dollars.

The budget specifically for the development of this project will be broken down between the different phases of the project, with a sum assigned to each phase based on good faith estimates already provided. The information-gathering phase will be assigned three thousand and five hundred dollars that will be used for the focus group, task scenario and field-testing. The Site-Completion phase will be assigned the heaviest budget of twelve thousand dollars which will be utilized to develop the external and internal web sites, and the fulfillment web site. One thousand and five hundred dollars will be assigned to the site prototype phase in order to prepare for the site launch. In this phase, much of the funds will be utilized to develop a prototype and debug the system. Training customer service staff and the product fulfillment staff on the new system will require six thousand dollars. Finally, one thousand dollars will be allotted for the three-tier launch of the system to be completed by November 25th.

The Software development expenditures include a cost of between six thousand dollars and ten thousand dollars for the E Commerce product development. This includes the cost for over the counter software packages as opposed to a custom package. The cost for database vendor software licensing will range between four thousand, five hundred dollars and six thousand, five hundred dollars. Office Automation will range between one thousand, three hundred dollars and two thousand, six hundred dollars. Office automation will include forms development and T-1lines for inter/intranet availability. Other

software packages required for this project include CAD/CAM scanning software for digitizing documents and other documents. Finally, the cost for media production will range between one thousand, two hundred dollars and three thousand dollars for the ability to create images and other necessary marketing practices.

Although the 5-phase development and software packages for the Silvered Leaf and Company comprise the bulk of expenditures, it is critical to account for miscellaneous services that could easily be overlooked. These miscellaneous services include a quality assurance team of consultants to ensure that the Silvered Leaf and Company project is implemented appropriately. The fees for this service will range between six thousand, five hundred dollars and ten thousand dollars. In addition, the cost of meetings during the information-gathering phase and throughout the process will result in a cost of between one thousand and two thousand dollars. The cost of phone calls due to necessary teleconferences will fall between five hundred and eight hundred dollars. The development of imperative documents and reports will range between five hundred and seven hundred dollars. These documents will be used to ensure that only pertinent information will be collected and to allow communication between departments to remain as efficient as possible. Project administration is obviously an important cost and includes all fees associated with administering of the projects activities; these fees will be within one thousand, five hundred and two thousand dollars. In conjunction with quality assurance, weekly review sessions will be held to review the activities for that

week and make sure that the project is within the required time frame. These expenditures will fall between three hundred and seven hundred dollars. As with any budget, a reserve of 5% of the total project cost is set aside as buffer funds to resolve any unforeseen issues that may arise.

7.3 Summary

Of all of the budgetary items included in this project, the decision to buy versus building in-house was the most challenging decision to resolve. The decision to buy an Over The Counter (OTC) software package versus creating a custom package was determined by two factors. Could we build the required applications with the funds available? And would the Software Engineer have enough time to complete the desired application within the allotted time frame? Since neither of these two criteria would be met when considering a custom package, the decision purchase from an outside vendor became the most reasonable decision.

8 Lessons Learned

8.1 Personal Lessons

Anytime a project of this magnitude is pursued, the lessons to be learned are plentiful if one is willing to seek after those opportunities. Organization of time, detailed planning, consideration of all viewpoints, proper implementation and thorough research are a few of the critical lessons learned during this process. Each is unique and has been instrumental to my development throughout the evolution of this project.

Time is the most precious commodity to any manager and does not come freely or even easy for that matter. Having enough time was truly a dilemma throughout this project and created an opportunity to implement new ways to approach the time constraint challenges. Traditionally, in a typical managerial environment, coordinating critical activities and ensuring that they were accomplished was relatively straightforward. However, with this project focusing on an area that is relatively unfamiliar professionally, certain constraints arose that had not been faced with in the past. The ability to coordinate all of the essential activities and affairs that were involved in the development of a major undertaking such as this professional project, allowed the author to go beyond his comfort zone and truly expand his time management skills. This was accomplished by developing a timeline and, with an element of flexibility, sticking to it. Although the various phases outlined in this project have not been fully

implemented yet, with the exception of the information-gathering phase, the development of this project has required a strict adherence to the timeline. Successfully allotting appropriate time for completion meant establishing specific amounts of time to coordinate planning and conduct project research. By allowing specific chunks of time and holding to the timeline created, it was possible to focus on a given task and utilize the available time more appropriately and efficiently.

In addition to appropriately managing time, detailed planning was important to be able to effectively layout what needed to be accomplished and take advantage of the opportunity that has presented itself. Creating a Work Breakdown Structure (WBS), was instrumental in properly understanding all of the “things” that would be required to successfully complete the project. This was especially important to create a vision of what tasks would take place throughout the project and how they would interface. By properly detailing all of the tasks and how they would interact with one another, overcoming potential problems and unforeseen pitfalls was more likely. Utilizing a data flow diagram (DFD) was also beneficial in the planning phase to clearly define how information would flow from order initiation to order fulfillment. Like the WBS, the DFD created a visual means, by which challenges might arise and then resolving those problems before they become an issue. By creating these visual diagrams and flows, the author was able to clearly define what it was he wanted to do and implement the appropriate plan to complete the project.

Although the Silvered Leaf and Company project was completed by a single individual another important lesson learned was to think as though there were others involved in the project. Considering all viewpoints and taking into account many different perspectives was another important principle learned that played a key role in the success of this project. Asking the question “what if?” helped involve other perspectives without losing the anonymity of this project provided. Another method of considering various viewpoints was to evaluate why other gift box companies pursued a certain tactic even though it did not seem appropriate for a given situation. An example of this might be certain color schemes used on the home page or including certain graphics that seemed cluttered. This created an opportunity to potentially avoid pitfalls or identify certain opportunities that may not have been considered.

One of the greatest temptations that became evident during the project was to change horses mid stream and redesigning the process. However, by staying the course, the author was able to make appropriate adaptations without abandoning the original plan. By following through on the initial plan, proper implementation and time were conserved. Had the decision been made to reconstruct how the project was to be implemented, the results could have been catastrophic and valuable time might have been lost.

Another important lesson learned during the Silvered Leaf and Company project was the art of proper research. Without researching the existing gift basket companies and their philosophies of conducting business, the entire decision to move forward with this project would have been foolish at best. The

process of identifying the competition, evaluating their philosophies and determining how they conduct business was invaluable in determining the niche that needed to be filled. More importantly, by visiting the various web sites, the author was able to identify the processes that did not work for those companies and avoid repeating those mistakes during this project. Additionally, researching school textbooks and other valuable literature, helped to spotlight proven technologies and methodologies that would help to make the Silvered Leaf and Company project a success.

8.2 Roadblocks

Organizing the appropriate amount of time and prioritizing roles and responsibilities in order to focus and accomplish the task was the greatest challenge presented. Appropriately balancing personal, professional, religious callings and school were all difficult and at times, seemingly unattainable for the author. Initially, the goal was to have the framework created in order to launch by the Christmas season. However, throughout this course unforeseen life-changing events arose that challenged not only the time line of the project, but also the will to complete it. However, appropriately following the time frame originally laid out, with occasional adjustments helped the author to accomplish this project. The importance of proper planning and a clear definition of the opportunity are critical to overcoming this roadblock. Without a clear definition of the opportunity, several things would have occurred. First, as the old adage says, “you can’t hit a target, which is unseen”. Without knowing the direction to

go throughout this project would be similar to wandering in the jungle without following an established path. You may eventually get to where you need to go, but in a much longer time frame.

Another roadblock that arose during this project was simply that the silvered leaf and company was being established from scratch. There was no pre-existing methodology or system being enhanced that could be referenced. Simply a vision of how the author would like to create his business. Having the liberty to create a system methodology from scratch is obviously desirable in many ways but also creates some roadblocks. One of which is that the initial costs are much higher than a system enhancement on an existing process or organization. Not appropriately planning for the needed funds could prove to be devastating in the long run if those costs are not accounted for early on. In addition, without a pre-existing framework to work off of, ample choice selections for much of the developing framework can, at times, seem burdensome as opposed to exciting. Having the opportunity to have your choice your way is great if they are presented occasionally. Deciding whether to use an OTC software package for system management or develop a package from scratch is exciting but burdensome. Having countless decisions such as the previous example can be taxing and ultimately create a roadblock against moving forward with the project.

9 Conclusions

9.1 Final Conclusions

It is important to understand that three critical success factors must exist in order for the Silvered Leaf & Co. project to be successful. The project must finish within budget, be completed on time, and there must be 100% functionality by November 29th. Unless all three of these criteria exist upon completion, the project will not be a success. If any of these three criteria fail, the result could mean a significant loss of profit due to the Christmas holiday shopping season that begins the day after Thanksgiving. In addition, if this deadline isn't met and the Christmas holiday shopping season is not capitalized on, then scrapping the entire launch until the following year would be considered. This would result in a loss of revenue and potentially the demise for the Silvered Leaf & Company. The clients we work with will need to be able to place orders for their customers by the 25th of November in order to fulfill their customer's needs. Each day the site is not 100% functional and surpasses the due date, opportunities to develop a relationship with the potential customers and revenue will be forfeited. In addition, lack of functionality will inevitably cause frustration and lack of confidence in the site and ultimately, the Silvered Leaf & Co. itself. Therefore, these three success criteria are critical in order to achieve the underlying objectives of the project.

The objectives include, first, providing The Silvered Leaf & CO with a clear competitive advantage by having the web site functional, bug free and

accessible to businesses and hotel chains by November 25, 2004. Having the site accessible and bug free will be hinged on the first two success criteria. Second, the e-commerce project should be designed to promote brand loyalty among businesses for our products by attaching the Silvered Leaf & CO logo to all products through themes representing categories (The “leaf me alone” basket, etc). With a well-designed and contemporary site containing many of the latest features, as well as being “glitch” free by November 25, this objective will be fulfilled. Third, the e-commerce project should support our effort to provide high-quality goods for a reasonable price through associating all of our baskets with value. In order to provide reasonable prices to the customer, the project must fall within budget.

Ultimately, the client will determine whether the Silvered Leaf & Co. project was a success or failure. Feedback, as well as the purchases made by our clients, is the key identifier of their satisfaction and the success of this project.

9.2 Future of the Project

The framework has been established to help ensure that the creation of the Silvered Leaf and Company will prove to be successful. By following this framework, the niche described in this project will be filled and will allow organizations, such as hotels to have unique, quality gift boxes available for their guests in a highly dynamic e-commerce environment. It is also important to note

that this project has been developed for future use. In other words, the majority of the Silvered Leaf and Company project has not been implemented yet, with the exception of the information-gathering phase. This was a methodical decision in order to allocate time for proper planning. Additionally, the vision outlined in this paper is simply a portion of the entire Silvered Leaf and Company project and focuses solely on the ecommerce aspect of this company. And although the ecommerce solutions provided in this project are a large portion of the entire company, many other pieces of the Silvered Leaf and Company puzzle still need to be evaluated.

Other important questions also need to be addressed, such as, what is the scope of the Silvered Leaf and Company's market? The Internet is a large forum, who will be targeted first? Will the gift boxes and their contents be made in house, or will they be purchased from outside vendors?

And although much of the revenue earned will come from the ecommerce division, a chunk of the revenue will also come from other forms of marketing and direct selling. For example, initially the Silvered Leaf and Company will have a local launch in conjunction with the Site launch. During the local launch, direct contact will be made through visits to the hotels and local businesses to introduce the Silvered Leaf and Company and promote the new site. This initial contact will also serve as an opportunity to provide sample gift boxes and other promotional items, as well as distribute price lists and marketing pieces. It is through this contact on a local level that will serve as an opportunity to shore up a brand loyal customer base close to home. The term "never place all of your

eggs in one basket” is the principle philosophy behind this local launch. It is simply another method of generating business on a local level and diversifying revenue-building paths. These local relationships serve as an important foundation for the Silvered Leaf & Company and will be critical in additional expansion measures.

Following the local and web launches in November of 2005, the primary focus will then be to promote the Silvered Leaf & Company on a regional level. Unlike the promotion of the company on a local level, where approximately 80% of the contact will be personal contact, less than 3% of the contact made will be through direct contact with the customers during the regional launch. As the geographic territory of the Silvered Leaf and Company’s focus expands to a regional and then national level, the sphere of influence through direct contact will contract. At this point, the principles of marketing over the Internet will play an important role in the continued growth of the Silvered Leaf and Company. The focus of the regional promotion for the Silvered Leaf & Company will include targeting regional Service providers and large corporations that are headquartered in the Western United States. Much of the marketing emphasis will be placed on banner ads on key web sites, search engine placement and through email contact. More traditional forms of marketing will also be utilized, such as advertisements through direct mailings and radio ads. Heavy promotion, utilizing these marketing strategies will begin in July of 2007 and will continue through the Christmas season of that same year.

Following a strong regional promotion, the next step will be to promote the Silvered Leaf & Company at a national level and will utilize all of the same marketing strategies as in the regional promotion, but will also include TV spots on a large national television network. It is anticipated that when the national launch takes place, the Silvered Leaf and Company will triple in size in order to handle the expected volume. The national promotional launch is estimated to take place in July of 2010.

Another important question to be answered is whether or not the gift boxes and their contents will be made in house, or purchased from outside vendors? All of the boxes and the majority of their contents will be made in-house. Manufacturing the boxes in-house will be imperative to maintain control of the product's quality and provide consistency in their production. In order to promote quality and consistency in the gift box manufacturing process, developing solid protocol will be paramount. Such protocol will include, how to cut the sheets of wood in order to maximize material usage and to fulfill the exact dimensions for each of three different box sizes that have been established. Another important protocol that will help create consistency in the manufacturing process is, how to construct the jigs that will assist in the construction process. These protocol and more, will be important to the manufacturing process and allow the Silvered Leaf and Company to continue constructing the boxes in-house. In addition to creating consistency in the process, the boxes are unique and will be unable to be manufactured in large quantities elsewhere without divulging proprietary information. The material to construct the boxes will be

purchased through a specialty lumber company located in Grand Junction, Colorado. This company has already established price breaks based on specific quantities ordered. Since the boxes play a key role in the marketability of the products, working with a specialty lumber supplier will prove to be an important relationship for the Silvered Leaf and Company.

Unlike the actual gift boxes, some of the gift box contents will be outsourced and others will be developed in-house. Those contents that are non-edible in nature will be purchased from specialty vendors. For example, in the “baby leaf box”, baby bottles, socks and hand print kits will be purchased externally since the Silvered Leaf and Company is not interested, or capable of manufacturing these items. However, the Silvered Leaf and Company will produce any of the gift box contents that are edible in nature. The recipes for the chocolates, fudge and other goodies were developed by the Silvered Leaf and Company and will remain proprietary information. The Silvered Leaf and Company will always produce all items that are considered to be unique proprietary information of the Silvered Leaf. If this information were to be divulged to an outside party, the Silvered leaf and Company would run the risk of losing a competitive advantage.

Acting on these questions will be critical for the ecommerce plan laid out in this paper to move forward. Why will they be critical? They will be critical because you can't make a footprint without a foot that isn't there. Without the ability to construct the gift boxes and know whom you will market them to and how, there is not point in moving forward with the Silvered Leaf and Company

project. Fortunately, the questions surrounding the manufacturing process and marketing plan have already been considered and are ready for implementation. This will ensure that the Silvered Leaf and Project will be a success.

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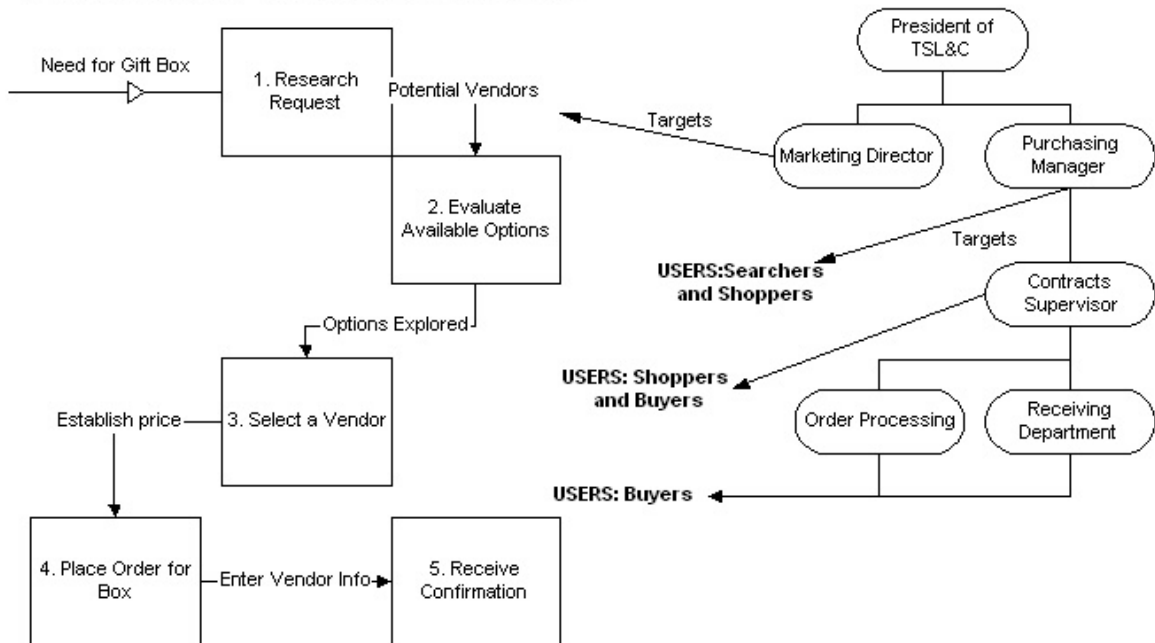
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11 Appendices

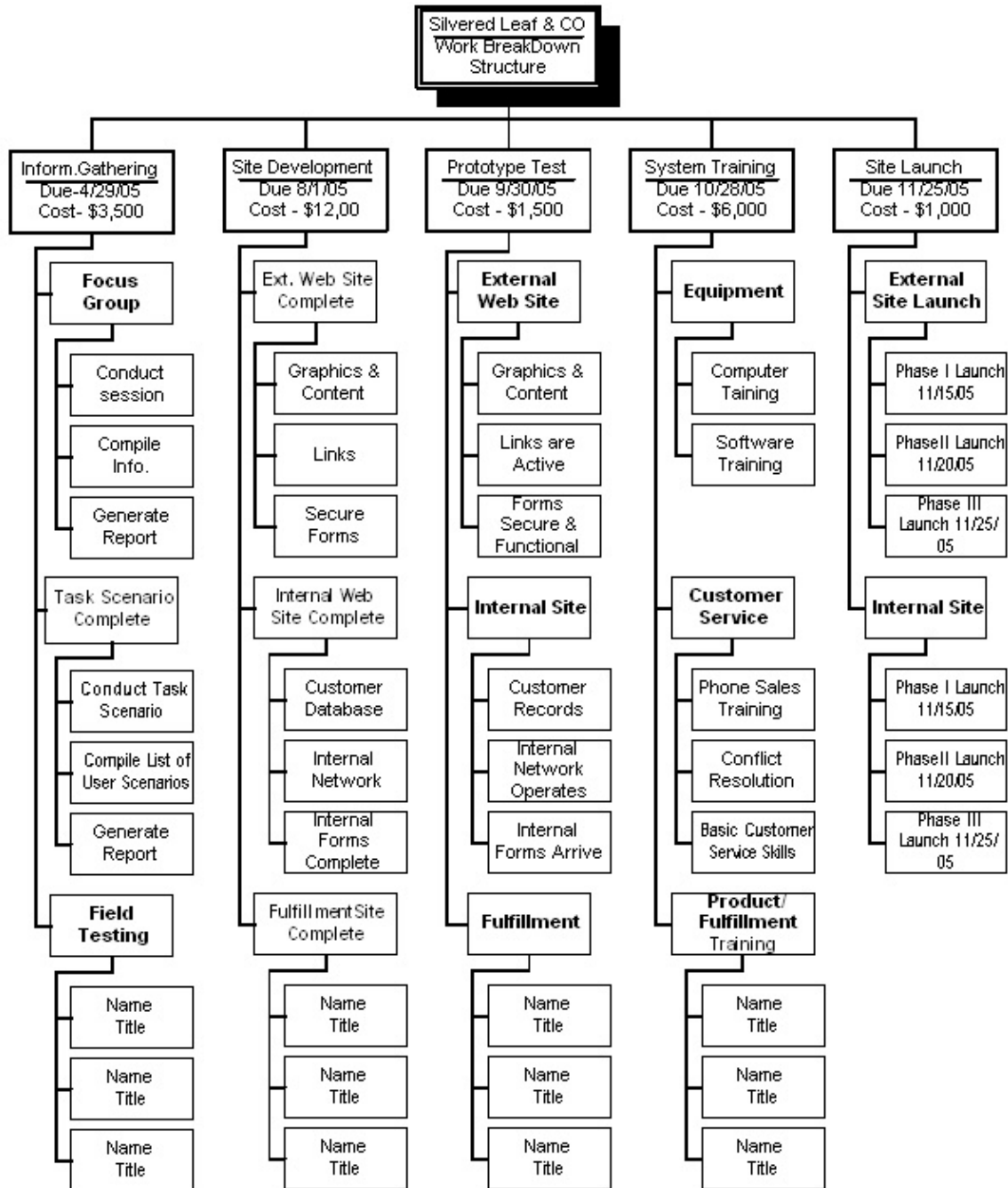
11.1 Appendix A: Diagrams

11.1.1 Business Data Flow Diagram

Silvered Leaf & Co. - Business Data Flow Diagram

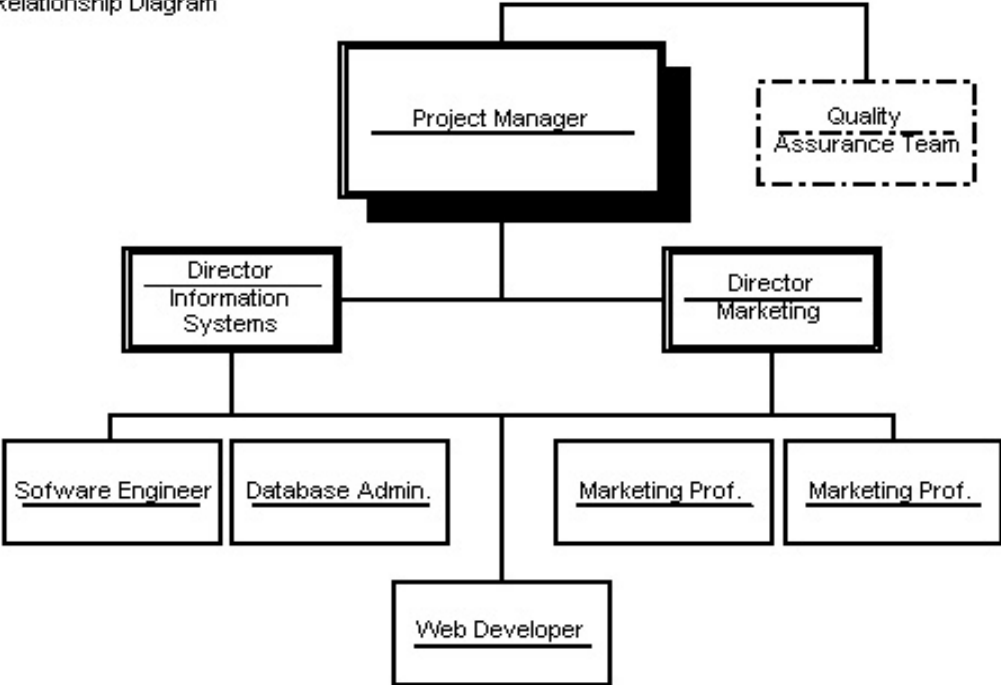


11.1.2 Work Breakdown Structure



11.1.3 Relationship Diagram

Silvered Leaf & Company
Relationship Diagram



11.2 Appendix B: Business Requirements

11.2.1 The Silvered Leaf & CO. Logo Example



11.2.2 Project Budget

	LOW	HIGH
Software		
E Commerce Product Development	6,000	10,000 Cost for OTC Software
Database	4,500	6,500 Database Vendor Software License
Office Automation	1,300	2,600 Forms Development and T-1 Inter/Intranet
CAD/CAM -Scanning	600	1,200 Scanning Software
Media Production	1,200	3,000
Software Totals	13,600	23,300
5-Phase Development		
Information Gathering	3,500	3,500
Site Development	12,000	12,000
Site Prototype Test	1,500	1,500
Internal System Training	6,000	6,000
Site Launch	1,000	1,000
5-Phase Development Total	24,000	24,000
Miscellaneous Services		
Quality Assurance Team - Consultants	6,500	10,000
Meetings	1,000	2,000
Phone Calls	500	800
Development of Documents and Reports	500	700
Project Administration	1,500	2,000
Review Sessions	300	700
Buffer Funds	1,800	2,600 Approximately 5% of total costs
Miscellaneous Services Total	12,100	18,800
Total	49,700	66,100

11.3 Appendix D: Reports

11.3.1 Project Status Report

The Silvered Leaf and Company		
Ebusiness Project Plan		
Project Status Report		
Date:	Vendor:	Consultant:
Previous Objective	Previous Target Date	Status
1.		
2.		
3.		
4.		
5.		
New Project Objectives	Target Date	
1.		
2.		
3.		
4.		
5.		
Attendees		
1.	6.	
2.	7.	
3.	8.	
4.	9.	
5.	10.	

