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Implementation business-to-consumer electronic commerce website using asp.net web programming framework

Cesar Quiñones

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IMPLEMENTATION BUSINESS-TO-CONSUMER ELECTRONIC COMMERCE WEBSITE USING ASP.NET WEB PROGRAMMING FRAMEWORK

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Business Administration

by
Cesar Quiñones
June 2003
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Walter T. Stewart, Information & Decision Sciences

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ABSTRACT

Many companies labor under the illusion that there is only one right business strategy for an industry. If one company is lucky enough to be the first to discover and implement that “right strategy,” they will win and prosper. Research over the years has shown that this way of thinking is ultimately self-destructive. If everybody’s racing to discover one right strategy, nobody wins. The dawn of the World Wide Web and electronic commerce has further proven that success is as individual as the companies that seek it and that planning and active management makes the difference between a boom and bust or a boom and bloom. In a very few years the .com industry has demonstrated this difference. In this project a plan has been presented to create a thriving e-commerce business.

This project was created to simulate the process of establishing an authentic electronic commercial canine services and supplies business. The project presents all aspects of the simulation beginning with the background research of the canine services and supplies industry and ending with an e-commerce simulation and post implementation audit. The project will present an introduction to Electronic Commerce followed by a more in
depth analysis of the canine service and supply industry on the Web today including the simulated Web site – Doghouse.com. ASP.NET Web Programming Framework (formerly known as ASP and ASP+) will be introduced and followed with the implementation of the simulation. The Conclusions will be the last chapter for this project.

The project includes references to articles that provide strategic management ideas for this business and introduce future trends. These references were amassed from several sources including Internet Websites, professional publications, and other media.

In order to present a simulation that is as realistic as possible using the business and industry of canine services and supplies a website, Doghouse.com was generated using ASP.NET Web Programming Framework for implementation. This project is more interesting because the competition in this market raises more concern of how to succeed in getting high market shares.

During the testing process the final application can be operated in three different network environments. Once the project goes live the completed application must be operated on a given virtual directory, along with its subdirectories, on a Web application server.
ASP.NET offers several important advantages over previous Web development models: enhanced performance, world-class tool support, power and flexibility, simplicity, manageability, scalability and availability, customizability and extensibility, and security. To simplify the process, this ASP.NET framework business application was created initially by bringing everything and/or adding files to a virtual directory on the Web server.

The completed project delivers a Business-to-Consumer electronic commerce simulation application running on Windows 2000 or Windows XP platforms systems. The application is built in such a manner that its functions are successfully implemented in the business environment.

As no contract Website developer would guarantee a program to be trouble-free in the real world, so likewise this application is not guaranteed to be trouble-free but merely to be used to simulate business functions. The completed Web programming framework might not work perfectly in the actual business environment.
ACKNOWLEDGMENTS

I am grateful to Professor Tapie Rohm, Ph.D., the committee chair. Without his feedback, encouragement, recommendation, and help, this project would not be done. Also, thanks to my second faculty reader, Professor Walter T. Stewart, Jr., and my department chair, Professor Walter T. Stewart, Jr., who gave me unconditional support, feedback, encouragement, editorial suggestions, and production help.

I cannot finish this part without expressing deep gratitude to my parents, Marcelo and Julia Quiñones and wife, Justine, who always support me not only with this project but also with my many journeys, travels and involvements outside the home. They are beacons of moral principles, patience, love and family values that help me understand reality in my daily life.

Cesar Quiñones
DEDICATION

This is dedicated to my parents Julia and Marcelo, wife Justine, children, Christian and Jannet and all the rest of the family near and far. And to all the Information and Business Management faculty I've had the good fortune to know during the past three years.
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CHAPTER ONE

INTRODUCTION

Preview

Many business managers wonder what value Web services can add to their businesses. The answer is "a lot", and the more a company has use for information from disparate sources, the more it stands to gain (Baker, 2002).

This project is designed to balance both the technological and strategic aspects of the electronic commerce essential to succeeding in today’s Internet-based economy. Following the steps of Amazon.com’s selling strategy and their supply structure, the Doghouse.com e-commerce project will cover the key technologies and business strategies clearly and concisely. To assist the technologically less sophisticated reader, Appendix A has been added with the definitions of the various technical abbreviations used throughout the paper.

The project begins with the introduction and definition of the purpose of the project.

Chapter Two presents an overview of the canine industry. It defines dog ownership in the United States to aid in estimating the size of the market, describes the
dog clubs and events, and provides an overview of the economic structures in which businesses operate.

Chapter Three, Dog Services and Supplies Industry, builds on Chapter Two by applying the information presented in Chapter Two to Michael Porter’s five-force analysis. The analysis will include a review of entry barriers, determinants of suppliers’ power, rivalry determinants, determinants of buyer power, and determinants of substitution threat. The five-forces analysis, along with the competitive advantage and differentiation of the Canine Services and Supplies industry, which is the simulated business, will be developed.

Chapter Four, Electronic Commerce, begins with an overview of the title subject. The chapter describes the scope of e-commerce and how it can improve many of the more standard business activities. Chapter Four also describes the types of e-commerce and how e-commerce fits into today’s business.

Chapter Five, Active Server Page Net (ASP.NET) Technology, introduces the Internet infrastructure, Web markup language, Internet applications, protocols, and utility programs. The chapter discusses the basic concepts of web programming technology using ASP.NET and its
benefits. It is the lead-in to the next section that focuses on the actual development of the website.

Chapter Six is the Web Development process. It is in this chapter that the discussion is set forth that determines the various stages of planning and designing of the database. The necessary layouts for the data flow diagram, the Entry-Relationship (E-R) diagram, network design, and Web design are developed in these pages.

It is in Chapter Seven, Doghouse.com Website that the implementation of the Business to Customer (B2C), the overall implementation process, database implementation, and electronic business environment are introduced as the Doghouse.com website. In addition to these implementations, the chapter expands on how to setup an e-commerce site.

Chapter Eight, Planning for Electronic Business, presents an overview of key elements that are typically included in business plans for an electronic commerce implementation including resource and implementation issues. These elements include the setting of objectives and estimated costs and benefits of the project.

Chapter Nine, Management of the E-Commerce Implementation, describes how firms develop and implement an outsourcing strategy for electronic commerce projects.
and also covers the use of project management as a formal way to plan and control specific tasks and resources utilized in electronic commerce projects. The chapter also includes discussion concerning the critical staffing areas of business management, customer service staff, database administration, systems administration, and network operations staff.

Chapter Ten, Post-Implementation Audits, presents a formal review of the Web site project after it is up and running. This section includes the remarks and caveats for the learning developer.

Purpose of the Project

The purpose of this project is to demonstrate an integration of real world, real time e-commerce with the knowledge and experience gained in participating in the Masters of Business Administration -- Information Management program at California State University at San Bernardino. It is this knowledge and experience that is used to create a Business-To-Consumer (B2C) electronic commerce application (ECA) using available Internet and information management technology. The project encompasses business administration theory in the illustrated business (Canine Services and Supplies Industry) and the review of
economic factors affecting the industry. A simulated company is set up and business rules are applied to the company similar to a real world organization.

The simulated company, Doghouse.com, is operating in the canine services and supplies retail industry. Doghouse.com has a vision, mission and goals like any other actual company. By using B2C ECA, Doghouse.com can take online orders from dog owners through the Internet via the World Wide Web. Doghouse.com employees are also able to handle, monitor, and fill orders using B2C ECA.

In this project, an electronic commerce business strategy will be established to assist in delivering a technology platform, a gateway for online services, and a professional know-how that companies can leverage to implement new ways of doing today’s business.

There are many platforms used to achieve and support the electronic commerce set out in this project. They are the foundation of the technologies and products that are presented. These electronic supports range from operating systems (e.g. Microsoft Windows 2000, Microsoft Windows XT, or Windows NT) to application servers (e.g. Microsoft SQL Server and Oracle 8 on Windows NT) and finally to applications infrastructure and development tools (e.g. Visual Studio.NET, C#, Jscript. NET, and ASP.NET)
programming framework). All of these platforms help businesses implement commerce systems quickly and with low risk. The simulated business, a canine services and supplies entity, will be established based on these robust and well-known platforms.

This project expands and explores the features of contemporary Internet and information technology such as ASP.NET and XML Web services. Layered on top of TCP/IP and HTTP, Web services offer a way to embed transactional calls into Web content, allowing the business to expose application program interfaces (APIs) in a consistent, discoverable manner over the Internet.

ASP.NET lets the user leverage his or her current programming language skills. Unlike classic ASP, which supports only interpreted VBScript and Jscript, ASP.NET now supports more than 25 .NET languages including built-in support for VB.NET, C#, and Jscript.NET. It does not require a translator tool, giving the developer increased flexibility in the choice of language.

ASP.NET enhances reliability by ensuring that the application is always available to the customers. XML Web services allow applications to communicate and share data over the Internet, regardless of operating system or programming language (Thai and Lam, 2002).
Doghouse.com will deploy its application by configuring and storing the settings in an XML file within the application. The Doghouse.com application is complemented with HTML, ASP, Database Management System, Microsoft Operating System, Client Server Architecture, and Internet Server to establish its electronic commerce site.

This project will simulate a canine services and supplies business to illustrate how information business management knowledge can be used to implement a B2C ECA website and to accomplish a corporation’s goal. HTML and ASP will be used as the major programming techniques for the entire project in the absence of virtual directories and subdirectories.

The final step of the project is to assure the full functionality of B2C ECA is ready to be deployed. This includes debugging and testing the application on an in-house computer system environment.
CHAPTER TWO

BACKGROUND OF THE CANINE INDUSTRY

Dog Ownership in the United States

There are more dogs than ever in homes in the U.S. according to a survey done by the American Association of Pet Product Manufacturers (APPMA) in 1994. In 1992, APPMA showed 53.1 million dogs in U.S. households; in 1994, the number jumped to 54.2 million dogs in 34 million households. With over 54 million dogs in the U.S. the business opportunity has tremendous potential. Thanks to the Internet that market has expanded to overseas and with that expansion the number of customers has also expanded. Although there is no organization taking a census of dog ownership in Europe and Asia there are sure to be many more interested canine owners since many of these countries still use dogs in a working capacity as well as for leisure sports and companionship.

Clubs, Events, and Market Potential

There are over 500 member clubs that meet American Kennel Club's (AKC) membership requirements. These groups hold AKC member events at which canine owners, breeders, and other interested parties gather. The groups create an
instant forum for marketing and researching canine needs, and for exchanging information and tips on improving access to information.

The clubs are the first class promoters of canine health, nutrition, products, and services. They offer conventions, workshops and training to dog owners. The clubs offer a great exposure and opportunity to promote and generate new businesses and alliances.

Over 15,000 competitive events are held annually under AKC rules. There are approximately 2,000,000 entries in these events. The events represent an opportunity to showcase innovations in canine products and allow businesses to introduce themselves and market their products and services.

The 15,000 competitive events that are held annually under American Kennel Club can offer a great potential to generate more sales. The sales are not limited to commodities but to services as well. At minimum the event coordinators offer floor space for product and services display. As a means for advertising these events can represent not only potential savings in per capita cost but also represent a valuable association that lends credibility and stature to each participating business.
Similar venues are available through farmers’ fairs and other "working" dog associations where there is a keen interest in saving time and where the convenience of Internet information is especially appreciated.
CHAPTER THREE

DOG SERVICES AND SUPPLIES

INDUSTRY

The dog services and supplies industry offers many opportunities for e-commerce entrepreneurs. There are openings in both goods and services. The five-force analysis modeled by Michael E. Porter can be employed to evaluate the industry.

Analysis of the Industry Attractiveness

Michael Porter provided a framework that indicates that an industry is influenced by five major forces. The strategic business manager seeking to develop a competitive advantage over rival firms can use these factors to better understand the industry context in which the firm operates.

These factors are Entry Barriers, Supplier Power, Rivalry Determinants, Buyer Power, and Substitution Threat. Examining these factors allows a firm to chart their history, their current situation, and their future in a cognizant and cohesive manner. The information can be used to create a model of the industry and an advantage for themselves.
These factors tend to raise barriers to market entry by new entrants

- Economies of scale
- Differentiation
- Capital requirements
- Switching costs
- Access to distribution
- Cost disadvantages beyond those of scale
- Government policy

These factors tend to increase supplier bargaining power

- Dominated by a few suppliers
- Suppliers are more concentrated than the buyers
- No substitutes
- Supplier has more important customers
- Supplier's input is critical
- Differentiated product
- High switching costs
- Threat of forward integration

These factors tend to increase customer bargaining power

- Concentrated
- Buy in volume
- Big ticket items
- Standardized or undifferentiated products
- Low switching costs
- Low profit margins
- Threat of backward integration
- Purchase is not very important to buyer
- Buyer has all the relevant information

These factors tend to increase rivalry among existing competitors

- Numerous rivals
- Equally balanced
- Slow growth
- High fixed costs
- Low differentiation
- Low switching costs
- Large capacity increments
- Diverse competitors
- High stakes
- High exit barriers

Figure 1. Five Competitive Forces
**Entry Barriers/Threat of Entry**

Barriers to entry are more than the normal equilibrium adjustments to what is seen as a profitable or unprofitable business opportunity. They are either the picket fences or block walls that allow or discourage competition within an industry.

In reviewing the Canine Services and Supplies Industry there were seven factors considered in determining the ease of entry. These are described below and graphically presented in Table 1 that follows.

1. **Internal (Organizational) Economies of Scale**

   Internal Economies of Scale are savings made within a firm as a result of mass production or sales. As the firm produces or sells more goods, average cost per item begins to fall because of:

   - Technical economies in the actual production or acquisition of product;
   - Managerial economies in the administration;
   - Financial economies in borrowing money at better rates;
   - Marketing economies in spreading the cost of advertising across a larger base of output or sales; and
Commercial economies in buying product or resources in bulk and negotiating larger discounts.

Doghouse.com is expected to be able to realize certain economies in the technical, managerial, and commercial areas. There is an expectation that marketing and financial economies will be realized within a short-term maturing period. The entry into the e-commerce canine industry should be economical.

2. **Brand identity**

Brand identity is the ability of the customer to identify and associate a particular product or manufacturer's line with a venue for purchase. The Doghouse.com marketing strategy is to display products such as dog food by brand popularity and quality. The expectation is that by sorting the products and brands for the customer, brand identity will be developed. It is expected that brand identity will be high.

3. **Capital requirements**

Capital requirements are those big cost purchases that are seen as necessary to begin business effectively. Owners of an e-Canine Services and Supplies business do not need much capital. They can
rent a warehouse and lease certain equipment for
moving and packaging goods.
Doghouse.com forecasts its capital requirement as low.
Although there will be certain comparatively large
investments in computer hardware and software these
are standard in today’s business world and
Doghouse.com will not have to invest in large
warehouse and office structures and the equipment
used to run those buildings in order to begin
business.

4. Access to distribution
Access to distribution is the ability of a business
to connect with its customer through transportation
routes as well as communications. It is vital for a
retailer to have efficient, effective, and reliable
shipping, transportation, and communication. There
are many distribution channels for the e-Canine
Services and Supplies enterprise. It can participate
in local events, ship via national and international
carriers, and communicate through phone, fax, paper,
or e-mail. The product is relatively stable and much
of it can be stored without fear of deterioration for
some time.
Doghouse.com will enjoy a high level of access to distribution through electronic media, alliance with the AKC, and various shipping arrangements with national and international carriers.

5. **Absolute cost advantages**

There are three minor subcategories in cost advantages:

- **Proprietary learning curve.** Proprietary learning is the required "homework" needed to be able to respond knowledgably to customer questions and take advantage of manufacturing changes.

- **Access to necessary inputs.** The cost of necessary inputs includes personnel cost as well as analysis cost and possibly the hiring of a survey firm.

- **Proprietary low-cost product design.**

Doghouse.com faces higher than average cost in two of these areas - Proprietary learning curve and Access to necessary inputs. Both higher costs are attributed to the broad range of products and manufacturers that must be approached. The Proprietary product design factor is zero since Doghouse.com is a marketing retailer. The net effect is a slightly above average risk.
6. Government policy

Government policy affects businesses in many ways such as product safety, interstate commerce regulations, tariffs, and treaties. To date many of the aforementioned restrictions do not affect e-commerce.

Doghouse.com is a pet e-retail business. As such it has little product safety problems or rules affecting transportation. The risk factor for this is considered low.

7. Expected retaliation

This defines the amount of profit per unit or payback.

The payback per unit in pet supplies varies by category. It is expected that the net payback will be above average.

Conclusion. The entry barriers for the Doghouse.com are low. New players may find it moderately easy to enter into this e-business. Table 1 shows the scale of each factor of entry barriers.
Table 1. Entry Barriers of the e-Canine Services and Supplies Industry

<table>
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<tr>
<th>Factor</th>
<th>(+)</th>
<th>Definition</th>
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<td>Economical</td>
<td>Uneconomical</td>
</tr>
<tr>
<td>2. Brand identity</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>3. Capital requirements</td>
<td>Low</td>
<td>High</td>
<td></td>
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<tr>
<td>4. Access to distribution</td>
<td>Open</td>
<td>Close</td>
<td></td>
</tr>
<tr>
<td>5. Absolute cost advantages</td>
<td>Low</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>6. Government policy</td>
<td>Open</td>
<td>Close</td>
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<td>Conclusion</td>
<td>Weak</td>
<td>Strong</td>
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**Supplier Power**

Supplier power focuses attention on how much influence the supplier can have in determining the strategy and success of a business. There is a balance between the rare commodity with one supplier and the more generic product with multiple suppliers.
In reviewing the Canine Services and Supplies Industry there were five factors considered in determining the supplier power. These are described below and graphically presented in Table 2 that follows.

1. **Presence of substitute inputs**

For a retailer the presence of substitute inputs allows them to order from more than one manufacturer and obtain comparable product.

In the canine supplies and services industry there are several manufacturers who produce the smaller, unique items but only one principal manufacturer of food products. When Nestle bought out Ralston-Purina in 2002 the combined resources provided more than 80% of the world’s dog and cat foods. Nestle already owned Carnation and Alpo and this acquisition created a practical sole source provider for economical pet foods.

Doghouse.com will need to recognize that there is a significant power in one of their major product offerings - dog food but that can be offset by multiple inputs of other products. The average influence for this factor is above average.
2. **Importance of volume to supplier**

Volume determines cost to the manufacturer and ultimately price to the retailer. If a manufacturer can dictate quantity purchases to the retailer they can control the responsibilities for storage and consumer price.

The canine services and supplies industry includes many different kinds of manufacturers. However, as discussed in the section above, there is one dominant supplier of dog food products. Doghouse.com may be affected by the supplier of one of their largest product lines. It is expected that this factor will be at an average influence balanced by the effect of other product line suppliers.

3. **Cost relative to total purchases**

The ability of the purchaser to influence the supplier's price by buying in bulk is reflected in this attribute. The capability to have orders shipped from the manufacturer to the buyer further enhances the cost to purchases ratio.

In the canine services and supplies industry the stability of the product allows for longer warehousing and purchasing in greater bulk.
Doghouse.com has a more optimum situation since they can produce a just-in-time (JIT) type order and delivery system through use of electronic communications interfaced with the manufacturers' own distribution system. The relationship between total cost to total purchases is high.

4. **Impact of inputs on cost or differentiation**

The choices that are made on product selection dictate the cost or the uniqueness of the shopping experience and sometimes both. It is the difference between going to Costco or going to Petsmart for pet supplies. The canine services and supplies industry differentiates through having more product and service features, which is more costly than differentiating through having different, but more desired features. In the market customers will discard uninteresting or identical products when a new product enters the market.

Doghouse.com will need to be vigilant in maintaining a cutting edge selection of products and connections with suppliers. This attribute is a high supplier power.
5. **Threat of forward integration relative to threat of backward integration by firms in the industry**

This defines the probability of a supplier being bought out and integrated into another business relative to a supplier in the industry folding up a product line.

There are numerous small specialty manufacturers within the canine service and supply industry who might either merge or cease to do business. The mainstay in the industry is the Nestle/Ralston-Purina merger that promises to be an active supplier for food products for pets for sometime. Doghouse.com can be confident in the pet food product availability and certain other long-term manufacturers of pet specialty items like Harts. Other manufacturers are more like boutique suppliers and should be weighted as such. This attribute would be rated as a lower risk for Doghouse.com.

**Conclusion.** The power of suppliers in the canine services and supplies industry is average. Table 2 shows the scale of the supplier power.
Table 2. Determinants of Supplier Power of the Canine Services and Supplies Industry

<table>
<thead>
<tr>
<th>Factor</th>
<th>(+) Definition</th>
<th>(-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Presence of substitute inputs</td>
<td>Many</td>
<td>Few</td>
</tr>
<tr>
<td>2. Importance of volume to supplier</td>
<td>Unimportant</td>
<td>Important</td>
</tr>
<tr>
<td>3. Cost relative to total purchases in the industry</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>4. Impact of inputs on cost or differentiation</td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td>5. Threat of forward integration relative to threat of backward integration</td>
<td>Easy</td>
<td>Difficult</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Weak</td>
<td>Strong</td>
</tr>
</tbody>
</table>

Rivalry Determinants

Rivalry determinants focuses attention on how much competition is forecasted within the industry. There is a balance between the numbers of consumers, the growth potential in an industry segment, and a participants ability to maneuver, even leave a particular type of business.

Within the Canine Services and Supplies Industry there were seven factors considered in determining the
rivalry determinants. These are described below and graphically presented in Table 3 that follows.

1. **Industry growth**

   This determinant measures or estimates the size of the industry into the future as an attraction to competitors.

   The canine service and supply industry has a market that has grown steadily and appears to still be on a steady growth curve. Baby boomers and GenXers have created an atmosphere in which this industry will grow in leaps and bounds as the population grows. As a result of this, the expected overall growth in the industry is high.

   Doghouse.com forecasts that they will be able to fit into the current array of pet supplies providers and prosper because of the large future market and the non-threatening presence of e-commerce sales.

2. **Fixed (or storage) costs and value added**

   How much of the price a customer pays for a product reflects the retailers' costs and overhead compared to the profit margin? That is the amount that examined here.

   Many business are required to sink large quantities of capital into storefronts, warehouses,
and equipment before even starting into business. This influences how much flexibility there is in the price that is offered for goods.

Since a warehouse can be rented or leased, it is not necessary for Doghouse.com to invest in building a warehouse for its e-retail business. Consequently, the fixed cost relative to value added in for this enterprise is low.

3. **Intermittent overcapacity**

When product doesn’t move in time for stocking the new shipment a business could run into an overcapacity situation.

Since the canine supplies product line is on the one hand (foods) very stable and on the other ever changing there is little need to maintain large stocks of items that can be ordered as needed or may go out of style quickly.

Doghouse.com, as an e-retail firm, would access themselves of the use of JIT stocking. This will limit the stock on hand and minimize a negative exposure to overcapacity stock.
4. **Product differences**

The ability to distinguish between retailers by the products that are offered is the basis of this test of rivalry.

If a distributor center makes good arrangements with many manufacturers, it will have a variety of products. There is, however, no reason to believe that one e-retailer would have different products from another within the canine services and supplies industry. Doghouse.com will have an indifferent product line.

5. **Concentration and balance**

Usually distributors will establish their own market channels and they are specialized in mass marketing. This makes the concentration of Canine Services and Supplies high.

Doghouse.com will need to determine the best presentation strategy and then work to maintain a communication with the consumer market they are serving.

6. **Diversity of competitors**

There are not many players in the Canine Services and Supplies industry. However, the major manufacturers and distributors typically create their
own marketing paths. Doghouse.com will need to "sell" its diversity by its speed of reaction to customer requests and the many different products and services available.

7. Exit barriers

It appears easy for entities in the Canine Services and Supplies to exit the business. Because product is either fairly stable and generic or seasonally changeable, inventory can be sold off or returned to the producer. Storefronts, warehouses, and equipment can be changed to trade other products instead of dog's food, toys and accessories. The exit barrier in this industry is low.

If Doghouse.com was to find that retail sales for pet supplies and such was not a suitable market, its attention would be diverted to other means of profitability.

Conclusion. The rivalry within this industry is strong. There are many competitors seeking to act as the supplier for the pet owner. Along with the standard pet stores there are the discount retailers, veterinarians, pet shops, and various e-retailers. Even manufacturers and distributors have been known to play the role of retailer.
Table 3 shows the scale for each factor in the rivalry determinant.

Table 3. Rivalry Determinants of the Canine Services and Supplies Industry

<table>
<thead>
<tr>
<th>Factor</th>
<th>(+)</th>
<th>Definition</th>
<th>(-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Industry growth</td>
<td>High</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>2. Fixed (or storage) costs/value added</td>
<td>Low</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>3. Intermittent overcapacity</td>
<td>Low</td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>4. Product differences</td>
<td>Different</td>
<td>Indifferent</td>
<td></td>
</tr>
<tr>
<td>5. Concentration and balance</td>
<td>Unbalance</td>
<td>Balance</td>
<td></td>
</tr>
<tr>
<td>6. Diversity of competitors</td>
<td>Few</td>
<td>Many</td>
<td></td>
</tr>
<tr>
<td>7. Exit barriers</td>
<td>Easy</td>
<td>Difficult</td>
<td></td>
</tr>
<tr>
<td>Conclusion</td>
<td>Strong</td>
<td>Weak</td>
<td></td>
</tr>
</tbody>
</table>

**Buyer Power**

Buyer Power focuses the analysis on the effect that buyers can have on a business or an industry. There is a balance that must be maintained between the buyer getting
the lowest price possible for a certain commodity and the uppermost price the buyer is willing to pay.

In reviewing the Canine Services and Supplies Industry there were two factors considered in determining the buyer power. These are described below and graphically presented in Table 4 that follows.

1. **Bargaining Leverage**

   - **Buyer concentration versus firm concentration:** The firm's concentration is higher than buyer's concentration since buyers are free to purchase from many manufacturers and distributors.

   - **Buyer volume:** The buyer volume moves to an average territory when compared with the firm's volume. An e-retailer might not need to stock as many products as a wholesaler or distribution center.

   - **Buyer switching costs relative to firm switching costs:** Switching costs are partly determined by a buyer's technological choices, and thus change over time as buyers alter their products and processes. One can compare the switching costs of the wholesaler or distributor with the buyer and determine that the switching costs for a wholesaler or distributor is higher than a
retailer because a wholesaler or distributor needs more capital and resources than an e-retailer does.

- **Buyer information:** There is a lot of information distributed to buyers since manufacturers usually pass the information directly to e-retailers and customers via the communication media.

- **Ability to backward integrate:** In the canine services and supplies industry, each buyer is free to contract directly or indirectly with manufacturers, wholesalers and distributors.

- **Substitute products:** As explained earlier there are multiple types of dog food, toys, and accessories. That implies that there are many substitute products for any e-retailer.

2. **Price Sensitivity**

   - **Price/total purchases:** The price of an order for an e-retailer is high but its overhead is low.

   - **Product differences:** There is a high difference for e-retailer products in the customer point of view. The online shopper will have the option to purchase a popular brand or a generic product. At the end the typical customers or online
shoppers are free to purchase the products from wherever they want.

- **Brand identity:** The brand identity for e-retailers is intermediate. The e-retailer deals with a wide variety of products.

- **Impact on quality/performance:** Since dog food, dog supplies and dogs' toys are usually sold in retail stores, pet stores, grocery stores, discount department stores (e.g. Walmart, K-mart), warehouse stores (e.g. Costco, Sam's Club, Animal Companions Co., Animal Companionsmart) and online pet stores where there are many consumer products, the impact on quality/performance is low.

- **Buyer profits:** The buyer's profits depend on the types of products. On average, the profit is medium. Online stores still experience low profits due to the entry barriers.

- **Decision makers' incentives:** The decision makers' incentive depends on the popularity of Web site and therefore the expectation of selling online the canine services and supplies is greater.
Conclusion. The retailer and e-retailer power when compared with wholesaler or distributor power is strong (see table 4). Retailers, such as Wal-Mart, pet marts, grocery stores and online stores, can bypass retailers and contact manufacturers directly to purchase any product they want.

Doghouse.com will be able to afford itself of the necessary avenues for supply and can have a lower risk factor for storage and handling than the normal retail outlets.

Table 4. Determinants of Buyer Power of the Canine Services and Supplies Industry

<table>
<thead>
<tr>
<th>Factor</th>
<th>(+)</th>
<th>Definition</th>
<th>(-)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Bargaining leverage</td>
<td>High</td>
<td>Low</td>
<td>▲</td>
</tr>
<tr>
<td>2. Price Sensitivity</td>
<td>High  \</td>
<td>Low</td>
<td>▲</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Strong</td>
<td>Weak</td>
<td>▲</td>
</tr>
</tbody>
</table>

Determinants of Substitution Threat

Determinants of substitution threat focuses on the ability of the regular buyer to go somewhere else or buy a different but substitutable item from someone else.
In reviewing the Canine Services and Supplies Industry there were three key factors that were examined for their effect on this threat. These are described below and graphically presented in Table 5 that follows.

1. **Relative price performance of substitutes**
   The substitution of dog food products can happen quickly and depend to a large extent on current trends. Formerly many pet food brands used horsemeat and current manufacturing suggests products made with chicken, lamb or beef are preferable and even better for the pet. There is a strong link between economic demographics and the quality and price of pet food. In addition, families for generations have fed their dogs more or less successfully from kitchen leftovers. Therefore the relative price performance of substitutes is high.

2. **Switching costs**
   The switching costs of substituting products to the customers are low. Customers need not feel bound to one supply chain for their canine pet foods. They can change from buying pet food online to purchasing pet food and supplies at Petsmarts, discount stores and grocery stores without any measurable effect.
3. **Buyer propensity to substitute**

Buyers' interest in substitution is high because in the electronic shopping age e-shoppers look for convenience and instant gratification and in the current economic situation bargains in everyday commodities are an added plus.

**Conclusion.** It can be indicated that there are some threats of substitute products for the online canine food and supplies industry. However, due to the economic demographics the threat is minimum because the pet owners belong to a demographic that is familiar and comfortable shopping online, pet food is a commodity that is easier to handle delivered to the door, and the storage costs for either the seller or the buyer are minimal.

**Conclusion**

In summary, as a result of analyzing Michael Porter’s five forces (see table 6) the Canine Services and Supplies industry and Doghouse.com in particular have demonstrated that the supplier power is low and the buyer power is strong, both in Doghouse.com’s favor. The other three factors are negative to the Canine Services and Supplies business in general. The extra factor that needs to be considered is that Doghouse.com is e-commerce and

34
Table 5. Determinants of Substitution Threat of the Canine Services and Supplies Industry

<table>
<thead>
<tr>
<th>Factor</th>
<th>(-)</th>
<th>Definition</th>
<th>(+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Relative price performance of substitutes</td>
<td>Low</td>
<td>High</td>
<td>▲</td>
</tr>
<tr>
<td>2. Switching costs</td>
<td>Low</td>
<td>High</td>
<td>▲</td>
</tr>
<tr>
<td>3. Buyer propensity to substitute</td>
<td>High</td>
<td>Low</td>
<td>▲</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Strong</td>
<td>Weak</td>
<td>▲</td>
</tr>
</tbody>
</table>

statistically there is insufficient documentation to adequately evaluate that business angle. The enthusiasm and imagination of the staff behind Doghouse.com will help it survive and be profitable.

This analysis alone will not suffice to achieve success. It is recommended that in order to grow, succeed and maintain a high level of competences in any industry, a firm needs to develop a good long-term strategic plan and identify a major competitive advantage. E-business presents a good alternative to take advantage of this business opportunity in Web time. There is no doubt that the new starter has to be an absolute enthusiast about the idea behind the e-business. It does not take much more
Table 6. Five-Force Analysis Conclusions

<table>
<thead>
<tr>
<th>Factor</th>
<th>(-) Definition</th>
<th>(+)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Entry barriers</td>
<td>Weak</td>
<td>Strong</td>
</tr>
<tr>
<td>2. Determinants of supplier power</td>
<td>Strong</td>
<td>Weak</td>
</tr>
<tr>
<td>3. Rivalry determinants</td>
<td>Strong</td>
<td>Weak</td>
</tr>
<tr>
<td>4. Determinants of buyer power</td>
<td>Weak</td>
<td>Strong</td>
</tr>
<tr>
<td>5. Determinants of substitution threat</td>
<td>Strong</td>
<td>Weak</td>
</tr>
<tr>
<td>Conclusion</td>
<td>Con.</td>
<td>Pro.</td>
</tr>
</tbody>
</table>

than a year and half for a new business to become encumbered by the same constraints that affect traditional companies (Homan, 2002). After the industry growth and demographics for this enterprise have been defined other advantages for the E-commerce site need to be explored. Direct marketing, online account servicing, value chain trading, and alliances with other businesses are activities that may be more cost effective in an e-environment. E-commerce also offers access to global market and online distribution to a firm. A Canine Services and Supplies enterprise should include an
e-commerce solution in its strategic plan to succeed in this industry.

At Doghouse.com it is understood that the key to a successful startup is networking -- both personal and professional. Networks are the steel of the future. Leveraging other people's assets is important for this company. Look at how Yahoo depended on Netscape. That alliance happened early. Also, there is a need for building infrastructure like Amazon.com -- its buying warehouses, software companies, and networks. Because it is assumed that one is in business for the long haul, it follows that one will strive to build value. Another aspect of the decision for starting a new e-business is that the market is big enough. The pet services and supplies industry market growth ratio sustains and maintains current and future market players.

Doghouse.com Company
Competitive Advantage

Before settling any long-term strategy, Doghouse.com should consider the evaluation and comparison of the three generic strategies to identify a major competitive advantage. The three generic strategies are Cost Leadership, Differentiation, and Focus Market. These are
considered from a Broad (Industry Wide) or Narrow (Market Segment) Target.

The canine food and supplies retail business is in a highly competitive industry. In this industry there are many direct competitors, pet product manufacturers usually sell the products directly to resellers; this increases concentration of competition. Consequently, the competitive scope of the pet product retail business in general, is a broad target.

**Competitive Advantage: Cost Leadership**

The cost leadership strategy is used by large producers with controlling interests. It targets a broad market so is appropriate for the Canine Food and Supplies business. Since manufacturers make the products, they have better control of cost so they can take advantage of cost leadership. Retailers have a problem unless producers are giving out incentives for volumes of sale.

**Competitive Advantage: The Differentiation**

Customers typically think that the Canine Services and Supplies retailers are identical. Customers are free to order products from retailers and e-retailers. It is important that each retailer within the Canine Services and Supply line work to set himself apart and create a differentiation. For Doghouse.com the only way to succeed
in this industry is using the differentiation strategy inherent in e-commerce -- that is selling convenience and instant gratification as well as advanced information and feedback.

Competitive Advantage: Focus Market

As Doghouse.com works to establish a different economic persona energy and time will be spent on developing a focus strategy. Focus strategy is aimed at the narrower market segment that in this case is both a pet owner and computer literate. The loyal shopper at Doghouse.com will seek the uniqueness of the broad range of products and services in one place coupled with online advice and chat space as well as the appreciation of the individual recognition when they go online and the ability to access past purchases. These types of competitive strategy are unique to an online, e-commerce business supported by ASP.NET as Doghouse.com will be.

Table 7 is an illustrative means to see how the various target groups and retail advantages work together.

Although we have determined that a Focus/Differentiation strategy is most appropriate for Doghouse.com the efforts to succeed will not stop there.
Table 7. Three Generic Strategies

<table>
<thead>
<tr>
<th>Competitive Scope</th>
<th>Competitive Advantage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad Target</td>
<td>Lower Cost</td>
</tr>
<tr>
<td></td>
<td>1. Cost Leadership</td>
</tr>
<tr>
<td>Narrow Target</td>
<td>Differentiation</td>
</tr>
<tr>
<td></td>
<td>2. Differentiation</td>
</tr>
<tr>
<td></td>
<td>3 A. Cost Focus</td>
</tr>
<tr>
<td></td>
<td>3 B. Differentiation Focus</td>
</tr>
</tbody>
</table>

The ultimate target of the Doghouse.com’s competitive strategy is to expand beyond the traditional understanding of the rules of competition that determine an industry’s attractiveness (Porter, 1998). At Doghouse.com it is understood that whether it is domestic or international, online or a brick-store business to market a product or a service the rules of competition are embodied in the five competitive forces (see figure 1). It is by understanding how these forces affect Doghouse.com that the senior managers will be able to implement an organization-wide strategic plan.

Doghouse.com’s Business Assumptions

Since Doghouse.com is not a real company, it is difficult to identify what the company strategy should be without elaborating some business boundary assumptions.
Presented in this section are the Doghouse.com initial assumptions.

► Doghouse.com is a Canine Services and Supplies limited liability corporation operating in the Inland Empire region of Southern California. It will be taxed for income tax purposes as a pass through to the officers of the corporation that are de facto partners for the corporation. California sales tax will be collected on all sales since the corporation is home-based in California. There may be additional tax requirements from other states based on their individual laws.

► It is owned and operated by a family group of four brothers and their spouses acting in partnership. The college age children of three of the brothers will fill the roles of staff for customer contact purposes. The four board members are the President, Chief Financial Officer, Chief Information Officer, and the Treasurer/Secretary of the company.

► The initial startup budget is $800,000. Theses funds will be used to purchase necessary hardware and software, the Web domain, establish a centralized computer space, buy advertising and marketing space, and cover six months salaries for the staff. It is
anticipated that a room addition in one of the homes will be needed to house the computer equipment and that the business will operate at a loss during the first six months of operation.

The majority of products are licensed products. They represent 95% of products that Doghouse.com will advertise and market for other stores and factory outlets similar to the concept and structure of Amazon.com.

The current, major market is North America and more specifically the United States and Canada.

The company has the potential to expand to other countries around the world.

The company has not developed or licensed any websites at this time, and it does not sell or advertise its products and services through an e-commerce site. The information system infrastructure is currently used only as a model to support generic commercial functions. They have not acquired any hardware or software to support the e-commerce site.
Doghouse.com's Business Scope

Vision

Doghouse.com will lead the Canine Service and Supply industry in shaping collaborative, co-managed and cross-functional relationships with partners and customers by using information technology to advance into the new century.

Mission

"E-customer First" is the company logo. The mission of Doghouse.com is to leverage the power and utility of the Internet and electronic commerce technology to reach more new, potential e-customers, to become recognized as an authoritative database in the area of canine needs, and to be known nationally and internationally as an e-retailer of a broad product base for the canine market.

Value

Doghouse.com will add value to their products and services by real time, online coordination of business partners and suppliers, delivery companies and suppliers, manufacturers and suppliers, working together to respond to the end-consumers' needs.

Customers and Markets

The major customers are dog owners, dog hospitals or clinics, and dog training facilities. Although the initial
focus is the United States and Canada the market is not limited to those countries. Implementing an e-commerce site through the Internet and developing electronic commerce provides an opportunity to grow into the international markets and supply outlets around the world.

Products and Services

Doghouse.com sells and advertises a variety of dog products and services. The following are few of the products and services:

- Beds, Bedding, & Furniture
- Travel Carriers & Crates
- Collars & Leaches
- Dental health & Chews
- Ear & Eye Health
- First Aid Kits
- Flea & Tick Medications
- Food, Toys, & Treats
- Bathing & Grooming Aids
- Health & Discipline Products
- Pooper Scoopers
- Senior/Aging
- Skin & Coat Treatments
- Puppy Eats & Gear
- Books on Canine Care & Interests
Strategic Intent

➢ Develop and maintain relationships and alliances with business partners to preserve a superior image and increase market share in the online business.

➢ Be a leader in market share and customer responsiveness through business integration and technology to gain creditability and customer loyalty.

Driving Force

The company will develop a “sticky” e-commerce site through information technology including Internet and electronic commerce platforms to succeed in a highly competitive market with extensive collaboration with business associates and business alliances.

Doghouse.com Business Strategies

Financial Strategy

Doghouse.com has startup capital of $800,000. This initial capital will cover six months of payroll and all the infrastructure of the e-business. Using the same e-business concept and strategy of Amazon.com the concentration of the capital is deferred into advertising and building interrelationships and alliances with other businesses across the world. Selling and acting as a point
of contact between the e-shopper and the wholesaler or manufacturer, Doghouse.com will yield a cost advantage relative to single-segment competitors. In the second year Doghouse.com can use its success to take out a short-term note to promote and sustain its e-business.

There are lots of outside financial sources to choose from. Doghouse.com in its short-term financial strategy can borrow needed funds from banks, financial institutions, or venture capital. Because it is closely held and family owned, the individuals can use personal collateral to fund long-term expansion efforts before Doghouse.com goes public. Once the company goes public, Doghouse.com can issue bonds and other debt in the long-term financial plan.

The company does not anticipate becoming a public company and entering onto the stock exchange until the firm reaches the $2 million sales mark. Doghouse.com will only pursue outside capital resources if the financial picture of the firm reaches a certain level of marginal profits. Once the company meets the requirement to go public and reaches its $2 million in sales, Doghouse.com should issue common stock to have more outside investors. After the company goes public, there will be more capital resources and more people will know about the company.
This affect the company's value in terms of stock market speculations but also increases the market visibility of the enterprise.

**Operation Management Strategy**

Since the canine services and supplies business depends on popularity, quality and order placement of the product, Doghouse.com need not advertise or sell items that are not trendy and expensive. The initiation of a Just-in-Time (JIT) supply system is planned for implementation. It is estimated that 90% percent of sales will be shipped directly from the wholesaler or manufacturer and 10% percent of sales will be shipped out of the Doghouse.com warehouse. Doghouse.com will maintain a minimal level of on-hand stock except during the Christmas buying season when the demand for pet toys and gifts items is higher. This strategy reduces the need for short-term financing and inventory by limiting the variable costs of organization.

**Marketing Strategy**

**Product.** Primarily Doghouse.com will promote and market products via its Web site. If the suppliers offer quality goods at competitive prices Doghouse.com will offer its services of advertising and selling for both products and services. The lifecycle of a product or
service will depend on how well the suppliers respond to the e-shoppers. During the initial screening process, Doghouse.com will expend significant resources analyzing and evaluating the customer responses and the quality service history of potential suppliers. The branding policy has little effect on the industry and so a diversification of products and services appears to be the major focus for product strategy in this industry.

_Price._ Since Doghouse.com's major competitive strategy is differentiation Doghouse.com will not seek to be a price leader. The company's goals are to sell an assortment of high-quality and diverse products, while continuously developing business relationships and alliances, and emphasizing e-customer quality service and responsiveness.

_Promotion._ Doghouse.com will participate in the major canine events and farm fairs. There is a minimal budget for local media advertising. Management believes that national media, television or radio, and national broadcasting does little to increase brand awareness for this industry. Doghouse.com will also advertise to its target market via meta-tags in the Internet. Finally, Doghouse.com will further its quality image by establishing a reliable and relevant education page at its
site and developing an online library of canine related
information for all ages.

Place. The major distribution channel is direct
distribution to e-shoppers via the online store. In house
salespeople and representatives are the other distribution
channel that will also handle customer service.
Doghouse.com will maintain a working environment in
compliance with local and state safety and health code.

Information Management Strategy

Doghouse.com believes that dependable technology
builds confidence. When a company sets out to conquer
e-business challenges, success or failure often hinges on
the technology platforms. Through the use of Internet and
information technology Doghouse.com will achieve
successful integration of its business processes and will
be able to build an entire electronic trading firm.
Management will pursue and maintain the system's upgrades.
Upgrades will be used to develop ongoing, relevant, and
timely staff training.

Information technology will be developed to link the
organization with outside partners to facilitate
communication and encourage sharing product feedback. This
includes developing infrastructure and architectures to
optimize performance, verify functionality, and measure
scalability by activity or function. It is the responsibility of management at Doghouse.com to focus on meeting the technology requirements for the e-business.
Overview

Today's competitive landscape is alive with innovation and change. Only the most durable business models will survive. Under these conditions the firm's strategy must be strong enough to endure, singular enough to stand out, and flexible enough to evolve as conditions demand.

What's the optimal business model for the new economy? There is no single answer that defines the best business model. It is universally accepted that maximum success requires on-line and off-line components (Niederst, 2001).

Although Doghouse.com will have an off-line component through canine events and farmers' fairs, this project focuses on the online components and how they support, enhance, and augment the entire enterprise.

Doghouse.com will provide a Web site with the right combination of fresh, relevant, and complementary shopping content that will entice the e-customers to return. Even better, through the Web site the firm can convert browsers into buyers by helping them make smarter, more informed
and more confident decisions about shopping online. An important aspect of this electronic commerce is that it can be used by firms to adapt to change and to identify new business opportunities.

E-Commerce Definition

Electronic commerce, (E-commerce or Internet commerce) means shopping on the part of the Internet called the World Wide Web. Its broadest definition refers to business activities conducted using electronic data transmission via the Internet and the World Wide Web (Chneider & Perry, 2001). The online business transactions involve buying and selling of goods and services on the Internet, especially the World Wide Web. It is often misunderstood to be limited to buying and selling goods and services over the Internet. The business gains flexibility since each element of commerce, whether viewed from the buyer’s or seller’s standpoint includes a number of distinct activities. When buyers arrange for delivery of purchased items, they often will buy shipping services from a company other than the one selling the goods that they bought. This service purchase transaction is a part of the delivery logistics function, or activity.
The Scope of E-Commerce

Information is one thing -- what about physical goods? Being able to deliver actual canine services and supplies based on a Web site order form is a wonderful thing. It empowers customers to examine catalog information, check whether the desired canine good is in stock, fill out an address form, and pay for the order, all without the need of human assistance. Additionally, an e-shopper can quickly get more product and shipping information than a retailer’s site may provide using a hyper-link to the manufacture’s own site, then go to the UPS or FedEx site to obtain shipping costs, and return to the e-retailer with a mouse click to complete the purchase.

Online retailing does have a few limitations. First, there are real issues of security involved since the Internet is a public network. Selling may require the firm to collect not only name and address information, which itself is sensitive, but credit card or other financial data as well (Chase, 2001). In order for this transaction to be both safe and convenient, software for scrambling the transmission of information between customer and firm had to be developed and made widely available. Today,
encryption technology is contained within the vast majority of Web browser and server software.

Risk Management

When it comes to risk management on a Web site the numerous options for format and function mean that many possible risk situations must be considered. There are several major categories of potential problems such as content liability, privacy and confidentiality, and consumer protection. Doghouse.com understands that these risks which arise from laws and regulations, court decisions, treaties and contracts, and public perception must be considered when they decide whether and how their particular business will use the World Wide Web as a tool to reach customers and suppliers.

Business Type

Doghouse.com is a Business-to-consumer company that will sell goods and services to customers for the care of their dogs. Often the e-shoppers may not know exactly what they are looking for when they first come to browse Doghouse.com. To attract a large number of Web visitors, Doghouse.com will design a friendly user interface site. Soft colors and inviting home page content are Doghouse.com’s principal objectives when the Web site gets designed.
It is very important to ensure a balance between aesthetic appeal and functionality. Web browsers become very impatient if they have to wait for the page to load all its images. Current surveys find Web functionality is what makes for a good shopping experience.

Location

Doghouse.com as an e-retailer might ask itself, "How do we become the first site in a web search?" In this type of e-business, there is not need to carry a large inventory of products. Staff will act as a product finder behind the scenes. They will locate the product, notify the customer of the availability, place the order for the customer upon request, and charge for the product. The actual product supplier will deliver the merchandise, but Doghouse.com will be responsible for customer satisfaction and refunds. After a year of being in business and in order to supplement its profits, Doghouse.com will offer Web site space to other canine product providers to advertise their products. Low-cost space becomes important to increase volume of sales and profitability.

Doghouse.com questions that will need to be answered for their business plan include:

- What are the consumer traffic patterns? How many people surf or browse our Web site every day?
- Are there other similar businesses meeting the search requirements? How many "hits" a day are they getting?
- How many square feet are needed for the warehouse space? How many square feet are needed for the computer equipment?
- What size and type of vehicles have access to the loading dock?
- Will we lease or own the space?
- How much will remodeling and upgrades cost?
- Are there any zoning restrictions in the area?
- What benefits does it offers our business?

**Distribution Channels**

Channels of distribution get the products and services to the end consumer. They include time, location, space, stock, and delivery options.

To get an idea of the variety of distribution channels, think of the ways a person can buy a music disc today. There are clubs, retail and specialty stores, television home shopping channels, Internet stores, and mail-order catalogs.

Doghouse.com satisfies the time requirement by being open at all times. Location is not a problem since the .com is never further away than a mouse click and
suppliers and services come to the customer at the customer's convenience. Space is measured by giga bytes and memory instead of square feet. With the application running through ASP.NET one of the advantages will be the self-repairing software that ASP.NET has built into itself. Stock issues are resolved, except in extreme circumstances, through the interview and analysis that was initiated before a supplier agreement was established. Finally, delivery options are established at a minimum by the supplier with more costly options available to the consumer at their request. Delivery can be at one extreme a will-call pickup and at the other same day, within an hour delivery.

Customer

The number of customers that Doghouse.com satisfies drives every aspect of the business. Customers determine the level of sales and profits, the number of people the firm will need to hire, how much financing it will require, and how long Doghouse.com will be in business. There is an imperative that the Doghouse.com market research clearly identifies its ideal customers. 

Customers and Market Segmentation

Market segmentation requires for Doghouse.com to identify customer differences based on its product or
service offerings and match them with descriptive information such as demographics, customer, size, business type, geography, or psychographics.

Demographic segmentation is one of the simplest and most widely used forms of market segmentation. By using demographics, the firm can target specific groups of customers or businesses. Demographic variables for consumer markets include age, race, gender, occupation, and income level.

**Currencies Across Countries**

Local financial institutions or commercial banks will determine the currency fluctuations and currency conversions. The pricing will be in U.S. dollars therefore Canada, Europe, Asia, Australia, Africa, and Latin America will purchase in U.S. dollars. As the site matures an addition of a currency conversion table will be added.

**Products and Services**

Writing the product and service descriptions for the e-commerce site the firm must consider the benefits being offered to potential consumers. A benefit can satisfy a prospect’s needs in a variety of ways, such as being the most economical, the fastest, or the most entertaining.
It will be imperative to answer the following questions:

- What benefits do the products or services offer to customers?
- How are the products and services better than the competitors?

**Competition**

It is not unrealistic for the firm to base its entire business strategy around what other competitors in the industry are doing (Gorman, 1999). Based upon the focal idea the firm could simply study the marketing, management, and finances of one or a few of its direct competitors and develop a comprehensive e-business. However, instead of developing a "me-too" plan, the firm will want to describe everything that differentiates its business from the direct competitors, makes it superior, and will cause customers to select its products and services over the competitors.

**Marketing Strategy**

Marketing addresses the four "P's" of the business: product, price, promotion, and place. The combination, or mix, of these elements will define the marketing strategy. This phase of the business addresses the price analysis in relationship to product and services benefits, how
products and services get promoted, and how the products and services get delivered to the customer.

Doghouse.com has chosen to establish itself as an e-retailer in the Canine Services and Supply industry. The products it will have are those that relate to the canines and their owners in the broadest sense.

Pricing, especially for small or startup businesses, can lead to its success or failure. After all, pricing will determine the level of profits for the business. Doghouse.com pricing will be a percentage markup on goods with one time purchase items (e.g. dog house) having a higher markup – as much as 100% while repurchase items (e.g. dog food) will have a modest markup of about 3%.

In order to communicate the product’s benefits to the customers, the firm will need to develop a promotion and advertising strategy. A large part of Doghouse.com’s promotion strategy will be the 24/7 availability and the smart and open way the website is presented.

Finally, places or channels of distribution, describe where and how the customers will actually take possession of their products or services. Doghouse.com will develop agreements with local, national, and international delivery services as well as supplier agreements in areas proximate to the delivery venues.
Effective marketing is expensive. It is important that the firm develops a realistic budget for these expenses and incorporates them into the financial management plan. Doghouse.com has set aside an estimated 20% of the initial investment to fund advertising and promotional campaigns.

Customers and Markets

The major customers are the canine owners community in the United States and Canada. The Internet and electronic commerce will provide an opportunity to grow into other markets around the world. Due to the speed and vast availability of online information, the company must quickly establish credibility with online customers in order to succeed in new and different markets. Europe is seen as the next most viable market.

Real-time Collaboration Strategy

The company Chief Information Officer will research and utilize all available and necessary information technology including Internet and electronic commerce expertise to succeed in a highly competitive market. It is expected that collaboration with business associates and a network of business alliances will support the new effort of Doghouse.com. Through the collaboration of shipping companies and wholesalers’ distribution centers
Doghouse.com will reduce their shipping cost and maintain inventory at a minimum.

The Environment of E-Commerce:
International, Legal, Ethics, and Tax Issues

Doghouse.com faces many challenges posed by differences in international business law, legal jurisdiction, ethics and taxation when conducting electronic commerce across international borders.

International Nature of E-Commerce

Since the Internet connects computers all over the world, the business that engages in electronic commerce instantly becomes an international business. With the international business label comes the responsibility for knowing the customs, culture, and regulations in the various countries that an e-retailer may do business in. At the beginning Doghouse.com will be focused on the national market.

Language Issues

Doghouse.com has realized that the only way to do business effectively in other cultures is to adapt to those cultures. The phrase "think globally, act locally" is often used to describe this approach. The first step that a Web business usually takes to reach potential
customers in other countries, and thus in other cultures, is to provide local language versions of its Web site. Researchers have found that customers are far more likely to buy products and services from Web sites in their own language, even if they can read English well.

Culture Issues

The cultural overtones of simple design decisions can be dramatic. In India, for example, it is inappropriate to use the image of a cow in a cartoon or other comical setting. Potential customers in Muslim countries can be offended by an image that shows human arms or legs uncovered.

At Doghouse.com the Web development team aims at designing a Web site built to attract customers from outside the United States. Efforts are being focused to do more than avoid offending those visitors. Doghouse.com program team is aiming at enticing foreign visitors onto the site. Web designers do this by reflecting the visual preferences of the culture in which the site will operate.

Infrastructure Issues

Doghouse.com understand that in many countries other than the United States, the telecommunications industry is either government-owned or heavily regulated by the government. In many cases, regulations in these countries
have inhibited the development of the telecommunications infrastructure or limited the expansion of that infrastructure to a size that cannot reliably support Internet data packet traffic. For this reason, the initial focus of international growth for Doghouse.com will be Europe. Europe has the infrastructure and the regulations to support the site’s activities. Europe also has a long history of canine ownership in recreation, work, and leisure.

The Legal Environment of E-Commerce

Since Doghouse.com operates on the Web they must comply with the same laws and regulations that govern the operations of all businesses. If they do not, they face the same set of penalties including fines, reparation payments, court-imposed dissolution, and even jail time for officers and owners—that any business faces.

In the physical world, geographic boundaries almost always coincide with legal and cultural boundaries. The limits of acceptable ethical behavior and the laws that are adopted in a geographic area are the result of the influences of the area’s dominant culture.

Jurisdiction on the Internet

Defining, establishing, and asserting jurisdiction are much more difficult on the Internet than they are in
the physical world, mainly because traditional geographic boundaries do not exist. For example, a French company that engages in electronic commerce may have a Web site that is entirely in English and a URL that ends in “.com,” thus not indicating to customers that it is a French firm. The server that hosts this firm’s Web page could be in Canada and the people who maintain the Web site might work from their homes in Germany. The jurisdiction for a damage suit could be Canada, Germany, or a third country depending on the country of incorporation and the laws where the damage took place. A court has sufficient jurisdiction in a matter if it has both subject-matter jurisdiction and personal jurisdiction.

Contracting and Contract Enforcement in E-Commerce

Contracts are a key element of traditional business practice and they are equally important on the Internet. A contract is defined as a freely entered into agreement between parties of legal age containing offer and acceptance that is legally binding. At Doghouse.com offers and acceptances can occur when parties exchange e-mail messages, engage in electronic data interchange (EDI), or fill out forms on Web pages.
Web Site Content

A number of other legal issues can arise regarding the Doghouse.com Web page. Doghouse.com will need to have permission for certain content of electronic commerce sites, including trademark and copyrights. Doghouse.com will need to actively guard their suppliers and protect them from infringement, deceptive trade practices, and defamation. Finally, Doghouse.com will watch closely the regulation of advertising claims.

Since Doghouse.com plans to deal with online advertising in the United States they will consult with an attorney familiar with the relevant laws before posting any advertising. In the United States, the Federal Trade Commission (FTC) primarily regulates such advertising.

Ethics Issues

Since Doghouse.com uses a Web site to conduct electronic commerce they should adhere to the same ethical standards that other businesses follow. If they do not, they will suffer the same consequences that all companies suffer -- the damaged reputation and long-term loss of trust that can result in loss of business.

Defamation. Doghouse.com Web site designers should be especially careful to avoid potential defamation liability by altering a photo or image of a person in a way that
depicts the person unfavorably. In addition, most states recognize a legal cause of action, called per se defamation, in which a court deems some types of statements to be so negative that injury is assumed. Doghouse.com must therefore guard the content of posted comments and references.

Privacy Rights and Obligations. At Doghouse.com management recognizes that until the legal environment of privacy regulation becomes clearer, electronic commerce sites should be conservative in their collection and use of customer data. Certain encryption programming will be installed in the site as well as a customer’s proactive permission to share or use identity information. Doghouse.com programming will not install “cookies” onto customers’ computers.

Taxation and Electronic Commerce

Taxes for Internet business are an evolving legal and fiscal issue. Doghouse.com and its officers are aware of the situations to date and will engage a tax attorney to monitor the developing issues.

Income Taxes. Doghouse.com is a U.S. based e-commerce site that generates income. The limited partners of the entity will be taxed on profits passed through from Doghouse.com. The profits are subject to U.S. federal
income tax. In addition, since an company is incorporated within the United States they must pay federal income tax on income generated outside of the United States.

Sales Taxes

Doghouse.com is incorporated within the State of California. It is responsible to the State for sales taxes on all sales to residents within the State. Legislation is pending as to sales tax charges to non-residents buying from a California business from outside the State.

Some purchasers are exempt from sales tax, such as certain charitable organizations and businesses buying items for resale. Thus, to determine whether a particular item is subject to sales tax, a seller must know where the customer is located, what the laws of that jurisdiction say about taxability and tax rate, and the taxable status of the customer.

Business-To-Consumer: Buying and Selling

E-commerce sites, both business-to-consumer (B2C) and business-to-business (B2B), must be available 24 hours a day, seven days a week. This assertion implies that they must offer high reliability. The B2C requirements are more extensive than B2B sites because they maintain an extensive database of user profiles, products, and other
sensitive information. In addition to requiring fast and reliable hardware, commerce sites must run Web and commerce software. Security software is important whenever a site serves the Internet community outside the confines of corporate firewalls.

E-Commerce: Payment Acceptance and Processing

Huge amounts of money are tendered every hour on the Internet. Money is deposited and managed electronically by online brokerages that individually manage assets worth approximately $1 trillion a year. Systems are in place and being improved to handle these huge and growing transactions volumes.

Doghouse.com will process credit card’s payment for Internet transactions, and as an online merchant they must set up a merchant account. Doghouse.com must supply a business plan, details about existing bank accounts, and a credit history.

Processing Payment Cards Online

Doghouse.com software packaged with their electronic commerce software will handle payment card processing automatically, or they can contract with a third party to handle all their payment card processing. Many third-party, payment-handling organizations can also
perform fulfillment operations in which they pick, pack, and ship products to their costumers. If they choose that service, they reduce their number of employees and virtually eliminate their shipping department. Most of their work will be to maintain their store’s Web presence and ensure that their suppliers provide sufficient inventory to meet customer demand.

MasterCard and Visa have developed an Internet protocol called Secure Electronic Transaction (SET) for the electronic commerce industry to facilitate secure payment card transactions over the Internet. Unlike the Secure Socket Layers (SSL) protocol, SET provides cardholder authentication, ensuring that the card user and the cardholder named on the face of the card are the same person. SET is gaining popularity and is poised to become the payment card security protocol of choice.

Security requires a process, people, policies, education, and technologies to work together. As businesses struggle to secure their systems, many are turning to manage security services providers to handle specific areas of security such as firewalls, vulnerability assessment, intrusion detection, and monitoring. While this relieves them of the burden of
managing systems in-house, it does not take away a company’s liability if there’s a security breach.

Purchasing, Logistics, and Support Activities

An emerging characteristic of purchasing, logistics, and support activities is that they need to be flexible. A purchasing or logistics strategy that works this year may not work next year. Doghouse.com’s current flexible network structures are made possible by the reduction in transaction costs caused by the emergence of the Internet and the Web.

Purchasing Activities

Purchasing activities at Doghouse.com include identifying and evaluating vendors, selecting specific products and services, placing orders, and resolving any issues that arise after the customer or Doghouse.com receive the ordered goods or services. Issues might include late deliveries, incorrect quantities, incorrect items, and defective items. One of the primary functions of upper management at Doghouse.com is to monitor all relevant elements of purchase transactions in order to maintain and improve customer service, product quality, and reduce cost.
Logistics Activities

The classic objective of logistics has always been to provide the right goods in the right quantities in the right place at the right time. Businesses have been increasing their use of information technology to achieve this objective. For example, FedEx has freight tracking Web pages available to its customers, as does UPS.

Logistics activities include managing the inbound movements of materials and supplies and the outbound movements of finished goods and services. Thus, receiving, warehousing, controlling inventory, scheduling and controlling vehicles, and distributing finished goods are all logistics activities.

Doghouse.com has minimal issues with in-house logistics because the bulk of orders will go from the supplier/manufacturer to the customer. Doghouse.com has established a real time connection with the principal shipping agents in order to track all orders in real time.

Support Activities

Support activities include the general categories such as finance and administration, human resources, and technology development. Finance and administration include all activities such as making payments, processing payments received from customers, planning capital
expenditures, and budgeting and planning to ensure that sufficient funds will be available to meet the firm's obligations as they come due. The operation of the computing infrastructure of the firm is also an administration activity. Human resources activities include hiring, training, and evaluating employees, administering benefits, and complying with government record-keeping regulations. Developing technology can include wide variety of activities, depending on the nature of the business or organization. It can include networking research, virtual collaboration, publishing research papers online and development services.

Because Doghouse.com will start as a smaller and within the family, these activities will be compressed and overlapping. As the enterprise grows it will become necessary to expand staffing, segregate duties, and develop a corporate structure.

E-Commerce: Application, Construction and Technical Requirements

This section of the implementation of the E-commerce project is the most critical in terms of both dynamic Web content and the e-commerce software requirements to run a reliable and attractive electronic commerce site.
Application Construction

Application construction uses Web editors and extensions to produce Web pages either static or dynamic.

Doghouse.com function-ability will focus on a Web development system that provide dynamic content response. The main reason to have an extensive and rich developmental engine is to create dynamic features without the need to know CGI or use API coding. Capable Web page creation software can detect any HTML code that varies from the current standard or that is Web browser-specific.

Dynamic content is non-static information constructed in response to a Web client's request. For example, if a Web client requests the status of an existing order by entering a customer number or order form into a form, the Web server will search the customer information and fulfill the client's request. Successful Web sites employ dynamic Web content. Generally speaking they are attractive enough to keep customers coming back, and hold users' interest for as long as possible. The longer someone stays at a particular site, the "stickier" the site is said to be. Assembled from backend databases and internal data on the Web site, the successful dynamic page is tailor made to the requestor’s query. Any server that can handle dynamic content can handle information from a
variety of databases. Using Open Database Connectivity (ODBC), the Web server can assemble information from disparate database systems, such as Oracle, SQL Server, and Informix. ODBC, developed by Microsoft, makes it possible for a program to access any data from an application, regardless of which database management system is dispensing the data.

Active Server Pages.NET (ASP.NET), developed by Microsoft, is a server-side scripting mechanism to build dynamic sites and Web applications. With ASP.NET Doghouse.com can use a choice of programming languages, such as VBScript, Jscript, and Perl, to produce dynamic pages within their HTML documents (Kalani & Lee, 2002).

Technical Requirements

Doghouse.com E-commerce software will be hosted on a Web server. Some of the more reliable packages include Microsoft Internet Information Server, Apache, and Netscape Enterprise Server. Once they have located or built a host server, they can investigate and install electronic commerce software.

The exact duties Doghouse.com can expect electronic commerce software to perform range from a few fundamental operations to complete solution such as spanning catalog
display to order fulfillment notification. The
Doghouse.com electronic commerce solutions will provide:

- A catalog display
- Shopping cart capabilities
- Transaction processing
- Tools to populate the store catalog and to facilitate storefront display choices.
- Transaction security to keep transactions safe and accurate while protects the e-costumers' privacy.

**Catalog Display**

It is important to give buyers alternative ways to find products. Besides offering a well-organized catalog, large sites with many products provide a search engine that allows customers to enter a description, such as "puppies' toys," so they can quickly find the Web page containing what to purchase. This follows the implicit and important rule of all commerce -- Never stand in the way of a customer who wants to purchase something.

Doghouse.com will have a search capability as well as drop down menus and site maps for catalogues.
Shopping Cart

The forms-based method of ordering has given way to electronic shopping carts. To order an item at Doghouse.com the customer clicks that item. All the details about it including its price, product number, and other identifying information are stored automatically. The customer can add or removed items from the cart before he or she clicks the button labeled "Proceed to checkout" and commits to his or her purchase transaction.

Transaction Processing

This procedure occurs when the shopper proceeds to the virtual checkout counter by clicking a checkout button. Clicking the checkout button displays another screen that asks the customer to fill out billing, shipping, and payment information, and to confirm his or her order. The software keeps a running total of each item. A total appears on the display, and includes sales tax and shipping costs that are looked up in tables or database records.

Electronic Commerce Tools

Since Doghouse.com is a medium to large online store, it requires running its B2C system in a robust electronic commerce suite. This suite will run on large dedicated computers and interact with database systems to display
catalogs and process orders. These systems will be the responsibility of the Chief Information Officer who will be supported by a Webmaster.

Figure 2 shows the steps of e-commerce processes. To complete these processes perfectly, each electronic commerce website needs to implement sub-procedures like in the real-world situation.

**Transaction Security**

Although it is safer to use a credit card online when compared to the physical world, breaches do occur, such as last year's criminal attack by a group of Eastern Europeans who stole some one million credit cards from more than 40 worldwide sites. Fear of conducting online transactions has steadily waned over the years as more consumers and businesses have gained confidence that increased security measures will keep their transactions safe and accurate.
Doghouse.com believes that the reasons for the increased comfort are the advancement of verification and authorization tools, coupled with more advanced back-end network and server firewall technologies. Doghouse.com is including in the implementation firewalls and encryption programming to protect customers, suppliers, and visitors to the website.
CHAPTER FIVE
ACTIVE SERVER PAGE NET TECHNOLOGY

Overview

ASP.NET is the hosting environment that enables developers to use the .NET Framework to target Web-based applications. However, ASP.NET is more than just a runtime host; it is a complete architecture for developing Web sites and Internet-distributed objects using managed code. Both Web Forms and XML Web services use IIS and ASP.NET as the publishing mechanism for applications, and both have a collection of supporting classes in the .NET Framework (Cliberty & Churwitz, 2002).

XML Web services consist of reusable software components designed to be consumed by other applications, such as traditional client applications, Web-based applications, or even other XML Web services. As a result, XML Web services technology is rapidly moving application development and deployment into the highly distributed environment of the Internet.

ASP.NET pages are faster, more functional, and easier to develop than unmanaged ASP pages because they interact with the runtime like any managed application.
**Benefits of ASP.NET**

*Writing dynamic, high-performance Web applications is easier.* ASP.NET combines developer productivity with performance, reliability, and deployment. Displaying data, validating user input, and uploading files are all easier than with the original ASP product. ASP.NET pages work in all browsers including Netscape, Opera, AOL, and Internet Explorer.

Unlike classic ASP, which supports only interpreted VBScript and JScript, ASP.NET supports more than 25 .NET languages including built-in support for VB.NET, C#, and JScript.NET without using additional translation tools. This gives Doghouse.com unprecedented flexibility in its choice of language.

**Improved Performance and Scalability**

ASP.NET lets the developer serve more users with the same hardware. ASP.NET will automatically detect any changes, dynamically compile the files if needed, and
store the compiled results to reuse for subsequent requests. Dynamic compilation ensures that an application is always up to date, and compiled execution makes it fast.

ASP.NET output caching improves the performance and scalability of the application. When output caching is enabled on a page, ASP.NET executes the page once, and saves the result in memory while sending it to the user. When another user requests the same page, ASP.NET serves the cached result from memory without re-executing the page. Output caching is configurable, and can be used to cache individual regions or an entire page. Output caching can dramatically improve the performance of data-driven pages by eliminating the need to query the database on every request.

Improved caching performance will enable Doghouse.com to respond to customers faster and with the most updated information.

**Enhanced Reliability**

ASP.NET automatically detects and recovers from errors like deadlocks and memory leaks to ensure the application is always available to the users (Smith, 2002). If the application has a small memory leak within a short period of time the server’s virtual memory could be
compromised by computer trash. ASP.NET has the ability to detect the condition, automatically start up another copy of the ASP.NET worker process, and direct all new requests to the new process. Once the old process has finished processing its pending requests, it is disposed of and the leaked memory is released. Without administrator intervention or any interruption of service, ASP.NET can recover from the error.

**Easy Deployment**

ASP.NET takes the pain out of deploying server applications by simplifying the installation of the application. An entire application can be deployed with ASP.NET in a manner similar to an HTML page. It is copied to the server. Doghouse.com will not need to run regsvr32 to register any components, and configuration settings are stored in an XML file within the application.

**Uploading Files**

ASP.NET allows the developer to update compiled components without restarting the web server. The change is automatically detected and ASP.NET starts using the new code. Migrating existing applications is not needed to use ASP.NET. ASP.NET lets the developer continue to use the existing classic COM business components.
CHAPTER SIX
WEB DEVELOPMENT

Introduction to ASP.NET
Request/Response Model

ASP.NET introduces a new paradigm to server-side Web development. It is a programming framework that enables the rapid development of web applications and services. ASP.NET gives Doghouse.com the easiest and most scalable way to build, deploy and run distributed web applications that can target any browser or device.

ASP.NET offers a collection of objects and classes. Unlike "Classic ASP" which had 6 intrinsic objects (server, request, response, request, application, session) ASP+ offers far too many objects to count. And since ASP directly supports a rich read-safe API that totally replaces the traditional API all things can be done without 3rd party controls for those who want to work "on the cheap" (Payne, 2003).

The Way the Web Works

First, the developer will examine the fundamental operations of the Web -- namely, the request/response model of operation. Second, a client (such as a browser) requests a page from a Web server, and the server sends
the page back to the client through a response. Third, the developer applies ASP.NET and other technologies allowing him/her to perform tasks when the pages are requested. Fourth, the developer can serve data to clients dynamically by providing programmatic capabilities on the server. Finally, although ASP.NET extends this model by placing an event-driven mechanism on top, the fundamental mechanism of the Web is still the same -- request/response. Figure 4 illustrates this concept.

Understanding Web Services

Before a person learns about Web services, it's a good idea to examine what a regular service is. When someone does a task for a client, he's providing him/her a service. For example, a person can go to a gas station and fill up his/her gas tank, or receive a tune-up. These are services provided to them by the gas station so that a client does not have to do it himself/herself. Imagine if everyone had to have his/her own gas pump. Not an ideal situation.
A Web service is the same thing. Visitors or even other Web sites can take advantage of the service provided by a Web service. There are today Web portals that present information such as local and national news, weather information, sports scores, and other content that has been personalized by the user. These portals provide a service to visitors by compiling information from many different sources into one place. Web services are an integral part of ASP.NET. They use the XML and HTTP standards to allow components to talk to each other over the Web (Ferrara & McDonald, 2002).

Web services work in three stages -- discovery, a description of services, and command communication. Discovery is an optional process that allows clients to
find out about a Web service -- specifically, where it’s located. The service description, provided in an XML-based standard called the Service Description Language, tells clients which methods are available to use remotely and which types of data are expected and returned. Finally, command communications in the form of messages are sent back and forth between the Web service and data for the client, again using an XML language. See Figure 5 below for an illustration of this process.
1. Discovery

Web Service

Application

What do you do?

Description

2. Service Description

Web Service

Application

What do you expect?

Description

3. Commands

Web Service

Application

Do this

Here are the results

Figure 5. Web Services Interaction
CHAPTER SEVEN

DOGHOUSE.COM WEBSITE

Database Overview

The database consists of six major tables and one many-to-many relationship that will also be converted to a table.

1. "Customers" contains the customers' information (e.g. company name, address, and contract information).
2. "Employees" has the personnel information for each employee such as social security number, hire date, and tax deduction status (The employee wages are not kept on the system because there is no salary functionality).
3. "Orders" is the table containing the order transaction detail -- type of the payment, date of the order, and order status.
4. "Products" provides detailed information of each individual product including stock quantity, source contacts, and reorder point.
5. "Suppliers" is the table that contains the specific details for each of the product
suppliers including delivery time lag, discounts, and acceptable payment methods.

6. "Transact" acts as the translation connection between the Orders table and the Products table both of which have a many-to-many relationship between each other.

At this point in the e-commerce development the entity-relationship (E-R) is developed. From this development the E-R diagram will be drawn. It is the E-R diagram that will illustrate the detail information for each table and the relationships between the tables. The data dictionary that defines each table’s data set, key fields, variables, and data field length and their inter-relationships will also be developed.

Figure 6. Doghouse.com E-R Diagram
To enhance the system tables in this project will require many interrelated parts to work in concert. These parts can be separated into two categories of tables - basic tables and system tables. The E-R diagram, presented above, focuses on the operational requirements of the system. It illustrates only the interactions of the basic tables. The basic tables are those that are required to be in place for the system to run.

System tables are designed for enhancement and to improve performance. Although these tables may be desirable they are not crucial to the project and may in fact, represent several different options. The system tables were not included in the E-R diagram in order to preserve the simplicity of the illustration and to present the minimal tables needed for operation. The system tables will be included in the data dictionary and are a part of this project.
### Basic Tables

**Table 8. Customers Table: Customers' Data**

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>CustomerID</td>
<td>INT</td>
<td></td>
<td>Customer ID&lt;br&gt;- System generate unique number</td>
<td>Key Field</td>
</tr>
<tr>
<td>FirstName</td>
<td>VARCHAR</td>
<td>30</td>
<td>Customer's first name</td>
<td>Not Null</td>
</tr>
<tr>
<td>LastName</td>
<td>VARCHAR</td>
<td>30</td>
<td>Customer's last name</td>
<td>Not Null</td>
</tr>
<tr>
<td>Address</td>
<td></td>
<td></td>
<td>Composite Field:&lt;br&gt;- Street&lt;br&gt;- City&lt;br&gt;- State&lt;br&gt;- ZipCode</td>
<td></td>
</tr>
<tr>
<td>Street</td>
<td>VARCHAR</td>
<td>40</td>
<td>- Street address</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>VARCHAR</td>
<td>30</td>
<td>- City</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>VARCHAR</td>
<td>10</td>
<td>- State</td>
<td></td>
</tr>
<tr>
<td>ZipCode</td>
<td>VARCHAR</td>
<td>20</td>
<td>- Postal or zip code</td>
<td></td>
</tr>
<tr>
<td>PhoneNo</td>
<td>VARCHAR</td>
<td>15</td>
<td>Customer's phone number</td>
<td></td>
</tr>
<tr>
<td>Fax</td>
<td>VARCHAR</td>
<td>15</td>
<td>Customer's fax number</td>
<td></td>
</tr>
<tr>
<td>CustomerEmail</td>
<td>VARCHAR</td>
<td>30</td>
<td>Customer's E-mail</td>
<td></td>
</tr>
<tr>
<td>LogInName</td>
<td>VARCHAR</td>
<td>20</td>
<td>Customer’s login name</td>
<td></td>
</tr>
<tr>
<td>CustomerPassword</td>
<td>VARCHAR</td>
<td>15</td>
<td>Password</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>CHAR</td>
<td>1</td>
<td>(M)ale (F)emale</td>
<td></td>
</tr>
<tr>
<td>Admin</td>
<td>INT</td>
<td></td>
<td>Account Administrator</td>
<td>Foreign Key</td>
</tr>
</tbody>
</table>
Table 9. Employees Table: Employees’ Information

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>EmpID</td>
<td>INT</td>
<td></td>
<td>Employee ID</td>
<td>Key Field</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- System generate unique number</td>
<td></td>
</tr>
<tr>
<td>SSN</td>
<td>VARCHAR</td>
<td>11</td>
<td>Social Security Number</td>
<td></td>
</tr>
<tr>
<td>FirstName</td>
<td>VARCHAR</td>
<td>30</td>
<td>Employee’s name</td>
<td>Not Null</td>
</tr>
<tr>
<td>LastName</td>
<td>VARCHAR</td>
<td>30</td>
<td>Employee’s last name</td>
<td>Not Null</td>
</tr>
<tr>
<td>Address</td>
<td>VARCHAR</td>
<td></td>
<td>Composition Field:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Address of employee</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>City</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>State</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PostalCode</td>
<td></td>
</tr>
<tr>
<td>Phone</td>
<td>VARCHAR</td>
<td>15</td>
<td>Employee’s phone number</td>
<td></td>
</tr>
<tr>
<td>Email</td>
<td>VARCHAR</td>
<td>35</td>
<td>Employee’s email address</td>
<td></td>
</tr>
<tr>
<td>Password</td>
<td>VARCHAR</td>
<td>15</td>
<td>Employee’s password</td>
<td></td>
</tr>
<tr>
<td>HireDate</td>
<td>SMALLDATETIME</td>
<td></td>
<td>Employee’s hired date</td>
<td></td>
</tr>
</tbody>
</table>
Table 10. Orders Table: Order Information

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>INT</td>
<td></td>
<td>Order ID - System generate unique number</td>
<td>Key Field</td>
</tr>
<tr>
<td>OrderNumber</td>
<td>INT</td>
<td></td>
<td>Order number</td>
<td></td>
</tr>
<tr>
<td>CustomerID</td>
<td>INT</td>
<td></td>
<td>Customer ID</td>
<td>Foreign Key</td>
</tr>
<tr>
<td>OrderDate</td>
<td>SMALLDATETIME</td>
<td>50</td>
<td>Date of order</td>
<td></td>
</tr>
<tr>
<td>ProductID</td>
<td>INT</td>
<td></td>
<td>Product identification</td>
<td></td>
</tr>
<tr>
<td>Quantity</td>
<td>INTEGER</td>
<td></td>
<td>Number of products</td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>MONEY</td>
<td></td>
<td>Currency</td>
<td></td>
</tr>
</tbody>
</table>

Table 11. Transact Table: Links Products and Orders Table Together

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>ID</td>
<td>INT</td>
<td></td>
<td>Order ID</td>
<td>Composite Key</td>
</tr>
<tr>
<td>ProductID</td>
<td>INT</td>
<td></td>
<td>Product ID</td>
<td>Composite Key</td>
</tr>
<tr>
<td>Quantity</td>
<td>INTEGER</td>
<td></td>
<td>Quantity of the product in the order</td>
<td></td>
</tr>
</tbody>
</table>
Table 12. Products Table: Used to keep all Products Information

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>ProductID</td>
<td>INT</td>
<td></td>
<td>Product ID</td>
<td>Key Field</td>
</tr>
<tr>
<td>SupplierID</td>
<td>INT</td>
<td></td>
<td>Supplier ID</td>
<td>Foreign Key</td>
</tr>
<tr>
<td>ProductCategory</td>
<td>VARCHAR</td>
<td>50</td>
<td>Product Category</td>
<td></td>
</tr>
<tr>
<td>ProductName</td>
<td>VARCHAR</td>
<td>50</td>
<td>Product Name</td>
<td></td>
</tr>
<tr>
<td>ProductDesc</td>
<td>TEXT</td>
<td></td>
<td>Description of the Product</td>
<td>Memo Field</td>
</tr>
<tr>
<td>PurchasePrice</td>
<td>MONEY</td>
<td></td>
<td>Purchase price per unit</td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td>MONEY</td>
<td></td>
<td>Sale Price Per Unit</td>
<td></td>
</tr>
<tr>
<td>UnitsAvailable</td>
<td>INTEGER</td>
<td></td>
<td>Current quantity in Stock</td>
<td></td>
</tr>
<tr>
<td>MinLevel</td>
<td>INTEGER</td>
<td></td>
<td>Minimum quantity of the Stock before reorder</td>
<td></td>
</tr>
<tr>
<td>ProdImage</td>
<td>VARCHAR</td>
<td>50</td>
<td>The file’s name of product’s picture</td>
<td></td>
</tr>
</tbody>
</table>
Table 13. Suppliers Table: Suppliers' Information

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>SupplierID</td>
<td>INT</td>
<td></td>
<td>Supplier ID</td>
<td>Key Field</td>
</tr>
<tr>
<td>SupplierName</td>
<td>VARCHAR</td>
<td>45</td>
<td>Supplier’s company name</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>VARCHAR</td>
<td></td>
<td>Supplier’s company name</td>
<td></td>
</tr>
<tr>
<td>Street</td>
<td>VARCHAR</td>
<td>30</td>
<td>Address of supplier</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>VARCHAR</td>
<td>25</td>
<td>Name of city</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>VARCHAR</td>
<td>15</td>
<td>State</td>
<td></td>
</tr>
<tr>
<td>ZipCode</td>
<td>VARCHAR</td>
<td>20</td>
<td>Postal or Zip code</td>
<td></td>
</tr>
<tr>
<td>PhoneNo</td>
<td>VARCHAR</td>
<td>15</td>
<td>Supplier’s phone number</td>
<td></td>
</tr>
<tr>
<td>Fax</td>
<td>VARCHAR</td>
<td>15</td>
<td>Supplier’s fax number</td>
<td></td>
</tr>
<tr>
<td>SupplierEmail</td>
<td>VARCHAR</td>
<td>40</td>
<td>Supplier’s E-mail</td>
<td></td>
</tr>
</tbody>
</table>

System Tables

Table 14. ProdCategory Table: Shows which Products Belong to what Category

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>CategoryID</td>
<td>INT</td>
<td></td>
<td>Category ID</td>
<td>Key Field</td>
</tr>
<tr>
<td>Description</td>
<td>VARCHAR</td>
<td>50</td>
<td>Description</td>
<td></td>
</tr>
</tbody>
</table>
Table 15. Book Table: Shows Books Available in Stock

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISBN</td>
<td>INT</td>
<td></td>
<td>Book ID</td>
<td>Key Field</td>
</tr>
<tr>
<td>Title</td>
<td>VARCHAR</td>
<td>200</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>Summary</td>
<td>TEXT</td>
<td></td>
<td>Summary of book’s highlights</td>
<td></td>
</tr>
<tr>
<td>Author</td>
<td>VARCHAR</td>
<td>100</td>
<td>Author’s name</td>
<td></td>
</tr>
<tr>
<td>BookImage</td>
<td>VARCHAR</td>
<td>50</td>
<td>The file’s name of book’s picture</td>
<td></td>
</tr>
</tbody>
</table>

Table 16. PetHotel Table: Keeps a List and Information about the Hotels for Pets

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>PartnerID</td>
<td>INT</td>
<td></td>
<td>Partner ID</td>
<td>Key Field</td>
</tr>
<tr>
<td>PartnerName</td>
<td>VARCHAR</td>
<td>50</td>
<td>Partner’s company name</td>
<td></td>
</tr>
<tr>
<td>Address</td>
<td>VARCHAR</td>
<td>50</td>
<td>Composition Field:</td>
<td></td>
</tr>
<tr>
<td>Street</td>
<td>VARCHAR</td>
<td>30</td>
<td>- Address of supplier</td>
<td></td>
</tr>
<tr>
<td>City</td>
<td>VARCHAR</td>
<td>25</td>
<td>- Postal or Zip code</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>VARCHAR</td>
<td>15</td>
<td>- Address of supplier</td>
<td></td>
</tr>
<tr>
<td>ZipCode</td>
<td>VARCHAR</td>
<td>20</td>
<td>- Postal or Zip code</td>
<td></td>
</tr>
<tr>
<td>HotelEmail</td>
<td>VARCHAR</td>
<td>40</td>
<td>Partner’s e-mail</td>
<td></td>
</tr>
<tr>
<td>PartnerImage</td>
<td>VARCHAR</td>
<td>50</td>
<td>Partner’s Picture</td>
<td></td>
</tr>
<tr>
<td>PartnerLink</td>
<td>VARCHAR</td>
<td>50</td>
<td>Partner’s Website link</td>
<td></td>
</tr>
</tbody>
</table>
Table 17. States Table: Provides State Name and Two Character Abbreviation

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>StateID</td>
<td>VARCHAR</td>
<td>2</td>
<td>Order status type id</td>
<td>Key Field</td>
</tr>
<tr>
<td>StateName</td>
<td>VARCHAR</td>
<td>30</td>
<td>Description</td>
<td></td>
</tr>
</tbody>
</table>

Table 18. ContactUs Table: Provides Visitor’s Detail Information

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>ContactID</td>
<td>INT</td>
<td></td>
<td>Contact ID - System generate unique number</td>
<td>Key Field</td>
</tr>
<tr>
<td>Name</td>
<td>VARCHAR</td>
<td>30</td>
<td>Name of Web visitor</td>
<td>Foreign Key</td>
</tr>
<tr>
<td>Email</td>
<td>VARCHAR</td>
<td>40</td>
<td>Name of e-mail account</td>
<td></td>
</tr>
<tr>
<td>Reason</td>
<td>VARCHAR</td>
<td>50</td>
<td>Description of the reason</td>
<td></td>
</tr>
<tr>
<td>HearFrom</td>
<td>VARCHAR</td>
<td>30</td>
<td>Source by means of media or person.</td>
<td></td>
</tr>
</tbody>
</table>
Table 19. TalkToAVet Table: Logs the Vet’s Consultations

<table>
<thead>
<tr>
<th>Field Name</th>
<th>Type</th>
<th>Size</th>
<th>Description</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>TalkID</td>
<td>INT</td>
<td></td>
<td>Talk ID - System generate unique number</td>
<td>Key Field</td>
</tr>
<tr>
<td>OwnerName</td>
<td>VARCHAR</td>
<td>30</td>
<td>Browser type</td>
<td>Allow null</td>
</tr>
<tr>
<td>PetName</td>
<td>VARCHAR</td>
<td>20</td>
<td>Browser’ version</td>
<td>Allow null</td>
</tr>
<tr>
<td>Email</td>
<td>VARCHAR</td>
<td>40</td>
<td>IP address of client</td>
<td>Allow null</td>
</tr>
<tr>
<td>Symptoms</td>
<td>VARCHAR</td>
<td>50</td>
<td>Host name of client</td>
<td>Allow null</td>
</tr>
</tbody>
</table>

Website

Doghouse.com Website is composed of two parts. The first part is the main website. This Internet area is less secure. It is the online place where customers and outsiders visit. There are chat rooms, question and answer areas, and such. The e-customers can obtain product information, register to buy the products, purchase the products online, track their orders, and send comments or emails to the company. In addition the e-customer can search for additional support in the customer service page. It is company policy to return inquiries within 24 hours.
The second part is the administrative website. This area is protected from outsiders and customers. Access to the administrative website gives the user the ability to modify the company information relating to customers, credit card information, product contacts, and employees. Only trusted employees are allowed to access administrative information and then only that information pertinent to their job function (i.e. An employee in marketing will not have access to the Employee table and an employee in Human Resources cannot access the Customer tables.) Sales employees can modify customer information, orders, supplier information, and product information. All
employees are able to check customer feedback email while online at this website.

Main Website

The e-customer will go through a welcome page before he/she enters the Doghouse.com home page.

Figure 8. Welcome Page

In order to go to the home page the e-customers must click on the Doghouse.com picture. The home page is composed of five important parts. At the top of the page there is the company logo and the navigation bar. On the left side of the local navigation bar there is a frame that presents the categories of products and services. On
the bottom of the page there is a footer that contains text links to the other pages. In the middle of the page there is the welcome message.

Figure 9. Home Page

Customers can click on one of the category links to check the subcategories offered and read about them.
Once the e-customers are interested in a product they can click on the product frame to see the product display in a larger image with product detail.

Once the e-customers decide to buy the product by clicking on the "Add to Paws Cart" button, they are taken to the shopping cart page as seen in figure 11. On this page the e-customers have the opportunity to increase or decrease the quantity of an item, and remove or add any product in the virtual shopping cart. The e-commerce system has been designed to retrieve the required information from the database. It calculates the price of the order, and displays the total cost to the e-customer.
Finally, the customer can select to continue shopping or check out.

![Shopping Cart Page](image)

Figure 11. Shopping Cart Page

In a situation where an e-customer decides to continue shopping, they will be sent back to the home page again to browse the categories. This will give them the opportunity to add other items into their "paws" cart.
Figure 12. Credit Card Information Page

If the e-customer chooses to check out he will be forwarded to the Credit Card Information page (Figure 12 above.) and asked to provide the required credit card and shipping information.

By typing the information, and pressing the “Create Account”, customers authorize all expenses associated with their transactions. The system will send the total amount of the order to the customer’s account and credit this amount to Doghouse.com’s gross sales. These subsystems connect with outside entities such as a credit card company or a bank.
Once the credit card transaction is confirmed, the system will print the receipt to the customer, and send a confirmation to Doghouse.com’s accounting department. The order is then recorded in the database and a thank you page will be automatically appear (see Figure 13). Because of the need to protect customers information and to allow Doghouse.com to track customer activity within the site the Web site will not allow e-customers to access the shopping cart until they login or create an online persona within the Doghouse.com site (see Figure 14).

Returning customers can login to the system by clicking on the "Your Account" button in the navigation bar. They need to provide the correct login name and password. If the Customer has forgotten their password or wish to change it due to other personal security concerns they can click in the link given in the bottom of the page and after being cued for an answer to a secondary question will be allowed to change the login name and/or password.
Figure 13. Thank You Page
When e-customers enter their login information, the website system will run a systems check on the input and once confirmed as correct, a welcome page will be displayed.

In the case of new e-customers, they must create a new account by clicking in the New User link. They will be asked to fill out all the information, and choose a distinct login name not being used by any other customer on the site. Also they will be asked to type their chosen password two times to confirm their intention, create a double check for security, and to help the customer remember the password in the future. When the information
is confirmed, the record information system will add the information to the database. A new account will have been formed and that information will be used to create a personal customer cache of pages and to facilitate future processes within Doghouse.com.

Figure 15. Welcome Page (Instant Reply After Customer Login)
Figure 16. Sign Up Page

The e-customers can also check the customer service section by clicking on the Customer Service button.
Figure 17. Customer Service Page

The "Customer Service" page is mostly used by the e-customers to register complaints, to seek advice through the Frequently Asked Questions (FAQ) section (Figure 19), or to request a refund. The complaints and refunds are generally sent through the message page (see Figure 18).
The e-customer is prompted by options according to the listing outlined on the FAQ page. These prompts insure that the communication is routed to the correct department or the proper person. Customer Service Page as stated above it is here that the company has its link to its Return Policy page.
Administrative Website

As stated earlier, outsiders or customers cannot view this part of the Doghouse.com site. Only classified employees who can view or modify significant and sensitive information can access this site. At this time this access will be limited to the Chief Information Officer and the Web master. To access this part of the website the person must login first by giving his/her authorized login name and password. The system will check and verify that the input login is part of the special access group. If the login matches the security access, the person will be logged into the Population Tools page and have access to
those options. Changes initiated during the access session will be loaded to the database tables and the Web site will be edited and updated in real time.

Figure 20. Population Tools Page - Admin Log In
There are currently four options presented on the Tools Page. One of these is the “Products” option that allows for the addition, deletion, or modification of the description of the products or services offered through the Main Website. For security purposes, the Administrative website has a directory that is different than the directory of the main website.
Figure 22. Price Change to Product No. Fo2 from $8.00 to $11.00
Figure 23. Population Tools Page - Price Update Confirmation
<table>
<thead>
<tr>
<th>Food</th>
<th>Product Description</th>
<th>Product Category</th>
<th>Price</th>
<th>Supplier</th>
<th>Date</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faschini &gt; Chips</td>
<td>Tasty chips are crispy, well belled texture that we baked using &quot;melted&quot;. Approximately 1.5&quot; in diameter, they make excellent training aide as well as quick, tasty treat. All ingredients we request and had plenty available.</td>
<td>Food</td>
<td>$2</td>
<td>Tia</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faschini &gt; The Dog Bisc</td>
<td>The only dog chew with heart, tendon, and cartilage will last for months. Made with a special non-salt flavor that promotes joint health while preventing tartar buildup.</td>
<td>Food</td>
<td>$11</td>
<td>Chewy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faschini &gt; The burger</td>
<td>A treat for your dog. Four-inch and a quarter pound burger. Includes all dressing spreads without mayo or cheeseburger.</td>
<td>Food</td>
<td>$5</td>
<td>Chewy</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CHAPTER EIGHT

PROJECT IMPLEMENTATION

Overall Implementation Process

Because Doghouse.com is being implemented by a core group of administrators who are all family related the project will not have the normal project management structure. It will still be necessary to formulate a timeline, project benchmarks, and go-no-go decision points. The project will need to be envisioned as a whole and as the project progresses problems will arise. Depending on the nature of the particular issues the person with that responsibility will need to respond quickly and specifically to those problems. The executive group will need to be aware of those issues or incidents that may cause delay or cost overrun. The corporate management need to arrive at agreement at each critical point - to go ahead or to stop the project. The risks are that the final project will have cost more than can reasonably be recouped in profits or that the e-business will take too long going to the marketplace and thereby loose its competitive edge.
Database Implementation and Organization

The default database system used in this project is Microsoft SQL Server 7.0. Before the e-commerce site goes live management will consider upgrading its database system to the CompileX.NET environment. There are three reasons for this conversion. First, CompileX.NET automatically creates clear normalized relational database structure optimized to handle the objects. Second, CompileX.NET provides several ways to map objects for relational databases. Third, CompileX.NET creates a separate table for each object and each table contains a key field ID.

To avoid conflicts with various database implementations, the type of that field is restricted to string type. The real ID values are entered there by generated application, not by the database itself. Therefore, changing the proper source codes within the application the developer can provide his or her own type of ID values. This implementation of ID allows the developer to easily establish links between objects. The setup requirements must be fulfilled before the application can be implemented, otherwise, the application will not operate properly and unexpected errors may occur.
Application Environments

The application can be operated in two different environments. The first environment is the .NET Platform Environment. This environment essentially creates a component infrastructure for web middleware, using the component called software interchangeable part as its basic building block and supplying these components with streamlined system and application services that integrate with the Web.

The second environment is the .NET architecture. Here the .NET application architecture uses a three-tier model that is becoming a standard for new Web-based development. Infrastructure and management elements, which include Microsoft .NET Enterprise Servers, support all three tiers.

.NET Platform Environment

The .NET platform consists of a set of software libraries and development tools called the .NET Framework, and a set of foundation Web services, called .NET My Services.

The .NET Framework is similar to the Java platform with Microsoft’s Common Language Runtime (CLR) filling the role of the Java Virtual Machine (JVM). Applications that run under the CLR are called managed code and benefit from
a highly reliable and highly secure runtime environment. In addition to the CLR, the .NET Framework also includes a set of class libraries that will help the developer to abstract all the tasks.

Figure 25. .NET Framework Environment

In effect, the .NET Framework takes the best aspects of COM (Component Object Model) and combines them with the best aspects of loosely-coupled web computing. The result is a powerful, productive Web component system that simplifies programmer plumbing, deeply integrates security, introduces an Internet-scale deployment system, and greatly improves application reliability and scalability. The CLR provides its services to applications by providing a standard set of library classes that
abstract all the tasks that the developer will ever need. These classes are called as the Base Class Libraries. On top of this, other development platforms and applications are built such as ASP.NET and ADO.NET. Language compilers that need to generate code for the CLR must adhere to a common set of specifications that is laid down by the Common Language Specification (CLS). Above this, the developer has all the popular .NET languages.

Visual Studio .NET, then is the “glue” that helps the developer to generate .NET applications and provides an IDE that is excellent for collaborative development.

Foundation Web services—now called .NET My Services—are hosted by Microsoft and provide application services for authentication, notification, and user-data services such as profiles, contacts, mail inbox, calendar, and document storage, all of which are accessible over the Web through SOAP and XML messages.

The application is developed and tested using the hardware and software configurations as set forth in Table 20 and 21. These represent both a client and the Web server computer.
Table 20. Hardware Configuration

Server

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Pentium IV</td>
</tr>
<tr>
<td>Memory</td>
<td>2.0 GB.</td>
</tr>
<tr>
<td>Hard Drive</td>
<td>Primary 60 GB, Secondary: 60 GB - With RAID 0</td>
</tr>
<tr>
<td>LAN Card</td>
<td>Ethernet Card 10/100 Mbps</td>
</tr>
</tbody>
</table>

Client

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Pentium IV</td>
</tr>
<tr>
<td>Memory</td>
<td>1 GB.</td>
</tr>
<tr>
<td>Hard Drive</td>
<td>60 GB.</td>
</tr>
<tr>
<td>LAN Card</td>
<td>PCMCIA LAN Card, Ethernet 10/100 Mbps</td>
</tr>
</tbody>
</table>

HUB

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethernet HUB</td>
<td>100 Mbps</td>
</tr>
</tbody>
</table>

.NET Architecture Environment

This environment provides a modular and scalable approach to application development and deployment that offers many advantages for new applications while providing a way to integrate existing applications into a seamless user environment. The four components include:

- Tier 1 - Front-end Web interface
- Tier 2 - Middle application logic
- Tier 3 - Back-end database
- Support Tier - Infrastructure and management
Table 21. Software Configuration

**Server**

Operating System: Windows XP Advance Server

Database Server: MS SQL Server 7.0

Web Server: Internet Information Services (IIS) 6.0 with .NET Framework

**Client**

Operating System: Windows XP Professional

Database Application: MS SQL Server 7.0: Desktop version

Web Server: Internet Information Services (IIS) 6.0

Development Tools:
- Microsoft Visual Studio.NET Professional Edition or Basic.NET or C# or Jscript.NET
- Microsoft FrontPage 2000 or 2002
- Microsoft Access 2000
- Notepad or Wordpad

Browser: Internet Explorer 5.0

**Tier 1 - Web Interface.** Tier 1 provides the connection point for user sessions and controls the user interface. Session management is performed within this tier, which relies upon security services within the infrastructure layer.
The .NET Enterprise Server products and the services each product provides within Tier 1 include the Microsoft Internet Information Server (IIS). It provides Web services that are tightly integrated into the Windows operating system (OS) and .NET Framework and includes the extended programming environment for ASP.NET.

**Tier 2 - Middle Application Logic.** Tier 2 provides application services such as messaging and collaboration, enterprise resource planning (ERP), customer relationship management (CRM), or line-of-business (LOB) applications for specific vertical industries.

Message gateways are other types of application services in Tier 2 that provide links between the .NET environment and legacy systems, external networks, or business partners.

**Tier 3 - Database Services.** Tier 3 provides data storage and transaction services. Data is the core of almost all business applications, and the availability and integrity of this data are essential to the operation of virtually any business. The .NET Enterprise Server products and the services that each product provides for Tier 3 include the SQL Server 7.0.

At Doghouse.com the SQL Server 7.0 is an enterprise-class database designed to support the new
generation of Web-based business applications. Providing continuous access to SQL data and ensuring complete integrity of this data is essential to the operation of the entire .NET application environment.

Support Tier - Infrastructure and Management Services. Infrastructure and management services are an essential part of the three-tier architectural environment in that they provide the “plumbing” that supports the operation of all the application components and allows the applications to be successfully deployed and managed.

The enterprise management systems are essential to enable any system problem to be quickly detected and rapidly corrected before applications are seriously affected. Finally, the operations manager database, which is stored in SQL Server 7.0, must also be protected to ensure uninterrupted operation of the management system.

How to Setup an E-commerce Site

This section discusses the processes of setting up an e-commerce website -- the domain name registration process and the website hosting process.

Domain Name Registration

When an organization decides to set up a website, a Webmaster will check whether the name is registered by
visiting domain name service provider’s websites such as
http://www.networksolutions.com,
http://www.123domains.net, and
http://www.registernames.com. If the name has not been
registered the Webmaster will proceed with the
registration of the domain name. The standard price for
registering a domain name is $60 for a two-year period.
The price varies because of the competition between domain
name service providers and the requests processed.

If the Webmaster has no specific name in mind or if
the name desired is already registered it may be possible
to buy the registered name. There are many dot-com domain
names selling on the Internet. A Webmaster should visit at
Unfortunately, the price for purchasing a registered
domain name is much higher than registering a new one.

At this time the Doghouse.com name is not registered
with a domain on the web.

Hosting the E-commerce Website

There are two methods for hosting a website. As with
many services today there is the option to do the work
in-house or to out-source the work to a third party
service provider. A small to medium size business may
consider outsourcing their web hosting a good answer to
acquiring the expertise and attention that a website demands. A large organization may believe they have sufficient expertise and manpower on hand and therefore consider in-house hosting a better idea for its e-commerce site.

At Doghouse.com management has decided to host its website in order to have full control of it. It is believed that the Chief Information Officer has the abilities to program and establish the website as well as to debug the site and resolve other technical computer glitches that might arise. A Webmaster will be on staff to monitor the day-to-day changes and enhancements needed to keep the website vital and up to date.
CHAPTER NINE

MANAGEMENT OF THE E-COMMERCE IMPLEMENTATION

Overview

The Doghouse.com team will use project management techniques to manage the complex e-commerce implementation. The project will be time-lined using Microsoft Project 2000. The reason for choosing this software is the array of built-in tools for managing resources and schedules, the ease of purchase and installation, and the familiarity with Microsoft products. The software can generate charts and tables that show what parts of the project are critical to an on time completion and what activities can be rescheduled or postponed without impacting the go live date. In addition Project 2000 can track resource utilization and create reports to suggest where additional resources might be most effectively used.

In addition to managing the people and tasks of the internal team, Project 2000 will be utilized to manage the tasks assigned to consultants, technology partners, and outsourced service providers. By examining the costs and completion times of tasks as they are completed,
Doghouse.com can learn how the project is progressing and continually revise the estimated costs and completion times of future tasks (Friedlein, 2001).

At Doghouse.com the closely held corporation approaches the objectives of the project with group decisions and a team atmosphere. If revisions to the plan are necessary as the project proceeds, the executive officer with the greatest personal expertise will develop specific proposals for plan modifications and additional funding and present them to the other executive partners for approval.

The Chief Information Officer will have the task of keeping track of the various Web sites in use by the project. He has decided to have a test version, a demonstration version, and a production version of the Web site located on different servers. The test version is the "under construction" version of a Web site. Since Doghouse.com anticipates its site to be updated with new features and content, the test version gives the information staff a place to make sure that each new feature works before exposing it to the e-customers. The demonstration version has features that have passed testing and must be demonstrated to the internal audience, for example, the marketing section for approval. The Web
master supervises the location of specific Web pages and related software installations as they are moved from test to demonstration to production.

A systems administrator who understands the server hardware and operating system is an essential part of a successful electronic commerce implementation. The systems administrator is responsible for the system’s reliable and secure operation. If the site operation is outsourced to an ISP, the vendor will provide this function. Since Doghouse.com will be hosting their own site, one of the staff will be devoted to this job. Since it is a closely held family corporation there is sufficient internal cooperation and experience to maintain full 24/7 operations and site security.
CHAPTER TEN

POST-IMPLEMENTATION AUDITS

After an electronic commerce site is successfully launched, most of the project’s resources are devoted to maintaining and improving the site’s operations. However, an increasing number of businesses are realizing the value of a post-implementation audit. A post-implementation audit is a formal review of a project after it is up and running.

The post-implementation audit gives Doghouse.com executives a chance to examine the objectives, performance specifications, cost estimates, and scheduled delivery dates that were established for the projects in its planning stage and compare them to what actually happened. Since this is a large family investment this review is even more important.

In addition, a post-implementation audit allows the implementation team, the business executive and the information officer a chance to raise questions about the project’s objectives and provide their “in-the-trenches” feedback on strategies that were set in the project’s initial design and changed.
CHAPTER ELEVEN

CONCLUSION

Putting the Doghouse.com on the Internet and bringing the electronic commerce site live requires a great deal of thought and management. Hasty action, failure to realistically assess risks, or not taking the Internet as seriously as a brick-and-concrete business can have serious consequences.

In approaching this project, the first steps were to outline the general business plan, evaluate the existing market depth, gauge the future growth potential in the market, and determine the competitive advantage. Once these factors were sized and considered workable capabilities and abilities were evaluated, financing and investment avenues were discussed, and business structure was developed.

It was not until all of the above groundwork had been committed to written documentation that the actual computer programming research began. That research included the evaluation of hardware and software available on the market, research into rapidly developing new programs and capabilities, and the determining of what
technological tools could be readily accessed, easily implemented, and readily maintained.

Armed with the product information, market information and the technological tools a mockup of the e-business was created and evaluated for security, maintenance, and ease of access from outside computers. This mockup of an e-business is Doghouse.com.

Working to create this project has brought together the areas of finance, project management, marketing, and information technology. The project itself emphasizes the incredible power of the developing Internet technology and its role in making a company more competitive, broader-based, and smarter. Using the ASP.NET to support the e-commerce only highlights the many new avenues of interrelated services that will be able to benefit from e-commerce, e-retail business.

The project documents, such as ASP.NET and Database generating code are included in Appendix A. A glossary of terms is supplied for the less technical reader under Appendix B. The references used in researching and preparing this document are cataloged at the end of document in the specific section, References.
APPENDIX A

ASP.NET SOURCE CODE
Doghouse.com Programming Code

Default.aspx

<%@ Page language = "VB" Debug="true" %>
<%
    Session.Add("USR", 0)
    Session.Add("id", 0)
    Session.Add("Admin", 0)
%>

<HTML>
<HEAD>
<META NAME="GENERATOR" Content="Microsoft FrontPage 5.0">
<title>Doghouse.com</title></HEAD>
<FRAMESET ROWS="74,*" frameborder=0  'General frame
    <FRAME name="TopFrame" src="TopFrame.aspx" scrolling=no target="ContentFrame"  'Top frame
    <FRAMESET COLS="235,*" frameborder=0>  'Middle frame with another 2 frames
        <FRAME src="NavigationBar.aspx" target="ContentFrame">
        <FRAME name="ContentFrame" src="Welcome.aspx" scrolling="auto">
    </FRAMESET>
</FRAMESET>
</HTML>

NavigationBar.aspx

<%@ Page language = "VB" Debug="true" %>
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft FrontPage 5.0">
<base target="ContentFrame">
</head>
<body vlink="#000000" link="#0000FF" bgcolor="#0099CC">
<p> </p>
<p><a href="Welcome.aspx">Home</a></p>
<p><a href="AboutUs/AboutUs.aspx">About Us</a></p>
<p><a target="ContentFrame" href="Login/Login.aspx">Login</a></p>
<p><a href="Products/UniqueProducts.aspx">Unique Products</a></p>
<p><a href="Services/UniqueServices.aspx">Unique Services</a></p>
<p><a href="Products/shoppingpaws.aspx?ProdlD=view"
This is Doghouse.com

In Doghouse.com we offer products and provide services through the Internet to those loyal four-feet companions and their owners. Our strong commitment to client satisfaction is showcased by customizable items, healthy food and friendly services as well as low prices and delivery to the customer’s home.

Our Head Office and Grooming Services
Expert grooming for dogs is done in our specially equipped grooming room by experienced staff members with the "know-how," the finest equipment, and most importantly, tender loving care.

8512 Bones St., Riverside, CA, 92507
Tel: (909)788-9874
Fax: (909)788-2846
E-mail: Cesar@Doghouse.com
http://www.Doghouse.com

Details.aspx

<%@ Page language = "VB" Debug="true"%>
<!--#include file="../Common/utilities.aspx"-->
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Products' Details</TITLE>
</head>

<body vlink="darkgreen" alink="orangered" link="seagreen" bgcolor=WhiteSmoke>
<font face="Tempus Sans ITC" color="SaddleBrown">
<% DisplayDetails() %>

140
Function DetermineSupplier(isupplierID)
    Dim rssupplier As ADODB.Recordset
    Dim sqlstmt As String
    sqlstmt = "SELECT SupplierName FROM SUPPLIERS WHERE SupplierID ="
    sqlstmt = sqlstmt + CStr(isupplierID)
    rssupplier = cn.Execute(sqlstmt)
    If Err.Description <> "" Then
        Response.Write("<br>rs.Open in DetermineSupplier: " + Err.Description)
    Else
        DetermineSupplier = rssupplier.Fields("SupplierName").Value
    End If
End Function

*Routine that displays all the products of the category chosen*
Sub DisplayDetails()
    Dim txtProdCat As String
    Dim rs ' As ADO Recordset
    Dim sqlstmt As String
    Dim txtProdID As String
    Dim txtSupplier ' As System Object
    Dim txtProdCat As String
    txtProdID = Request.QueryString("ProdID")
    OpenDB("../doghouse.mdb")
    sqlstmt = "SELECT * FROM Products where ProductID ="
    sqlstmt = sqlstmt + txtProdID + ""
    rs = cn.Execute(sqlstmt)
    If Err.Description <> "" Then
        Response.Write("<br>rs.Open: " + Err.Description)
    Else
        txtProdCat = DetermineCategoryAndPath(rs.Fields("ProductCategory").Value)
        txtSupplier = DetermineSupplier(rs.Fields("SupplierID").Value)
        Response.Write("<TABLE WIDTH=100% BORDER=0">
            <TR>
                <TD align=center colspan=2>
                    <img src="images/" + txtProdCat + "" border=1>
                </TD>
            </TR>
            <TR>
                <TD valign=top font color=blue><b>Name: </b></Font>
                    <b>" + rs.Fields("ProductName").Value.ToString() + "</b>
                </TD>
            </TR>
        </TABLE>
    End If
End Sub
Response.Write("<TD valign=top><font color=blue><b>Maker: </b></font></TD>")
Response.Write("")<TD>
Response.Write(txtSupplier.ToString())
Response.Write("</TD>")
Response.Write("</TR>")
Response.Write("<TR>")
Response.Write("<TD valign=top><font color=blue><b>Description: </b></font></TD>")
Response.Write("")<TD>
Response.Write(rs.Fields("ProductDesc").Value.ToString())
Response.Write("</TD>")
Response.Write("</TR>")
Response.Write("</TR>"
Response.Write("</TABLE>"
Response.Write("")<BR><BR><Center><a href="javascript:window.close()">Close Window</a></Center>
End IF
rs.Close()
rs = Nothing
CloseDB()
End Sub
</script>

Login.aspx

<!--#include file="../Common/Utilities.aspx"-->

<% Session.Add("id", 0)
   Session.Add("Admin", 0)
   CheckLogin()
%>

<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<script ID="clientEventHandlersJS" LANGUAGE="javascript">
<!--

function Login_onsubmit()
{
   bSuccess = true;
   if ("" == LoginLoginName.value)
   {
      alert("Please enter your Log In Name");
      document.Login.LoginName.focus();

142
bSuccess = false;

else

if ("" == Login.Password.value)
{
    alert("Please enter your Password");
    document.Login.Password.focus();
    bSuccess = false;
}

return bSuccess;

}

function openNewWindow(theURL,winName,features) { //v2.0
    window.open(theURL,winName,features);
}

//-->
</script>

<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Login</TITLE>
</head>
<body background="../images/big_paws.jpg" vlink="darkgreen" alink="orangered"
link="seagreen">
<font face="Tempus Sans ITC" color="#006400">

<%
    If iLoginError > 0 Then
    %>

<br><br>
<table cellpadding="0" cellspacing="0" border="0" width="100%">
<tr>
    <td bgcolor="#990000">
        <table cellpadding="10" cellspacing="1" border="0" width="100%">
            <tr>
                <td bgcolor="#ffffff" align=center><font size="4" face="Arial, Helvetica, Geneva, Sans-Serif" color="#990000">Please enter a valid User Name and/or Password.</font></td>
            </tr>
        </table>
    </td>
</tr>
</table>
<br>
<%
    End IF
    %>
<font="Comic Sans MS"><font color="SaddleBrown"><font size="4">

<typename="Tempus Sans ITC"><font size="5"><B>Are you a member?</B></font><br>
<typename="Tempus Sans ITC"><font size="4"><B>Enter your Log In Name and Password to log in</B></typename></font>

<form action="login.aspx" method="POST" onsubmit="return Login_onsubmit()"
name="Login">
<table width="75%" align="center">
<tr><td align="left"><font color="SaddleBrown" size="3"><B>Log In Name:</B></font></td>
<td><input type="text" name="LoginName" /></td>
<td><a href="Loginpage2.aspx?txtFirstName=&txtLastName=&txtGender=&txtDOB=&txtDogName=&txtStreet=&txtCity=&txtState=&txtZipcode=&txtPhone=&txtCustomerEmail=&txtLoglnName=&txtPass=&txtConfirmPass=&error=0" target="_blank" style="text-decoration: none;">
<B>Sign Up Now!</B></a></td></tr>
<tr><td align="left"><font color="SaddleBrown" size="3"><B>Password:</B></font></td>
<td><input type="password" name="Password" /></td>
<td><a href="#" target="_blank" style="text-decoration: none;">
<B>Sign Up Now!</B></a></td></tr>
<tr><td colspan="2"><br><input type="submit" value="Login" /></td></tr>
<tr><td colspan="2"></td></tr>
</table>

</form>

<!--#include file="../footer.aspx"-->
</font>
</font>
sSQL = sSQL + ""
rs = cn.Execute(sSQL)
GetlDCustomer = rs.Fields("CustomerID").Value
'SQL = sSQL + CStr(GetI DCustomer)
Else
Response.Write("GetlDCustomer:" + Err.Description)
End IF
rs.Close() 
rs = Nothing
CloseDB() 
End Function

Function GetAdmin(sUserID, sPassword)
'On Error Resume Next
Dim rs ' As ADODB.Recordset
Dim sSQL As String
OpenDB("./doghouse.mdb")
If Err.Description = "" Then
sSQL = "SELECT Admin FROM Customers WHERE LogInName="" 
sSQL = sSQL + sUserID
sSQL = sSQL + " AND CustomerPassword=""
sSQL = sSQL + sPassword
rs = cn.Execute(sSQL)
GetAdmin = rs.Fields("Admin").Value
'SQL = sSQL + CStr(GetI DCustomer)
Else
Response.Write("GetAdmin:" + Err.Description)
End IF 
rs.Close() 
rs = Nothing
CloseDB() 
End Function

Sub CheckLogin()
'On Error Resume Next
Dim str ' As Object
Dim id ' As System.Object
Dim sPWD As String
sUSR = Request.Form("LoginName")
sPWD = Request.Form("Password")
If Err.Description = "" AND sUSR <> "" Then
id = GetlDCustomer(sUSR, sPWD)
If CDbl(id) > 0 Then
Session.Add("id", id) 
Session.Add("USR", sUSR)
'Session("Admin") = GetAdmin(sUSR, sPWD)
'If Session("Admin") > 0 Then
'Response.Redirect "./Population/PopulationTool.aspx"
'Else
Response.Redirect("./welcome.aspx")
'End If 
Else
LoginError = 1
End IF
End IF
End Sub
</script>

**Loginpage2.aspx**

```html
<%@ Page language = "VB" Debug="true"%>
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Login</TITLE>
</head>
<body background="../images/big_paws.jpg" vlink="darkgreen" alink="orangered" link="seagreen">

</html>
```

function LoginPage2_onsubmit()
{
  bSuccess = true;
  if ("" == LoginPage2.txtFirstName.value)
  {
    alert("Please enter your first name");
    document.Loginpage2.txtFirstName.focus();
    bSuccess = false;
  }
  else
  
  if ("" == LoginPage2.txtLastName.value)
  {
    alert("Please enter your last name");
    document.Loginpage2.txtLastName.focus();
    bSuccess = false;
  }
  else
  
  if ("" == LoginPage2.txtGender.value)
  {
    alert("Please enter your Gender");
    document.Loginpage2.txtGender.focus();
    bSuccess = false;
  }
  else
  
  if ("" == LoginPage2.txtDOB.value)
  {
```
{ alert("Please enter your Date of Birth");
document.Loginpage2.txtDOB.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtDogName.value)
{
    alert("Please enter your dog's name");
document.Loginpage2.txtDogName.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtAddress.value)
{
    alert("Please enter your street");
document.Loginpage2.txtAddress.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtCity.value)
{
    alert("Please enter your city");
document.Loginpage2.txtCity.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtState.value)
{
    alert("Please enter your state");
document.Loginpage2.txtState.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtZipcode.value)
{
    alert("Please enter your zip code");
document.Loginpage2.txtZipcode.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtPhone.value)
{
    alert("Please enter your Phone No.");
document.Loginpage2.txtPhone.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtCustomerEmail.value)
{
    alert("Please enter your E-mail address");
document.Loginpage2.txtCustomerEmail.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtLogInName.value)
{
    alert("Please enter your Log In Name");
document.Loginpage2.txtLogInName.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtPass.value)
{
    alert("Please enter your Password");
document.Loginpage2.txtPass.focus();
bSuccess = false;
}
else

if ("" == Loginpage2.txtConfirmPass.value)
{
    alert("Please enter your Password");
document.Loginpage2.txtConfirmPass.focus();
bSuccess = false;
}
else

if (Loginpage2.txtPass.value != Loginpage2.txtConfirmPass.value)
{
    alert("Password and Password Confirmation don't match");
document.Loginpage2.txtConfirmPass.focus();
bSuccess = false;
}

return bSuccess;
}

//-->
</script>
<%}
Dim valueFirstName As String
Dim valueLastName As String
Dim valueGender As String
Dim valueDOB As String
Dim valueDogName As String
Dim valueStreet As String
Dim valueCity As String
Dim valueState As String
Dim valueZipcode As String
Dim valuePhone As String
Dim valueCustomerEmail As String
Dim valueLogInName As String
Dim valuePass As String
Dim valueConfirmPass As String
Dim valueerror As String

<%>

valueFirstName = Request.QueryString("txtFirstName")
valueLastName = Request.QueryString("txtLastName")
valueGender = Request.QueryString("txtGender")
valueDOB = Request.QueryString("txtDOB")
valueDogName = Request.QueryString("txtDogName")
valueStreet = Request.QueryString("txtStreet")
valueCity = Request.QueryString("txtCity")
valueState = Request.QueryString("txtState")
valueZipcode = Request.QueryString("txtZipcode")
valuePhone = Request.QueryString("txtPhone")
valueCustomerEmail = Request.QueryString("txtCustomerEmail")
valueLogInName = Request.QueryString("txtLogInName")
valuePass = Request.QueryString("txtPass")
valueConfirmPass = Request.QueryString("txtConfirmPass")
valueerror = Request.QueryString("error")

If valueerror = CStr(1) Then

<form Action="../common/ThankYouPage.aspx" Method="post" Name="Loginpage2"
Language="javascript"
onsubmit="return Loginpage2_onsubmit()">
<input type="Hidden" Name="FormName" value="Login">

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<H1><p align="center">Please tell me about You and Your Dog!</p></H1>

<table width=90% align="center">
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*First Name:</font></td>
<td><input TYPE="TEXT" NAME="txtFirstName" value=""><% valueFirstName %"></td>
</tr>
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*Last Name:</font></td>
<td><input TYPE="TEXT" NAME="txtLastName" value=""><% valueLastName %"></td>
</tr>
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*Gender:</font></td>
<td><select name="txtGender" value=""><% valueGender %"></select>
<option value="1">Male</option>
<option value="2">Female</option></td>
</tr>
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*Date of Birth:</font></td>
<td><input TYPE="TEXT" NAME="txtDOB" Size=7% value=""><% valueDOB %"></td>
</tr>
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*Dog's Name:</font></td>
<td><input TYPE="TEXT" NAME="txtDogName" value=""><% valueDogName %"></td>
</tr>
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*Street:</font></td>
<td><input TYPE="TEXT" NAME="txtStreet" value=""><% valueStreet %></td>
</tr>
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*City:</font></td>
<td><input TYPE="TEXT" NAME="txtCity" value=""><% valueCity %></td>
</tr>
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*State:</font></td>
<td><input TYPE="TEXT" NAME="txtState" value=""><% valueState %></td>
</tr>
<tr>
<td><font color="SaddleBrown" face="Tempus Sans ITC">*Zip Code:</font></td>
<td><input TYPE="TEXT" NAME="txtZipcode" Size=5% value=""><% valueZipcode %></td>
</tr>
</table>
<font size="2">Log In Name and Password are required every time you log in. This is a security measure that protects your information.<br></font>
<p align="center"><INPUT TYPE="SUBMIT" VALUE="Submit Your Information"&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbs
window.open(theURL,winName,features);

//-->
</script>

<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Login</TITLE>
</head>
<body background="../images/big_paws.jpg" vlink="darkgreen" alink="orangered" link="seagreen">
<font face="Tempus Sans ITC" color="#006400">

<% 
    if iLoginError > 0 Then 
    %>

<br><br>
<table cellpadding="0" cellspacing="0" border="0" width="100%">
    <tr>
        <td bgcolor="#990000">
            <table cellpadding="10" cellspacing="1" border="0" width="100%">
                <tr>
                    <td bgcolor="#ffffff" align="middle"><font size="4" face='Arial, Helvetica, Geneva, Sans-Serif' color="#990000">Please enter a valid Administrator User Name and/or Password.</font></td>
                </tr>
            </table>
        </td>
    </tr>
</table>

<% End IF %>

<br><center><font size="4" color="saddlebrown"><B>Enter your Admin Log In Name and Password to log in.</B></font></center>

<form action='"loginAdmin.aspx"' method=post onsubmit='"return Login_onsubmit()"' name="Login">
<table width="75%" align="center" border="0" bordercolor="#006400">
    <tr>
        <td align="right" bgcolor="#dcdcdc"><font face="TEMPUS Sans ITC" color="saddlebrown" size="3">Log In Name: </font></td>
        <td><input name="LoginName"></td>
    </tr>
</table>
</form>
<td align=right bgcolor=#dcdcdc><B>Password: </B></td>
<td><INPUT TYPE="password" NAME="Password"></td></tr>
<tr><td colspan=2><p align=center><INPUT TYPE="submit" VALUE="Log In"></p></td></tr>
</table>
</FORM>
</body>
</html>

<script language="vb" runat=server>
Dim iLoginError As Integer
Dim sUSR As String
Function GetAdmin(sUserID, sPassword)
    'On Error Resume Next
    Dim rs As ADODB.Recordset
    Dim sSQL As String
    OpenDB(../doghouse.mdb"
    If Err.Description = "" Then
        sSQL = "SELECT Admin FROM Customers WHERE LogInName=" + sUserID
        sSQL = sSQL + " AND CustomerPassword=" + sPassword
        rs = cn.Execute(sSQL)
        GetAdmin = rs.Fields("Admin").Value
    Else
        Response.Write("GetAdmin:" + Err.Description)
    End IF
    rs.Close()
    rs = Nothing
    CloseDB()
End Function

Sub CheckLogin()
    On Error Resume Next
    Dim str As Object
    Dim id As Object
    Dim sPWD As String
    sUSR = Request.Form("LoginName")
    sPWD = Request.Form("Password")
    If Err.Description = "" AND sUSR <> "" Then
        Session.Add("Admin", GetAdmin(sUSR, sPWD))
    If CDbl(Session("Admin")) > 0 Then
        Response.Redirect("../Population/PopulationTool.aspx")
    Else
        iLoginError = 1
    End Sub
Utilities.aspx

<script language="vb" runat=server>

' Global variables
  Dim cn  As ADODB.Connection

'This file contains routines that are used commonly by more programs
'in the Doghouse.com website
'
'May 2001

'This routine allows to display any text. It could be used for debugging
Sub DisplayText(txtLine)
  Response.Write(txtLine)
End Sub

'Open Database, receives the DB name as a parameter
Sub OpenDB(DBName)
  On Error Resume Next
  Dim path As String
  Dim sConnect As String
  sConnect = "Provider=Microsoft.Jet.OLEDB.4.0;Data Source=..\doghouse.mdb"
  sConnect = sConnect + " Data Source=" + path
  'Response.Write sConnect
  cn.Open(sConnect)
  If Err.Description <> "" Then
    Response.Write("<br>cn.Open: " + Err.Description)
  End If
End Sub

'Closes the DB
Sub CloseDB()
  cn.Close()
  cn = Nothing
End Sub

'Reading from a table of the database
Sub ReadFromTable(TableName)
  Dim rs  As ADODB.Recordset
  Dim txtcommand As String
  txtcommand = "SELECT * FROM " + TableName
  rs = cn.Execute(txtcommand)
  If Err.Description <> "" Then
    Response.Write("<br>rs.Open: " + Err.Description)
  End If
End Sub

</script>
While Not rs.EOF
    Response.Write("<br>")
    Response.Write(rs.Fields("ProductName").Value.ToString())
    Response.Write(rs.Fields("ProductDescription").Value.ToString())
    Response.Write(CStr(rs.Fields("UnitPrice").Value))
    Response.Write("<br>")
End While
Response.Write("<TABLE BORDER=1 BGCOLOR=LightBlue><TR>")
Response.Write("<TD><B>Product Name</B></TD>")
Response.Write("<TD><B>Product Description</B></TD>")
Response.Write("<TD><B>Unit price</B></TD>")
Response.Write("</TR>")
While Not rs.EOF
    Response.Write("<TR>")
    Response.Write("+ rs.Fields("ProductName").Value.ToString() + "</TD>"")
    Response.Write("+ rs.Fields("ProductDescription").Value.ToString() + "</TD>"")
    Response.Write("+ CStr(rs.Fields("UnitPrice").Value) + "</TD>"")
Response.Write("</TR>")
    rs.MoveNext()
End While
rs.Close()
rs = Nothing
End Sub

Sub CheckConnectionErrors(ptrcn)
    Dim objError As adodb.error
    If ptrcn.Errors.Count > 0 Then
        For Each objError In cn.Errors
            Response.Write("<TABLE BORDER=1 bgcolor=LightBlue><tr><td colspan=2 align=center><b>Connection Error</b></td></td>")
            Response.Write("</TABLE><P>")
        Next
    End If
End Sub

'Routine that sends back the image path depending on the category
Function DetermineCategoryAndPath(txtCategory) As String
    Select Case txtCategory
    Case 1
        DetermineCategoryAndPath = "Food"
    Case 2
        DetermineCategoryAndPath = "Collars"
    Case 3
        DetermineCategoryAndPath = "Cups"
    Case 4
        DetermineCategoryAndPath = "Houses"
    Case 5

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DetermineCategoryAndPath = "Beds"
Case 6
DetermineCategoryAndPath = "Toys"
Case 7
DetermineCategoryAndPath = "Clothing"
Case Else
Response.Write("<BR><BR><BR><BR><BR><BR><center>Problems in
DetermineCategoryAndPath::utilities.aspx</center>")
End Select
End Function

This routine displays what the shopping cart has so far
'DisplayButtons = 1 if the delete button will be display in order to delete a product from
ShoppingPaw
'DisplayButtons = 0 if buttons won’t be displayed
Sub DisplayCartContent(idCustomer, DisplayButtons)
    Dim rs ' As ADODB.Recordset
    Dim sSQL As String
    Dim ITotal As Double
    Dim curPrice ' As Object
    Dim ifieldindex As Integer
    Dim sProduct ' As System.Object
    Dim IQuantity ' As System.Object
    Dim IPrice ' As System.Object
    Dim Ipartialtotal As Double
    Dim strProductID ' As Object
    OpenDB("./doghouse.mdb")
    sSQL = ""n
    sSQL = "SELECT ProductName, Quantity, Products.Price, Products.ProductID FROM
    Products"
    sSQL = sSQL + " INNER JOIN ShoppingCart ON
    ShoppingCart.ProductID=Products.ProductID"
    sSQL = sSQL + " WHERE CustomerID="n
    sSQL = sSQL + CStr(idCustomer)
    rs = cn.Execute(sSQL)
    If Err.Description <> "" Then
        Response.Write("<br>DisplayCartContent::GetCart(): " + Err.Description)
        Response.Write("<br>DisplayCartContent::GetCart(): " + sSQL)
        CheckConnectionErrors(cn)
    Else
        If DisplayButtons = 1 Then
            Response.Write("<Form method=post name=ModifyActualProducts
            action=":/ModifyActualProducts.aspx"">")
            Response.Write("<input type=hidden name=iCustomerlD value=" + CStr(idCustomer) + ">")
        End If
        Response.Write("<CENTER>")
        Response.Write("<TABLE cellpadding=1 cellspacing=0 width=90% BORDER=1><TR><TD align=center><B><font color=#b22222>Product Name</font></B></TD></TR><TR><TD align=center><B><font color=#b22222>Total</font></B></TD></TR><TR><TD align=center><B><font color=#b22222>Price</font></B></TD></TR><TR><TD align=center><B><font color=#b22222>Quantity</font></B></TD></TR><TR><TD align=center><B><font color=#b22222>Subtotal</font></B></TD></TR>"/
        End IF
        Response.Write("<CENTER>")
        Response.Write("<TABLE cellpadding=1 cellspacing=0 width=90% BORDER=1><TR><TD align=center><B><font color=#b22222>Product Name</font></B></TD></TR><TR><TD align=center><B><font color=#b22222>Total</font></B></TD></TR><TR><TD align=center><B><font color=#b22222>Price</font></B></TD></TR><TR><TD align=center><B><font color=#b22222>Quantity</font></B></TD></TR><TR><TD align=center><B><font color=#b22222>Subtotal</font></B></TD>")
    End Select
End Function
ifieldindex = 1
Do While Not rs.EOF
sProduct = rs.Fields("ProductName").Value
Quantity = rs.Fields("Quantity").Value
Price = rs.Fields("Price").Value
Partialtotal = CDbl(Price) * CDbl(Quantity)
Total = Total + Partialtotal
Response.Write("<TR>")
Response.Write("<TD>" + sProduct.ToString() + "</TD>")
Response.Write("<TD align=right>" + FormatCurrency(CDbl(Price)) + "</TD>")
If DisplayButtons = 1 Then
Response.Write("<TD align=center><INPUT type="text" name=ActualQty" + CStr(ifieldindex) + " value='" + CStr(Quantity) + " size=3>"
Response.Write("<input type="hidden" name="txtProductID" + CStr(ifieldindex) + " value=" + rs.Fields("ProductID").Value.ToString() + ">")
Else
Response.Write("<TD align=center>" + CStr(Quantity) + "</TD>")
End If
Response.Write("<TR>")
If DisplayButtons = 1 Then
Response.Write("<TD colspan=3 align=right>")
Response.Write("<input type=image src="images/update.gif" border=0 alt="Update product" name=update>"
Response.Write("<TD>"
Response.Write("<TD align=right>"
Else
Response.Write("<TD colspan=4 align=right>"
End If
Response.Write("<font face="Tempus Sans ITC" color=#006400><B>Total Order: </B></font>" + FormatCurrency(Total))
Response.Write("<TD>"
Response.Write("<TR>"
Response.Write("</TABLE>"
If DisplayButtons Then
Response.Write("<font size=2><font color=red><b>*Note:</b></font> To delete the product from your ShoppingPaw input 0 in the quantity field.</font>)
Response.Write("<input type="hidden" name="hdnTotalRows" value=" + CStr(ifieldindex - 1) + ">")
Response.Write("</Form>"
End If
Response.Write("</CENTER>"
End IF
rs.Close()
rs = Nothing
CloseDB()
End Sub

'This routine updates the quantity of the product in the ShoppingPaw
Sub UpdateQty(iNewQty, strProdID, iCustID)
    Dim rs As ADODB.Recordset
    Dim iQtyToInsert As Object
    OpenDB("/..\doghouse.mdb")
    If Err.Description = "" Then
        sSQL = "UPDATE ShoppingCart SET Quantity ="
        sSQL = sSQL + CStr(iNewQty)
        sSQL = sSQL + " WHERE CustomerID="
        sSQL = sSQL + CStr(iCustID)
        sSQL = sSQL + " and ProductID="
        sSQL = sSQL + strProdID + ""
        rs = cn.Execute(sSQL)
        If Err.Description <> "" Then
            Response.Write("<br>RemovePurchases: " + Err.Description)
            Response.Write("<br>RemovePurchases: " + sSQL)
            CheckConnectionErrors(cn)
        End If
    End If
    rs.Close
    rs = Nothing
    CloseDB()
End Sub

ThankYouPage.aspx

<%@ Page language = "VB" Debug="true"%>

<!--#include file="utilities.aspx"-->
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<%'
'----------------------------- Codes begin here -----------------------------'
strFormName = Request.Form("FormName")
If strFormName = "postdoginfo" Then
    'Saninee Form
    PostDogInfoMsg()
    'call sub procedure
    AdoptionSaveDB()
    'You can put your codes here
Else
    If strFormName = "talktoavet" Then
        'Saninee Form
        TalkToVetMsg()
        'call sub procedure
        TalkToVetSaveDB()
        'You can put your codes here
    Else
End If

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If strFormName = "Login" Then
  "Yumiko Form
  LoginMsg()
  'call sub procedure
  'You can put your codes here
Else
  If strFormName = "ContactUs" Then
    "Raquel Form
    CustomerServicesMsg()
    'call sub routine
    'You can put your codes here
  End IF
  End IF
  End IF
End IF
%
</head>

<!-- Body Begins here -->

<body background="../images/big_paws.jpg">
<p>&nbsp;</p>
<p style="COLOR: #006633" align="center">
<font face="Tempus Sans ITC" size="6"><% "---------------------------- End Codes ----------------------" Response.Write(strHeading + strName) %></font>
</p>

<p align="center"><font face="Tempus Sans ITC" color="saddlebrown" size="4"><% Response.Write(strMsg1) %></font></p>

<p align="center"><font face="Tempus Sans ITC" color="saddlebrown" size="4"><% Response.Write(strMsg2) %></font></p>

<% RedirectPage() %>

<font face="Tempus Sans ITC">OK</font></A>
</body>
</html>

<script language="vb" runat=server>
 '---------------------------- All Sub Procedures ----------------------'
 Dim strFormName As String

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Dim strHeading As String
Dim strName As String
Dim strMsg1 As String
Dim strMsg2 As String

' strFormName will keep value of the hidden field
' strHeading is greeting message, whether "Welcome" or "Thank You"
' strName is a person name you want to display
' strMsg1 is a first message you want to display
' strMsg2 is a second message you want to display
'A procedure to assign messages to "Talk To A Vet" Thank you page
Sub TalkToVetMsg()
  strHeading = "Thank You"
  strName = Request.Form("txtOwnerName")
  strMsg1 = "Your pet information has been submitted to our vets."
  strMsg2 = "We will answer you shortly."
End Sub

'A procedure to save information to "TalkToAVet" database
Sub TalkToVetSaveDB()
  Dim sOwnerName As String
  Dim sEmail As String
  Dim sPetName As String
  Dim sSymptoms As String
  sOwnerName = Request.Form("txtOwnerName")
  sEmail = Request.Form("txtEmail")
  sPetName = Request.Form("txtPetName")
  sSymptoms = Request.Form("txtSymptoms")
  Dim rs As Object
  Dim sSQL As String
  OpenDB("../doghouse.mdb")
  sSQL = "INSERT INTO TalkToAVet(OwnerName,Email,PetName,Symptoms)"
  sSQL = sSQL + "VALUES("
  sSQL = sSQL + sOwnerName + ")"
  sSQL = sSQL + sEmail + ")"
  sSQL = sSQL + sPetName + ")"
  sSQL = sSQL + sSymptoms + ")"
  sSQL = sSQL + "")"
  "Response.Write "<br><b>SQL Command: </b>" + sSQL
  for debug
cn.Execute(sSQL)
  If Err.Description <> "" Then
    Response.Write("<br>cn.Execute " + Err.Description)
  End If
  CloseDB()
End Sub

'A procedure to assign messages to "Posting Dog Info" Thank you page
Sub PostDogInfoMsg()
  strHeading = "Thank You"
  strName = Request.Form("txtOwner")
  strMsg1 = "Your dog information has been submitted to us."
  strMsg2 = "View this information in Dog Adoption/Adopting Dog Menu."
End Sub
'A procedure to save information to "Adoption" database
Sub AdoptionSaveDB()
    Dim sDogName As String
    Dim sOwnerName As String
    Dim sBreed As String
    Dim sDropBox As String
    Dim sAge As String
    Dim sColor As String
    Dim sContactPhone As String
    Dim sContactEmail As String
    Dim sImage As String
    Dim sComment As String
    'Declare variables to store information from a form
    sDogName = Request.Form("txtDogName")
    sOwnerName = Request.Form("txtOwner")
    sBreed = Request.Form("txtBreed")
    sDropBox = Request.Form("txtAge")
    'Checking Age from drop box
    Select Case sDropBox
        Case "AgeOption1"
            sAge = "0-6 Months"
        Case "AgeOption2"
            sAge = "7-11 Months"
        Case "AgeOption3"
            sAge = "1-2 Years"
        Case "AgeOption4"
            sAge = "3-4 Years"
        Case "AgeOption5"
            sAge = "5-6 Years"
        Case "AgeOption6"
            sAge = "7-8 Years"
        Case "AgeOption7"
            sAge = "9-10 Years"
        Case "AgeOption8"
            sAge = "> 10 Years"
        Case "AgeOption9"
            sAge = "> 12 Years"
    End Select
    sColor = Request.Form("txtColor")
    sContactPhone = Request.Form("txtPhone")
    sContactEmail = Request.Form("txtEmail")
    sImage = "images/adoption/dogdefault.jpg"
    'Default picture of the dog
    sComment = Request.Form("txtComment")
    Dim rs As Object
    Dim sSQL As String
    'Declare variables used to open database
    OpenDB("../doghouse.mdb")
    sSQL = "INSERT INTO Adoption(DogName,OwnerName,Breed,Age,Color,ContactPhone,ContactEmail,DogImage,Comment)"
    sSQL = sSQL + "VALUES("
A procedure to assign messages to "Log in" Thank you page
Sub LoginMsg()
    On Error Resume Next
    strHeading = "Welcome "
    strName = Request.Form("TxtFirstName")
    strMsg1 = "You have just registered.
    strMsg2 = "Please continue browsing our website.
    'Now saving information in database ..
    'variables with values from the form
    Dim sFirstName As String
    Dim sLastName As String
    Dim sGender As String
    Dim sDOB As String
    Dim sDogName As String
    Dim sStreet As String
    Dim sCity As String
    Dim sState As String
    Dim sZipcode As String
    Dim sPhoneNo As String
    Dim sCustomerEmail As String
    Dim sLogInName As String
    Dim sCustomerPassword As String
    Dim sConfirmPassword As String
    Dim txtGender As String
    Dim exist ' As Object
    sFirstName = Request.Form("txtFirstName")
    sLastName = Request.Form("txtLastName")
    sGender = Request.Form("txtGender")
    If sGender = "1" Then
        txtGender = "Male"
    Else
        txtGender = "Female"
    End If
    sDOB = Request.Form("txtDOB")
End Sub
sDogName = Request.Form("txtDogName")
sStreet = Request.Form("txtStreet")
sCity = Request.Form("txtCity")
sState = Request.Form("txtState")
sZipcode = Request.Form("txtZipcode")
sPhoneNo = Request.Form("txtPhone")
sCustomerEmail = Request.Form("txtCustomerEmail")
sLogInName = Request.Form("txtLogInName")
sCustomerPassword = Request.Form("txtPass")
sConfirmPassword = Request.Form("txtConfirmPass")

'variables for the connection
Dim sSQL As String
Dim rs As ADODB.Recordset
OpenDB("../doghouse.mdb")

sSQL = "Select CustomerID from Customers where LogInName = "" + sLogInName + ""
rs = cn.Execute(sSQL)

exist = rs.Fields("CustomerID").Value
If Clnt(exist) > 0 Then
    Response.Redirect("../Login/Loginpage2.aspx?txtFirstName=" + sFirstName + "&txtLastName=" + sLastName + "&txtGender=" + sGender + "&txtDOB=" + sDOB + "&txtDogName=" + sDogName + "&txtStreet=" + sStreet + "&txtCity=" + sCity + "&txtState=" + sState + "&txtZipcode=" + sZipcode + "&txtPhone=" + sPhoneNo + "&txtCustomerEmail=" + sCustomerEmail + "&txtLogInName=&txtPass=&txtConfirmPass=&error=1")
Else
    rs.Close()
    rs = Nothing
    'Inserting info in the table Customers
    sSQL = "INSERT INTO Customers(FirstName , LastName, Gender, DOB, Street, City, State, ZipCode, PhoneNo, CustomerEmail, LogInName, CustomerPassword,Admin)"
    sSQL = sSQL + "VALUES("
    sSQL = sSQL + "" + sFirstName + ""
    sSQL = sSQL + "" + sLastName + ""
    sSQL = sSQL + "" + sDOB + ""
    sSQL = sSQL + "" + sPhoneNo + ""
    sSQL = sSQL + "" + sCustomerEmail + ""
    sSQL = sSQL + "" + sLogInName + ""
    sSQL = sSQL + "" + sCustomerPassword + ""
    sSQL = sSQL + "" + sDOGBack
    ""
    sSQL = sSQL + "")"
    Response.Write "<BR>SQL Command: " + sSQL + ""
    rs = cn.Execute(sSQL)
    'If Err.description <> "" Then
    'Response.Write "<br>cn.Execute " + Err.description
    'End If

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rs.Close()
rs = Nothing
sSQL = "SELECT CustomerID FROM CUSTOMERS WHERE LogInName = "
sSQL = sSQL + sLogInName + ""
rs = cn.Execute(sSQL)
Session.Add("id", rs.Fields("CustomerID").Value)
Session.Add("USR", sLogInName)
rs.Close()
rs = Nothing
End IF
CloseDB()

'A procedure to assign messages to "Customer Services" Thank you page
Sub CustomerServicesMsg()
strHeading = "Thank You"
strName = Request.Form("txtCustomerName")
strMsg1 = "Your comment and/or question has been sent."
strMsg2 = " "
'Now saving information in database ..
'variables with values from the form
Dim sCustomerName As String
Dim sCustomerEmail As String
Dim sReason As String
Dim sHearFrom As String
sCustomerName = Request.Form("TxtCustomerName")
sCustomerEmail = Request.Form("TxtCustomerEmail")
sReason = Request.Form("TxtReason")
Select Case CStr(Request.Form("DDSource"))
Case "2"
  sHearFrom = "A Friend"
Case "3"
  sHearFrom = "My Vet"
Case "4"
  sHearFrom = "Search Engine"
End Select
'variables for the connection
Dim rs As Object
Dim sSQL As String
OpenDB("../doghouse.mdb")
'Inserting info in the table ContactUs
sSQL = "INSERT INTO ContactUs(Name, Email, Reason, HearFrom)"
sSQL = sSQL + "VALUES("
sSQL = sSQL + sCustomerName + ""
sSQL = sSQL + "," + sCustomerEmail + ""
sSQL = sSQL + "," + sReason + ""
sSQL = sSQL + "," + sHearFrom + ""
sSQL = sSQL + ")"
'print what the command is, just to be sure the structure is correct
Response.Write "<BR><b>SQL Command: </b>" + sSQL
cn.Execute(sSQL)
If Err.Description <> "" Then
Response.Write("<br>cn.Execute " + Err.Description)
End IF
CloseDB()
End Sub

' A procedure to create different links
Sub RedirectPage()
If strFormName = "postdoginfo" Or strFormName = "talktoavet" Then
    Response.Write("<p align="center"><a href="../services/uniqueservices.aspx">"
Else
    If strFormName = "Login" Then
        Response.Write("<p align="center"><a href="../welcome.aspx">"
    Else
        If strFormName = "ContactUs" Then
            Response.Write("<p align="center"><a href="../CustomerService/CustomerService.aspx" target="ContentFrame">"
    End IF
End IF
End IF
End Sub

</script>

Welcome.aspx

<%@ Page language = "VB" Debug="true"%>

<script language="JavaScript">
<!--
function openNewWindow(theURL,winName,features) {
    //v2.0
    window.open(theURL,winName,features);
}
//-->
</script>

<HTML>
<HEAD>
<META NAME="GENERATOR" Content="Microsoft FrontPage 5.0">
<TITLE>Welcome!</TITLE>
</HEAD>
<body background="images/big_paws.jpg" vlink="darkseagreen" alink="orangered" link="seagreen">
<FONT face="Tempus Sans ITC" color="#006400" size=4>
<CENTER>
<BR>
<b>
<FONT face="Bertram LET" size=6>
<%  
    If Session("id").ToString() <> "0" Then

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Response.Write("Hello <B>" + Session("USR").ToString() + "</B><Br>
End IF

DOGHOUSE.COM! <FONT face="Bertram LET" size=7>
Welcome to <BR></FONT><i>
Doghouse.com offers Unique Products and Unique Services for your K-9 Friends! <BR><br>
</i><b><font face="Tempus Sans ITC" color="#006400" size=4><br>
</font></b>
<p>
<br>
</p><center><font size="2" color="red" face="Arial Black">Copyright © 2003
Doghouse.Com</font></center>
</BODY>
</HTML>

ShoppingPaws.aspx

<%@ Page language = "VB" Debug="true" %>
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Shopping Paws</TITLE>
</head>
<body>

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<body background="images/big_paws.jpg" vlink="darkgreen" alink="orangered" link="seagreen">
  <font face="Tempus Sans ITC" color="#006400">
    <p align=center>
      Shopping Paws
      <br><br>
      This is where you will put all your info ...
    </p>
  </font>
</body>

UniqueProduct.aspx

<%@ Page language = "VB" Debug="true" %>
<html>
  <head>
    <meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
    <TITLE>Unique Products</TITLE>
  </head>
  <FRAMESET ROWS="20%,*" border=0>
    <FRAME src="Prod-TopNav.aspx" scrolling=no>
    <FRAME src="Prod-ContentFrame.aspx?Category=none" name="ProdContentFrame">
  </FRAMESET>
</html>

AddProduct.aspx

<%@ Page language = "VB" Debug="true" %>
<!--#include file=../Common/utilities.aspx-->
<
  ProdID = Request.Form("txtProdID")
  QtyToBuy = Request.Form("Qty")
  'Response.Write "here we go " + CStr(Session("id"))
  If ProductExistInCart Then
    QtyToBuy = QtyToBuy + ProductExistInCart
    UpdateQty(QtyToBuy, ProdID, Session("id"))
  Else
    AddPurchase(Session("id"), ProdID, QtyToBuy)
  End IF
>

<BR><BR><BR>
<BR><BR><BR>
<!--#include file="../footer.aspx"-->
Dim ProdID As String
Dim QtyToBuy ' As Object

' This routine adds a product to the shopping cart
Function AddPurchase(custid, idProduct, iQty)
  On Error Resume Next
  Dim rs ' As ADODB.Recordset
  Dim sSQL As String
  Dim iTotal ' As Object
  Dim curPrice ' As System.Object
  OpenDB("../doghouse.mdb")
  If Err.Description = "" Then
    sSQL = "SELECT Price FROM Products WHERE ProductlD= "" + idProduct + ""
  rs = cn.Execute(sSQL)
  If Err.Description <> "" Then
    Response.Write("<br>AddPurchase::GetUnitPrice(): " + Err.Description)
    CheckConnectionErrors(cn)
  Else
    curPrice = rs.Fields("Price").Value
    sSQL = "INSERT INTO ShoppingCart(CustomerlD, ProductID, Price, Quantity) VALUES("
    sSQL = sSQL + CStr(custid) + ",1"
    sSQL = sSQL + "," + idProduct + ""
    sSQL = sSQL + "," + CStr(curPrice) + "," + CStr(iQty) + ")"
    ' Cleaning the variable
    rs.Close()
    rs = Nothing
    rs = cn.Execute(sSQL)
  If Err.Description <> "" Then
    Response.Write("<br>AddPurchase::AddToCart(): " + Err.Description)
    Response.Write("<br>AddPurchase::AddToCart():" + sSQL)
    CheckConnectionErrors(cn)
  End If
  End IF
End IF
rs.Close()
rs = Nothing
CloseDB()
End Function

' This function looks in the table ShoppingCart if the product already exists
' If it does, then it adds up the quantity to what the quantity was before
' If it doesn't, it adds the product to the ShoppingCart table
Function ProductExistInCart()
  On Error Resume Next
Dim rs As ADODB.Recordset
Dim sSQL As String
OpenDB("../doghouse.mdb")
If Err.Description = "" Then
    sSQL = "SELECT Quantity FROM ShoppingCart WHERE ProductID= "
    sSQL = sSQL + ProdID + ""
    rs = cn.Execute(sSQL)
    If Err.Description <> "" Then
        Response.Write("<br>ProductExistInCart::GetQuantity(): " + Err.Description)
        CheckConnectionErrors(cn)
    Else
        If CDBl(rs.Fields("Quantity").Value) > 0 Then
            ProductExistInCart = rs.Fields("Quantity").Value
        Else
            ProductExistInCart = 0
        End IF
    End IF
End IF
End Function
</script>

CC-Info.aspx

<%@ Page language = "VB" Debug="true"%>
<!--#include file="../Common/utilities.aspx"-->
<script ID="clientEventHandlersJS" LANGUAGE="javascript">
function CC_onsubmit()
{
    bSuccess = true;
    if ("" == CCInfo.CCNumber.value) {
        alert("Please enter your Credit Card Number");
        document.CCInfo.CCNumber.focus();
        bSuccess = false;
    }
    return bSuccess;
}
//-->
</script>
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Adding element to Your ShoppingPaw</TITLE>
</head>
<body background="../images/big_paws.jpg" vlink="darkgreen" alink="orangered" link="seagreen">
<font face="Tempus Sans ITC" color="#006400">

<table width="100%" bgcolor=Black>
  <tr>
    <td align=left><font size=4 color=White><strong>Checking Out</strong></font></td>
  </tr>
</table>

<form method=post action="CheckOut.aspx" name=CCInfo onsubmit="return CC_onsubmit()">
  <table width=75% align=center border=0 cellspacing=1 cellpadding=1>
    <tr>
      <td colspan=2><font color="SaddleBrown" face="Tempus Sans ITC"><b>Please provide your Credit Card Information.</b></font></td>
    </tr>
    <tr>
      <td>Type&nbsp;&nbsp;<select name=CCInfo>
        <option value=1>Visa</option>
        <option value=2>MasterCard</option>
        <option value=3>Amercan Express</option>
      </select></td>
      <td>Number&nbsp;<input type=text name=CCNumber></td>
    </tr>
    <tr>
      <td align=right><br><input type=reset value=Clear name=reset1></td>
      <td align=left><br><input type=submit value=Finish Checkout name=submit1></td>
    </tr>
  </table>
</form>

<!~#include file=../footer.aspx-->
</font>

CheckOut.aspx

<%@ Page language = "VB" Debug="true"%>

<!~#include file="../Common/utilities.aspx"-->

<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Adding element to Your ShoppingPaw</TITLE>
</head>
<body background="../images/big_paws.jpg" vlink="darkgreen" alink="orangered" link="seagreen">
<font face="Tempus Sans ITC" color="#006400">
<table width=100% bgcolor=Black>
  <tr>
    <!-- Your content here -->
  </tr>
</table>
</font>

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<td align=left><FONT size=4 color=White><STRONG>Checking Out</STRONG></FONT></td>
</TR>
</TABLE>

<% MovePurchasesToOrders(Session("id"))
    If Err.Description = "" Then
        Response.Write("<BR><TABLE align=center><TR><TD align=center><B>Thank You " + Session("USR").ToString() + "!<BR>Your order has been confirmed!"<BR></TR></TABLE><BR>
        DisplayOrderContent(Session("id"))
    Else
        Response.Write(Err.Description)
    End If
%>

<BR><BR>
<!--#include file="../footer.aspx"-->
</font>
</head>
</body>
</html>

'Moves the content of the shopping cart to the Order's table
Function MovePurchasesToOrders(idCustomer)
    Dim rs ' As ADO.DB.Recordset
    Dim rsOrders ' As ADO.DB.Recordset
    Dim sSQL As String
    Dim iTotal ' As Object
    Dim curPrice ' As Object
    Dim IProduct ' As System.Object
    Dim IQuantity ' As System.Object
    Dim IDiscount ' As Object
    Dim IPrice ' As System.Object
    OpenDB("../doghouse.mdb")
    If Err.Description = "" Then
        sSQL = "SELECT ProductID, Quantity, Price FROM ShoppingCart WHERE CustomerID=" + CStr(idCustomer)
        rs = cn.Execute(sSQL)
        If Err.Description <> "" Then
            Response.Write("<br>MovePurchases::GetShoppingCart(): " + Err.Description)
            Response.Write("<br>MovePurchases::GetShoppingCart(): " + sSQL)
            CheckConnectionErrors(cn)
        Else
            Do While Not rs.EOF
                IProduct = rs.Fields("ProductID").Value
                IQuantity = rs.Fields("Quantity").Value
                IPrice = rs.Fields("Price").Value
                'For class purposes I assigned the order number 1 to every client, this way all products bought by a client will be grouped in only one order
            Loop
        End If
    End If
End Function
sSQL = "INSERT INTO Orders(OrderNumber, CustomerID, ProductID, Quantity, Price) VALUES(
 sSQL = sSQL + "'1"
 sSQL = sSQL + "," + CStr(idCustomer)
 sSQL = sSQL + "," + IProduct.ToString() + ","
 sSQL = sSQL + "," + CStr(IQuantity)
 sSQL = sSQL + "," + CStr(IPrice)
 sSQL = sSQL + ")"
 rsOrders = Nothing
 Err.Clear()
 rsOrders = cn.Execute(sSQL)
 If Err.Description <> "" Then
  Response.Write("Error Inserting Order: " + Err.Description)
  CheckConnectionErrors(cn)
  Exit Do
 End IF
 rs.MoveNext()
 Loop
 End IF
 rs.Close()
 rsOrders = Nothing
 rs = Nothing
 CloseDB()
End Function

'Displays the content of the customer's order
Function DisplayOrderContent(idCustomer)
  On Error Resume Next
  Dim rs ' As ADODB.Recordset
  Dim sSQL As String
  Dim iTotal As Double
  Dim curPrice ' As Object
  Dim sProduct ' As System.Object
  Dim iQuantity ' As System.Object
  Dim iPrice ' As System.Object
  Dim ISandH As Integer
  Dim iProdCategory ' As System.Object
  Dim ipartialtotal As Double
  OpenDB("../doghouse.mdb")
  If Err.Description = "" Then
   sSQL = "SELECT ProductName, Quantity, Products.Price, ProductCategory FROM Products"
   sSQL = sSQL + " INNER JOIN Orders ON Orders.ProductID=Products.ProductID"
   sSQL = sSQL + " WHERE CustomerID="
   sSQL = sSQL + CStr(idCustomer)
   rs = cn.Execute(sSQL)
   If Err.Description <> "" Then
    Response.Write("<br/>ShowOrder::GetOrder(): " + Err.Description)
    Response.Write("<br/>ShowOrder::GetOrder(): " + sSQL)
    CheckConnectionErrors(cn)
   Else

```vbnet
Response.Write("<center><TABLE width=80% BORDER=1 bordercolor=#006400><TR>"
  Response.Write("<TD><B>Product Name</B></TD><TD><B>Quantity</B></TD><TD><B>Price</B></TD><TD><B>Total</B></TD></TR>
  ITotal = 0
  ISandH = 0
Do While Not rs.EOF
  sProduct = rs.Fields("ProductName").Value
  lQuantity = rs.Fields("Quantity").Value
  lPrice = rs.Fields("Price").Value
  lPartialTotal = CDbl(lPrice) * CDbl(lQuantity)
  ITotal = ITotal + lPartialTotal
  lProductCategory = rs.Fields("ProductCategory").Value
  Select Case lProductCategory
    Case 1
      ISandH = ISandH + 10
    Case 2
      ISandH = ISandH + 3
    Case 3
      ISandH = ISandH + 5
    Case 4
      ISandH = ISandH + 20
    Case 5
      ISandH = ISandH + 5
    Case 6
      ISandH = ISandH + 3
    Case 7
      ISandH = ISandH + 3
    Case Else
      ISandH = ISandH + 0
  End Select
  Response.Write("<TR>">
  Response.Write("<TD>" + sProduct.ToString() + "</TD>"
  Response.Write("<TD align=center>" + CStr(lQuantity) + "</TD>"
  Response.Write("<TD align=center>" + FormatCurrency(CDbl(lPrice)) + "</TD>"
  Response.Write("<TD align=center>" + FormatCurrency(lPartialTotal) + "</TD>"
  Response.Write("</TR>"
  rs.MoveNext()
Loop
Response.Write("<TR><TD colspan=4 align=right><B>Total Order Price: </B>" + FormatCurrency(ITotal) + "</td></TR>")
Response.Write("<TR><TD colspan=4 align=right><B>Shipping & Handling: </B>" + FormatCurrency(ISandH) + "</td></TR>")
Response.Write("<TR><TD colspan=4 align=right><B>Grand Total: </B>" + FormatCurrency(ITotal + ISandH) + "</td></TR>")
Response.Write("</TABLE></center>"
End IF
End IF
rs.Close()
s = Nothing
CloseDB()
```

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End Function

'Once the shopping cart content is passed to the orders table, delete this info from shopping
cart table

Function RemovePurchasesFromShoppingCart(idCustomer)
  Dim rs As ADODB.Recordset
  Dim sSQL As String
  OpenDB("../doghouse.mdb")
  If Err.Description = "" Then
    sSQL = "DELETE FROM ShoppingCart WHERE CustomerID="
    sSQL = sSQL + CStr(idCustomer)
    rs = cn.Execute(sSQL)
    If Err.Description <> "" Then
      Response.Write("<br>RemovePurchases: " + Err.Description)
      Response.Write("<br>RemovePurchases: " + sSQL)
      CheckConnectionErrors(cn)
    End If
  End If
  rs.Close
  rs = Nothing
  CloseDB()
End Function

CustomerService.aspx

<%@ Page language = "VB" Debug="true"%>
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<TITLE>Customer Service</TITLE>
</head>
<FRAMESET ROWS="15%,*" border=0>
  <FRAME src="CS-TopNav.aspx" scrolling=no>
  <FRAME src="CS-ContentFrame.aspx" name=CSContentFrame>
</FRAMESET>
</body>
</html>

FAQ.aspx

<%@ Page language = "VB" Debug="true"%>

<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft FrontPage 5.0">

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<H2>Frequently Asked Questions</H2>

**PRODUCTS**

1. *Are your products 100% organic?*
   - One of the objectives of Doghouse.com is to provide the best products for your loyal friends. Our products contain healthy ingredients as well as a good taste for their palate.

2. *What can I do to order a product?*
   - The easiest way of doing this is selecting all the products you are interested in buying and putting them in your ShoppingPaw. Then you should select the option “Check out” to provide the information needed to finish your purchase and arrange the shipping.

3. *Can I suggest a new product you should sell?*

**SERVICES**

1. *How long does it take for my dog to be groomed?*
2. *How can I contact a person to ask more information about an adoption?*
3. *Are you interested in knowing more good books about dogs?*

**ShoppingPaws**

1. *Can I leave my products pending in my ShoppingPaw?*

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Our products contain healthy ingredients as well as a good taste for their palate.
We would be more than happy to accept your suggestions. Please send them to Doghouse.com. And thank you in advance!!

How long does it take for my dog to be groomed?

You can drop your dog before going to work, at 8 for example, and then pick him up after work. Normally it takes us around 5 and 6 hours to have them ready. This will vary depending on your dogs conditions too.

How can I contact a person to ask more information about an adoption?

This information can be found in the same page where we have all the adoption information (go to Unique Services on the left-hand side navigation bar). Normally the person who is providing the information of the dog available for adoption, will leave either a phone number and/or email address in order for you to contact them. If you can’t find any of these two contact medium, please let us know.

Are you interested in knowing more good books about dogs?

If you have any suggestion about a new dog’s book you read, we would really appreciate you sharing it with us. You can send this information through our Contact Us section.

Can I leave my products pending in my ShoppingPaw?

Yes, you can leave your ShoppingPaw ready for the next time you log in. IMPORTANT: in order to do this you should have previously registered with us or do it at the time of leaving your ShoppingPaw saved.
ContactUs.aspx

<%@ Page language = "VB" Debug="true" %>

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.0 Transitional//EN">

<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft FrontPage 5.0">
<script ID="clientEventHandlersJS" LANGUAGE="javascript">
 function ValidateContactUsForm()
 {
 bSuccess = true;
 if (ContactUs.TxtCustomerName.value == "")
 {
 alert("Please enter your name");
 document.ContactUs.TxtCustomerName.focus();
 bSuccess = false;
 }
 else
 if (ContactUs.TxtCustomerEmail.value == "")
 {
 alert("Please enter your e-mail address");
 document.ContactUs.TxtCustomerEmail.focus();
 bSuccess = false;
 }
 else
 //if (ContactUs.TxtCustomerPhNo.value == "")
 // {
 // alert("Please enter your phone number");
 // document.ContactUs.TxtCustomerPhNo.focus();
 // bSuccess = false;
 // } //else
 if (ContactUs.TxtReason.value == "")
 {
 alert("Please enter your comment, question and/or suggestion");
 document.ContactUs.TxtReason.focus();
 bSuccess = false;
 }
 else
 if (ContactUs.DDSource.value == 1)
 {
 alert("Please tell us how you found out about us");
 document.ContactUs.DDSource.focus();
 bSuccess = false;
 }
 return bSuccess;
 }
//-->
Thank You for your interest in Doghouse.com !! <br>
<form Action="../Common/ThankYouPage.aspx" Method="post" Name="ContactUs"
LANGUAGE="javascript" onsubmit="return ValidateContactUsForm()"
target=CSContentFrame>
<input type="Hidden" name="TemplateName" value="ContactUs">
<table WIDTH="75%" border="0">
<tr>
<td><font color="SaddleBrown">* Your name:</font></td>
<td><input type="text" name="TxtCustomerName" size="20"></td>
</tr>
<tr>
<td><font color="SaddleBrown">* Your Email:</font></td>
<td><input type="text" name="TxtCustomerEmail" size="20"></td>
</tr>
<tr.-- TR> <TD><font color="SaddleBrown">* Your phone number:</font></TD>
 <TD><input type="text" name="TxtCustomerPhNo"></TD> 
</TR>-->
 </table>
<br>* How can we help you?<br>
 <textarea rows="5" cols="60" name="TxtReason"></textarea><br>* How did you hear about us?<br>
<select name="DDSource">
<option value="1">Please select one option</option>
<option value="2">A Friend</option>
<option value="3">My Vet</option>
<option value="4">Search Engine</option>
</select>
<br><br><input type="submit" value="Contact Us" name="submit" onsubmit="return ValidateContactUsForm()">&nbsp;&nbsp;&nbsp;<input type="reset" value="Reset Information" name="reset">
</form>
<p><center><strong>* Information is required</strong></center></p>

AdoptingDog.aspx

<%@ Page language = "VB" Debug="true"%>

<!--#include file="../common/utilities.aspx"-->
We have many dogs that are waiting for adoption...

Sub ShowAdoptionTable()
    Dim rs As ADODB.Recordset
    Dim sSQL As String
    Dim Row As Integer
    Dim Col As Integer
    Dim Image As System.Object
    Dim Name As System.Object
    Dim strlmage As String
    Dim RecCount As Integer
Dim intKey As String
OpenDB("../doghouse.mdb")
sSQL = "SELECT RegisterlD, DogName, Breed, Age, Doglmage, PostDate From Adoption"
rs = cn.Execute(sSQL)
'sResponse.Write rs.RecordCount
If Err.Description <> "" Then
    Response.Write("<br>rs.Open: " + Err.Description)
End If:
Response.Write("<table cellSpacing="4" cellPadding="1" width="95%" border="0" align="center">")
Row = 0
'Initial value to zero
Col = 0
RecCount = 0
While Not rs.EOF
    RecCount = RecCount + 1
    'Count records that read
    If Col = 0 Then
        Response.Write("<tr>")
        'Open Row
    End If
    Image = rs("Doglmage").Value
    'Save location of image
    Name = rs("DogName").Value
    'Save dog name
    intKey = CStr(rs("RegisterlD").Value)
    'Save key
    strlmage = "<img src=" + Image.ToString() + " border=1"></p>"
    Response.Write("<td width="33%">")
    Response.Write("<p align="center">" + strlmage)
    Response.Write("<p align="center"><Strong><FONT color=Blue>"
    Response.Write("<a title="More Details" href="DogDetail.aspx?RegisterlD=" + intKey + ">" + Name.ToString() + "&nbsp</p></a></Font></p>"
    Response.Write("<p align="center">" + rs.Fields("Breed").Value.ToString())
    Response.Write("<br align="center">" + rs.Fields("Age").Value.ToString())
    Response.Write("<br align="center">" + "Posted Date: " + CStr(rs.Fields("PostDate").Value))
    Response.Write("<br align="center">" + 
End If:
rs.MoveNext()
'Move pointer to next record
End While
Response.Write("<tr></table>")
'Close row and close table
rs.Close()
rs = Nothing
PetGrooming.aspx

<%@ Page language = "VB" Debug="true" %>

<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
</head>
<body vlink="darkseagreen" alink="orangered" link="seagreen" background="images/big_paws.jpg">
<!--METADATA TYPE="DesignerControl" startspan
<OBJECT classid=clsid:1F56DB70-9821-11D1-B7B7-00C04FD6564F">
-->
<!--BEGIN Layout Header -->
<!--METADATA TYPE="DesignerControl" endspan-->
<table border="0" width="100%" height="100%">
<!--METADATA TYPE="DesignerControl" startspan
<OBJECT style="LEFT: 0px; TOP: 0px"
classid=clsid:705396F5-3471-11D1-B693-006097C9A884><PARAM NAME="Type" VALUE="3"><PARAM NAME="IncludeHome" VALUE="0"><PARAM NAME="IncludeParent" VALUE="0"><PARAM NAME="Appearance" VALUE="1"><PARAM NAME="Orientation" VALUE="0"><PARAM NAME="UseTable" VALUE="1"><PARAM NAME="UseTheme" VALUE="0"><PARAM NAME="HTMLFragment" VALUE=""><PARAM NAME="CurrentHTMLFragment" VALUE=""/><PARAM NAME="UseObjectSyntax" VALUE="0"><PARAM NAME="ScriptLanguage" VALUE=""/><PARAM NAME="FrameTarget" VALUE=""/><PARAM NAME="AlternatePage" VALUE=""/>
</OBJECT>
-->
<!--WEBBOT bot="vinavbar" tag="table" s-type="siblings" b-include-home="false" b-include-up="false" s-orientation="horizontal" s-rendering="text" b-use-table="true" b-use-theme="false" s-script-lang="VBScript" b-use-object-syntax="false" u-page s-target s-html-fragment="" s-selected-html-fragment startspan --><!--WEBBOT bot="vinavbar" endspan i-checksum="0" -->
<!--METADATA TYPE="NavBar" startspan-->
<tr><td width="100%" valign="top" style="COLOR: saddlebrown">
<p>!</p>
</td></tr></table>
</body>
</html>
<object classid="clsid:1F56DB71-9821-11D1-B7B7-00C04FD6564F">
</object>

<p><font face="Tempus Sans ITC"><strong style="COLOR: #006633">GoTo</strong></font></p>

<ul>
  <li><a href="#GroomingServices">Grooming Services</a></li>
  <li><a href="#GroomingPrices">Grooming Prices</a></li>
</ul>

<hr>

<table cellspacing="1" cellpadding="1" width="90%" border="0" align="center">
  <tr>
    <td><img height="216" alt="Grooming is available by appointment" src="images/petgrooming1.jpg" width="144" align="left" border="1"/></td>
    <td><strong><font face="Tempus Sans ITC" style="COLOR: #006633">Dog Grooming Services</font></strong><br>
        Grooming is available at our store. You can visit our store, call us at <a href="mailto:">click here to make an appointment</a>, or send an email to make an appointment. Prices range by breed and condition of the coat.</td>
  </tr>
</table>

<p style="COLOR: saddlebrown">Grooming Prices</p>

<p style="COLOR: saddlebrown">Grooming is available at our store. You can visit our store, call us at (909)880-5737, or send an email to make an appointment. Prices range by breed and condition of the coat.</p>
## Grooming Prices

<table>
<thead>
<tr>
<th>Style</th>
<th>Breed</th>
<th>Small Price</th>
<th>Large Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short</td>
<td>Labrador Retriever</td>
<td>$30.00*</td>
<td>$50.00*</td>
</tr>
<tr>
<td>Long</td>
<td>Golden Retriever, Cocker Spaniel, Maltesa, Shih Tzu</td>
<td>$40.00*</td>
<td>$60.00*</td>
</tr>
</tbody>
</table>

*Tax not included*
Recommended books of the month

Here are the most interesting books we want to recommend ...
Pugs: Everything About Purchase, Care, Nutrition, Behavior, and Training (Barron's Complete Pet Owner's Manual)

by Phil Maggitti

ISBN: 0764110454

Publication Date: February 2000

The Pug is an ancient breed that originated in China, and is well known as an alert, loyal, and obedient household pet. This volume tells new and prospective Pug owners virtually everything they need to know about caring for their pet. Books in the Complete Pet Owner's Manuals series present basic information about pets for new or soon-to-be owners. Advice and instruction covers feeding, housing, health care, training, grooming, protection against hazards, and much more. Texts emphasize pet care basics and are easy for all readers to understand, but most titles in this series also presents facts that even experienced pet owners and breeders will find new and useful. All books in this series are filled with high quality full-color photos and instructive line drawings. Length averages between 64 and 104 pages.


188
What All Good Dogs Should Know: The Sensible Way to Train
by Jack Volhard, Melissa Bartlett
Joachim Volhard
ISBN: 0876058322
Publication Date: April 1991

This common-sense approach to dog ownership offers clear, precise, and humorously illustrated instructions for teaching your dog not to jump on people, to come when called, and to walk without pulling.

The Perfect Puppy: How to Raise a Well-Behaved Dog
by Gwen Bailey
ISBN: 0895778394
Publication Date: March 1996

Here is the perfect book for puppy owners and would-be puppy owners who want to know how to bring their puppy up to be a happy, well-behaved, friendly adult dog. Antisocial behavior in dogs is often (rightly) blamed on owners. But most dog owners are neither irresponsible or uncaring. They simply don't have the knowledge they need to raise and train a dog properly. This book provides that knowledge.

189
Dog Tricks for Dummies (For Dummies)

by Sarah Hodgson, Nikki Moustaki

ISBN: 0764552872
Publication Date: September 2000

This fun and friendly guide shows you how to teach your dog tricks, from the simple (wagging his tail) to the extraordinary (fetching a soda from the refrigerator). Dogs of all sizes, shapes, and ages can learn new tricks, and this book's clear, step-by-step instructions show you how to train your special friend to perform. Includes special sections on camping, winter fun -- even getting dogs into show business!

Good Onwer Great Dogs

by Brian Kilcommons, Sarah Wilson

ISBN: 0446675385
Publication Date: September 1999

A student of the renowned British trainer, Barbara Woodhouse, reveals the secrets of lifetime behavioral dog training techniques and provides information on everything from canine dietary needs to temperament testing.
What Your Dog Is Trying to Tell You: A Head-To-Tail Guide Dog's Symptoms-And Their Solutions

by Stephanie Pedersen, John M. &nbsp; Simon

ISBN: 0312972873 &nbsp; Publication Date: January 2000

This helpful guide helps dog owners discern from their dog's behavior just exactly what the problem might be.
<table>
<thead>
<tr>
<th>Products</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td></td>
</tr>
<tr>
<td>Collars</td>
<td></td>
</tr>
<tr>
<td>Cups</td>
<td></td>
</tr>
<tr>
<td>Houses</td>
<td></td>
</tr>
<tr>
<td>Beds</td>
<td></td>
</tr>
<tr>
<td>Toys</td>
<td></td>
</tr>
<tr>
<td>Clothing</td>
<td></td>
</tr>
</tbody>
</table>
<td width="100%" valign="top">
<!- VI6.0LAYOUT = "Top 1" -->
<!- METADATA TYPE="DesignerControl" startspan
<OBJECT classid="clsid:1F56DB71-9821-11D1-B7B7-00C04FD6564F">
</OBJECT>
</td>
</TR></TABLE>
<!- METADATA TYPE="DesignerControl" endspan-->
</P>
</TD></TR></TABLE>
<!- METADATA TYPE="DesignerControl" endspan-->
</P></TD></TR></TABLE>
<!- METADATA TYPE="DesignerControl" startspan
<OBJECT classid="clsid:1F56DB72-9821-11D1-B7B7-00C04FD6564F">
</OBJECT>
</td>
</TR></TABLE>
<!- METADATA TYPE="DesignerControl" endspan-->
</P></TD></TR></TABLE>
<!- METADATA TYPE="DesignerControl" startspan
<OBJECT classid="clsid:1F56DB73-9821-11D1-B7B7-00C04FD6564F">
</OBJECT>
</td>
</TR></TABLE>
<!- METADATA TYPE="DesignerControl" endspan-->
</P>
</body></html>
method=""none"" focus=""100%"" type=gradient"/
<v:shadow color="#868686"/>
<o:extrusion v:ext="view" backdepth="10pt" color="#630" on="t" viewpoint=","0" viewpointorigin=","0" skewangle="180" brightness="4000f" lightposition="-50000" lightlevel="52000f" lightposition2="50000" lightlevel2="14000f"
lightharsh2="t"/>
<v: texto path style=font-family:"Arial Black";font-size:44pt;v-text-kern:t' trim="t" fitpath="t" string="Doghouse.com"/>
<v:shape></[endif->><! [if !vml]>
<img border=0 width=243 height=40 src="PopGlobNav_files/image001.gif" alt=Doghouse.com
v:shapes="_x0000_s1025"></[endif]-></span></TD>
<td align=center><font face="Tempus Sans ITC" color="black"
size=6"><STRONG>Population Tools</STRONG></font></td>
<td align=right><font face="Tempus Sans ITC" color="black" size=3>
[ <a href=PopulationTool.aspx>Home</a> ]
[ <a href=../default.aspx>Go Shopping</a> ]</font>
</td>
</TR></TABLE>

</body>

Poputilities.aspx

<script language="vb" runat=server>
Function ProductTotalRecords(PCategory) As Integer
Dim sSQL As String
Dim rscount As ADODB.Recordset
Dim path As String
Dim sConnect As String
rscount = new ADODB.Recordset()
rscount.CursorLocation = 3
adUseClient
path = Server.MapPath("../doghouse.mdb")
sConnect = "Provider=Microsoft.Jet.OLEDB.4.0;"
sConnect = sConnect + " Data Source=" + path
sSQL = "SELECT * FROM Products where ProductCategory = "
sSQL = sSQL + CStr(PCategory)
rscount.Open(sSQL, sConnect)
ProductTotalRecords = rscount.RecordCount
rscount.Close()
rscount = Nothing
End Function
</script>
Popfooter.aspx

<center><font size="1"><a href="PopulationTool.aspx" >Home</a> | <a href="../default.aspx" >Go Shopping</a> </font></center>

<font size="2" color="red">Copyright © 2003 Doghouse.com. All rights reserved.</font>

Products.aspx

<%@ Page language = "VB" Debug="true" %>

<!-#include file="../common/utilities.aspx"-->
<!-#include file="PopLocalNav.aspx"-->
<!-#include file="PopUtilities.aspx"-->
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<body vlink="darkseagreen" alink="orangered" link="seagreen" background="../images/big_paws.jpg">
 OBJECT classid="clsid:1F56DB70-9821-11D1-B7B7-00C04FD6564F">
</OBJECT>
<!-- Begin Layout Header -->
<!--METADATA TYPE="DesignerControl" endspan-->
<table border="0" width="100%" height="100%">
<tr>
<td width="100%" valign="top"><!-- VI6.0LAYOUT = "Top 1"-->
</td>
</tr>
</table>
<!-- METADATA TYPE="DesignerControl" startspan -->
<OBJECT classid="clsid:1F56DB71-9821-11D1-B7B7-00C04FD6564F">
</OBJECT>
<OBJECT>
</OBJECT>

<!— End Layout Header —>

<!— METADATA TYPE="DesignerControl" endspan—>
</P>

<TABLE cellspacing=1 cellpadding=1 width="100%" align=center border=0>

  <TR>
    <TD><IMG src="../images/printred.gif"><FONT face="Tempus Sans ITC"><A href="Add.aspx?Category=<% sSelectCategory %>&CatName=<% SCatName %>">
    <B>Add New Product</B><BR></A>&nbsp;&nbsp;&nbsp;&nbsp;</FONT></TD>
    <TD><p align=right><FONT face="Tempus Sans ITC">Total <%= SCatName %>=&nbsp;<% CStr(ProductTotalRecords(CInt(sSelectCategory))) %>&nbsp;&nbsp;</FONT></P></TD>
  </TR>
</TD>

<!— METADATA TYPE="DesignerControl" startspan
</OBJECT classid="clsid:1F56DB73-9821-11D1-B7B7-00C04FD6564F">

</OBJECT>

<!— End Layout Footer —>

<!— METADATA TYPE="DesignerControl" endspan—>
</P>

<table cellspacing="1" cellpadding="1" width="100%" border="1" id="TABLE1" borderColor=green>

  <TR bgColor=#c0c0c0><font color="#006400" size="2">
  <p align="center"><strong>Item</strong></p></TR>
  <TR bgColor=#c0c0c0><font color="#006400" size="2">
  <p align="center"><strong>Product ID-&gt; Product Name</strong></p></TR>
  <TR bgColor=#c0c0c0><font color="#006400" size="2">
  <p align="center"><strong>Product Category</strong></p></TR>
  <TR bgColor=#c0c0c0><font color="#006400" size="2">
  <p align="center"><strong>Product Description</strong></p></TR>
  <TR bgColor=#c0c0c0><font color="#006400" size="2">
  <p align="center"><strong>Price</strong></p></TR>
  <TR bgColor=#c0c0c0><font color="#006400" size="2">
  <p align="center"><strong>Supplier</strong></p></TR>
</table>

199
If Err.Description <> "" Then
    Response.Write("<br>rs.Open: " + Err.Description)
Else
    While Not rs.EOF
        recCount = recCount + 1
        sProductCategory = rs("ProductCategory").Value
        Select Case sProductCategory
        Case 1
            sCategory = "Food"
            sImageFolder = "Food"
        Case 2
            sCategory = "Collars"
            sImageFolder = "Collars"
        Case 3
            sCategory = "Cups"
            sImageFolder = "Cups"
        Case 4
            sCategory = "House"
            sImageFolder = "Houses"
        Case 5
            sCategory = "Beds"
            sImageFolder = "Beds"
        Case 6
            sCategory = "Toys"
            sImageFolder = "Toys"
        Case 7
            sCategory = "Clothing"
            sImageFolder = "Clothing"
        End Select
    sSupplierID = rs("SupplierID").Value
    Select Case sSupplierID
    Case 1
        sSupName = "TIA"
    Case 2
        sSupName = "Chewtastic"
    Case 3
        sSupName = "TigertailFoods"
    Case 4
        sSupName = "EK USA"
    Case 5
        sSupName = "Hasbro"
    Case 6
        sSupName = "Doskocil"
    Case 7
        sSupName = "Stylette"
    Case 8
        sSupName = "Dallas"
    Case 9
        sSupName = "Booda"
    End Select
    Response.Write("<TR>")
    Response.Write("<TD><P align=center>">CStr(recCount) + ".</p></TD>")
Response.Write("<p align=center><image src="../Images/" + slmageFolder + "/" + rs.Fields("Prodlmage").Value.ToString() + "></p>"
Response.Write("<TD><P align=center>"+ rs.Fields("ProdImage").Value.ToString() + "</p>"
Response.Write("<TD><FONT size=2>"+ rs.Fields("ProductDesc").Value.ToString() + "</font>"
Response.Write(<TD><IMG SRC="../Images/printred.gif"><b><A href="Update.aspx?Category=" + sSelectCategory + "&CatName=" + SCatName + "&ProdlID=" + rs.Fields("ProductlD").Value.ToString() + ">Update</A></b></TD>"
Response.Write(<TD><IMG SRC="../Images/printred.gif"><b><A href="Delete.aspx?Category=" + sSelectCategory + "&CatName=" + SCatName + "&ProdlID=" + rs.Fields("ProductlD").Value.ToString() + ">Delete</A></b></TD>"
rs.MoveNext()
End While
Response.Write("</TABLE>")
End IF
rs.Close()
rs = Nothing
CloseDB()
Add.aspx

<!--#include file="../common/utilities.aspx"-->
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<script ID="clientEventHandlersJS" LANGUAGE="javascript">
<!-
function AddProductForm_onsubmit()
{
    bSuccess = true;
    if ('.' == AddProductForm.txtProdName.value)
    {
        alert("Please enter product name");
        document.AddProductForm.txtProdName.focus();
        bSuccess = false;
    }
    else
    if ('.' == AddProductForm.txtDescription.value)
    {
        alert("Please enter product description");
        document.AddProductForm.txtDescription.focus();
        bSuccess = false;
    }
    else
    if ('.' == AddProductForm.txtPrice.value)
    {
        alert("Please enter product price");
        document.AddProductForm.txtPrice.focus();
        bSuccess = false;
    }
    else
    if ('.' == AddProductForm.txtSupplier.value)
    {
        alert("Please select supplier");
        document.AddProductForm.txtSupplier.focus();
        bSuccess = false;
    }

    return bSuccess;
}
//-->
</script>
</head>
<body background="../images/big_paws.jpg">
<% SaveCategory() %>
<%>
<form Action="AddProduct.aspx?Category=<%= sSelectCategory %>&amp;CatName=<%= sCatName %>" Method="post" Name="AddProductForm" LANGUAGE="javascript"
onsubmit="return AddProductForm_onsubmit()">
<!--METADATA TYPE="DesignerControl" startspan
<OBJECT classid="clsid:1F56DB70-9821-11D1-B7B7-00C04FD6564F">
</OBJECT>
-->

<!--METADATA TYPE="DesignerControl" endspan-->
<table border="0" width="100%" height="100%">
<font face="Tempus Sans ITC">
[A href="Products.aspx?Category=<%= sSelectCategory %>&amp;CatName=<%= sCatName %>" >Back</A> ]
</font>

<P align=center><STRONG><FONT face="Tempus Sans ITC" color=#8b4513 size=5>ADD-&gt;<%= sCatName %></FONT></STRONG></P>

<table cellspacing="1" cellpadding="1" width="45%" border="0" align="center">
<tr>
<td><p align=left>*Product Name:<br>
<input id="txtProdName" name="txtProdName"></p></td>
</tr>
<tr>
<td><p align=left>*Product Description:<br><TEXTAREA id=txtDescription style="WIDTH: 325px; HEIGHT: 79px" name=txtDescription cols=36 align="center"></TEXTAREA></p></td>
</tr>
<tr>
<td><p align=left>*Price:<br>
<input id="txtPrice" name="txtPrice"></p></td>
</tr>
<tr>
<td><p align=left>*Supplier:<br>
<select id="txtSupplier" name="txtSupplier"></select></p></td>
</tr>
</table>

</OBJECT>

</table>

<!~METADATA TYPE="DesignerControl" endspan-->
</form>
<table>
<thead>
<tr>
<th>Value</th>
<th>Company</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TIA</td>
</tr>
<tr>
<td>2</td>
<td>Chewtastic</td>
</tr>
<tr>
<td>3</td>
<td>TigertailFoods</td>
</tr>
<tr>
<td>4</td>
<td>EK USA</td>
</tr>
<tr>
<td>5</td>
<td>Hasbro</td>
</tr>
<tr>
<td>6</td>
<td>Doskocil</td>
</tr>
<tr>
<td>7</td>
<td>Stylette</td>
</tr>
<tr>
<td>8</td>
<td>Dallas</td>
</tr>
<tr>
<td>9</td>
<td>Booda</td>
</tr>
</tbody>
</table>

Picture of product can be added manually.

*Information is required*

```html
<table cellSpacing='1' cellPadding='1' width='50%' border='0' align='center'>
  <tr><td colspan='2'><p align='center'><font color='#8b4513'>Picture of product can be added manually</font></p></td></tr>
  <tr><td><p align='center'><input id='btnAdd' type='submit' value='Add Product' name='btnAdd' style='WIDTH: 91px; HEIGHT: 24px' size='91'/></p></td><td><p align='center'><input id='btnReset' type='reset' value='Reset' name='btnReset' style='WIDTH: 92px; HEIGHT: 24px' size='46'/></p></td></tr>
</table>
```

```html
<FONT face='Tempus Sans ITC' color=saddlebrown size=3>* Information is required</FONT>
```

```html
<!--#include file='PopFooter.aspx'-->
```
<font>
</font>
<form>
</body>
<html>
<script language="vb" runat=server>
    Dim sSelectCategory As String
    Dim sCatName As String
    Sub SaveCategory()
        sCatName = Request.QueryString("CatName")
        sSelectCategory = Request.QueryString("Category")
    End Sub
</script>

AddProduct.aspx

<%@ Page language = "VB" Debug="true" %>
<!--#include file="../common/utilities.aspx"-->
<!--#include file="PopGlobNav.aspx"-->
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
</head>
<body background=../images/big_paws.jpg>
<table align=center>
    <tr>
        <td align=center>
            <% AddProduct() %>
        </td>
    </tr>
</table>
</body>
</html>

206
<script language="vb" runat=server>

Dim sCatName As String
Dim sCategory As String
Dim sProdName As String

Sub AddProduct()
Dim intSelectCategory As Integer
Dim sInitialName As String
'get category from querystring
sCatName = Request.QueryString("CatName")
sCategory = Request.QueryString("Category")
intSelectCategory = CInt(sCategory)
'find ID initial
Select Case intSelectCategory
Case 1
  sInitialName = "Fo"
Case 2
  sInitialName = "Co"
Case 3
  sInitialName = "Cu"
Case 4
  sInitialName = "Ho"
Case 5
  sInitialName = "Fo"
Case 6
  sInitialName = "Be"
Case 7
  sInitialName = "To"
End Select
'var for db
Dim sProdID As String
Dim sPrice As String
Dim sSupplier As String
Dim sDescription As String
sProdID = FindProductID(intSelectCategory, sInitialName)
'call Find new ID routine
sProdName = Request.Form("txtProdName")
sPrice = Request.Form("txtPrice")
sSupplier = Request.Form("txtSupplier")
sDescription = Request.Form("txtDescription")
Dim rs As Object
Dim sSQL As String
OpenDB("../doghouse.mdb")
sSQL = "INSERT INTO Products(ProductName,ProductID,ProductCategory,ProductDesc,Price,SupplierId)"
sSQL = sSQL + "VALUES(" + sProdName + ","
sSQL = sSQL + CStr(intSelectCategory) + ","
sSQL = sSQL + sProdID + ","
sSQL = sSQL + sDescription + ","
sSQL = sSQL + sPrice + ")"
</script>
sSQL = sSQL + "" + sSupplier
sSQL = sSQL + ")"
'Response.Write "<br><b>SQL Command: </b>" + sSQL
'for debug
cn.Execute(sSQL)
If Err.Description <> "" Then
   Response.Write("<br>cn.Execute " + Err.Description)
End If
CloseDB()
End Sub

Function FindProductID(Category, Name) As String
   Dim sID ' As System.Object
   Dim intLastID As Integer
   Dim sCutID As String
   Dim sConvertID As String
   Dim intLen As Integer
   Dim rs ' As ADODB.Recordset
   Dim sSQL As String
   OpenDB("../doghouse.mdb")
   sSQL = "SELECT * From Products Where ProductCategory = "
sSQL = sSQL + CStr(Category)
   rs = cn.Execute(sSQL)
   If Err.Description <> "" Then
      Response.Write("<br>rs.Open: " + Err.Description)
   Else
      While Not rs.EOF
         sID = rs.Fields("ProductID").Value
         'get txt value from database
         rs.MoveNext()
      End While
   End If
   intLen = Len(sID)
   'find length of id
   sCutID = Right(sID, intLen - 2)
   'extract string after first 2 char
   intLastID = Clnt(sCutID)
   'convert string to number
   intLastID = intLastID + 1
   'new id
   sConvertID = CStr(intLastID)
   'convert number back to string
   FindProductID = Name + sConvertID
   'concat string
   rs.Close()
   rs = Nothing
   CloseDB()
End Function

</script>
//---
</script>
</head>
<body background="../images/big_paws.jpg">
<%@ Page language = "VB" Debug="true"%>
<!--#include file="../common/utilities.aspx"-->
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
<script ID="clientEventHandlersJS" LANGUAGE="javascript">
function AddProductForm_onsubmit()
{
    bSuccess = true;
    if ("" == AddProductForm.txtProdName.value)
    {
        alert("Please enter product name");
        document.AddProductForm.txtProdName.focus();
        bSuccess = false;
    }
    else
    if ("" == AddProductForm.txtDescription.value)
    {
        alert("Please enter product description");
        document.AddProductForm.txtDescription.focus();
        bSuccess = false;
    }
    else
    if ("" == AddProductForm.txtPrice.value)
    {
        alert("Please enter product price");
        document.AddProductForm.txtPrice.focus();
        bSuccess = false;
    }
    else
    if ("" == AddProductForm.txtSupplier.value)
    {
        alert("Please select supplier");
        document.AddProductForm.txtSupplier.focus();
        bSuccess = false;
    }
    return bSuccess;
}
//-->
</script>
</head>
<body background="../images/big_paws.jpg">
<% SaveCategory()
<form Action="DeleteProduct.aspx?Category=<%= sSelectCategory %>&amp;CatName=<%= sCatName %>&ID=<%= sID %>" Method="post" Name="AddProductForm" LANGUAGE="javascript" onsubmit="return AddProductForm_onsubmit()">
<!--METADATA TYPE="DesignerControl" startspan
<OBJECT classid="clsid:1F56DB70-9821-11D1-B7B7-00C04FD6564F">
</OBJECT>
<!-- Begin Layout Header -->
<table border="0" width="100%" height="100%">
<font face="Tempus Sans ITC">
[ <A href="Products.aspx?Category=<%= sSelectCategory %>&amp;CatName=<%= sCatName %>" >Back</A> ]
</font>
<tr><td width="100%" align="top">
<P><STRONG><FONT face="Tempus Sans ITC" color=#8b4513 size=5>Delete-&gt;<%= sCatName %></FONT></STRONG></P><font face="Tempus Sans ITC" color=saddlebrown size=5>
<table cellspacing="1" cellpadding="1" width="45%" border="0" align="center">
<tr><td align=center><b>Product ID: <%= sID %></b></td></tr>
<tr>
<td align=left>*Product Name: <br>
<input id="txtProdName" name="txtProdName" value=<%= sProdName %>
readonly></td>
</tr>

</table></font>
</td></tr>
</table></form>
<td>
<p>*Product Description:<br>
<textarea id=txtDescription style="WIDTH: 325px; HEIGHT: 79px"
name=txtDescription align="center" readonly>=% sProductDesc %</textarea></p></td></tr>
<tr><td><p align="left">*Price: <br>
<input id=txtPrice name=txtPrice value=%= sPrice %> readonly></p></td></tr>
<tr><td><p align="left">*Supplier: <br>
<select id=txtSupplier name=txtSupplier>
<option value=%= sSupplierID %> selected>%= sSupName %</option>
</select></p></td></tr>
<tr><td colSpan="2"></td></tr></table>

<form Action="Products.aspx?Category=%= sSelectCategory %&amp;CatName=%= sCatName %" Method="post" Name="CancelForm">
<tr><td><input id=btnDelete type="submit" value="Delete Product" name=btnDelete style="WIDTH: 110px; HEIGHT: 24px" size="91"></td>
</tr></form>
<p align="center"><input id=btnCancel type="submit" value="Cancel" name=btnCancel style="WIDTH: 92px; HEIGHT: 24px" size="46"></p>
<p align="center"><FONT face="Tempus Sans ITC"
color=saddlebrown size=3>* Information is required</FONT></p>
</OBJECT>
-->
<!-- Begin Layout Footer -->

<!--METADATA TYPE="DesignerControl" endspan-->
Dim sID ' As Object
Dim sProdName ' As Object
Dim sProductDesc ' As Object
Dim sSupplierID As String
Dim sPrice As String
Dim sSupName As String
Dim intSupplierID ' As Object
Dim sSelectCategory As String
Dim sCatName As String
Dim sProdID As String
Sub SaveCategory()
    sCatName = ""
    sSelectCategory = ""
    sProdID = ""
    sCatName = Request.QueryString("CatName")
    sSelectCategory = Request.QueryString("Category")
    sProdID = Request.QueryString("ProdID")
End Sub

Sub GetDetail()
    sID = ""
    sProdName = ""
    sProductDesc = ""
    sSupplierID = ""
    intSupplierID = 0
    sPrice = ""
    sSupName = ""
    Dim rs ' As ADODB.Recordset
    Dim sSQL As String
    OpenDB("../doghouse.mdb")
    sSQL = "SELECT * From Products Where ProductID = "
    sSQL = sSQL + "sProdID = "
    rs = cn.Execute(sSQL)
    If Err.Description <> "" Then
        Response.Write("<br>rs.Open: " + Err.Description)
    Else
        Response.Write(sID)
        sID = rs.Fields("ProductID").Value
        'get txt value from database
        sProdName = rs.Fields("ProductName").Value
        sProductDesc = rs.Fields("ProductDesc").Value
intSupplierID = rs.Fields("SupplierID").Value
sSupplierID = CStr(intSupplierID)
Select Case intSupplierID
Case 1
    sSupName = "TIA"
Case 2
    sSupName = "Chewtastic"
Case 3
    sSupName = "TigertailFoods"
Case 4
    sSupName = "EK USA"
Case 5
    sSupName = "Hasbro"
Case 6
    sSupName = "Doskoci"
Case 7
    sSupName = "Stylette"
Case 8
    sSupName = "Dallas"
Case 9
    sSupName = "Booda"
End Select
sPrice = CStr(rs.Fields("Price").Value)
End IF
rs.Close()
rs = Nothing
CloseDB()
End Sub
</script>

DeleteProduct.aspx

<%@ Page language = "VB" Debug="true"%>
<!--#include file="../common/utilities.aspx"-->
<!--#include file="PopGlobNav.aspx"-->
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
</head>
<body background=../images/big_paws.jpg>
<P align=center>
 <%
 DeleteProduct()
 %>
</P>
<P align=center>&nbsp;</P>
<P align=center>&nbsp;</P>
<P align=center><FONT face="Tempus Sans ITC" color="saddlebrown"><STRONG>Delete <FONT size=5> %= sCatName %>-%=<%= sID %> </FONT></STRONG></FONT></P>

was completed!</STRONG></FONT></P></P>

<A href="products.aspx?Category=%= sCategory %&amp;CatName=%= sCatName %"></A>

<br><br><br><br><br>

<!--#include file="PopFooter.aspx"-->

</html>

<script language="vb" runat=server>

Dim sCatName As String
Dim sCategory As String
Dim sProdName As Object
Dim sID As String

Sub DeleteProduct()
  Dim intSelectCategory As Object
  Dim sInitialName As Object
  'get category from querystring
  sCatName = Request.QueryString("CatName")
  sCategory = Request.QueryString("Category")
  sID = Request.QueryString("ID")

  Dim rs As Object
  Dim sSQL As String
  OpenDB("/../doghouse.mdb")
  sSQL = "DELETE FROM Products WHERE ProductID = " + sID
  'Response.Write "<br><b>SQL Command: </b> + sSQL
  'for debug
  cn.Execute(sSQL)
  If Err.Description <> "" Then
    Response.Write("<br><b>cn.Execute " + Err.Description)
  End If
  'CloseDB()
End Sub
</script>

Update.aspx

<%@ Page language = "VB" Debug="true"%>
function AddProductForm_onsubmit()
{
    bSuccess = true;
    if ('' == AddProductForm.txtProdName.value)
    {
        alert("Please enter product name");
        document.AddProductForm.txtProdName.focus();
        bSuccess = false;
    }
    else
    if ('' == AddProductForm.txtDescription.value)
    {
        alert("Please enter product description");
        document.AddProductForm.txtDescription.focus();
        bSuccess = false;
    }
    else
    if ('' == AddProductForm.txtPrice.value)
    {
        alert("Please enter product price");
        document.AddProductForm.txtPrice.focus();
        bSuccess = false;
    }
    else
    if ('' == AddProductForm.txtSupplier.value)
    {
        alert("Please select supplier");
        document.AddProductForm.txtSupplier.focus();
        bSuccess = false;
    }
    return bSuccess;
}

//-->
</script>
</head>
<body background="../images/big_paws.jpg">
<%  SaveCategory()  %>
<%  GetDetail()  %>

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<!--METADATA TYPE="DesignerControl" startspan-->
<OBJECT classid="clsid:1F56DB71-9821-11D1-B7B7-00C04FD6564F" >-->
<!-- Begin Layout Header -->
<!~METADATA TYPE="DesignerControl" endspan-->  
<table border="0" width="100%" height="100%" >
<font face="Tempus Sans ITC">  
[ <A href="Products.aspx?Category=<% sSelectCategory %>&amp;CatName=<% sCatName %>">Back</A> ]
</font>
<tr>
<td width="100%" valign="top">
<P align=center><font color=saddlebrown><b>Product ID: <% sID %></b></font></P></td></tr>
<tr>
<td align=left>
<Product Name: <br />
<input id="txtProdName" name="txtProdName" value=<% sProdName %></P></td></tr>
</table>  
</OBJECT>  
<!-- End Layout Header -->
<!~METADATA TYPE="DesignerControl" endspan-->
</P>  

<table border="0" cellspacing="0" cellpadding="0" width="50%" border="0" align="center">
  <tr>
    <td><p>*Product Description:<br>
      <textarea id="txtDescription" name="txtDescription" style="WIDTH: 325px; HEIGHT: 79px" align="center">%\= sProductDesc %</textarea></p></td>
  </tr>
  <tr><td><p>*Price: <br>
    <input id="txtPrice" name="txtPrice" value="%\= sPrice %"></p></td></tr>
  <tr><td><p>*Supplier: <br>
    <select id="txtSupplier" name="txtSupplier">
      <option value="%\= sSupplierID %">%\= sSupName %</option>
      <option value="1">TIA</option>
      <option value="2">Chewtastic</option>
      <option value="3">TigertailFoods</option>
      <option value="4">EK USA</option>
      <option value="5">Hasbro</option>
      <option value="6">Doskocil</option>
      <option value="7">Stylette</option>
      <option value="8">Dallas</option>
      <option value="9">Booda</option>
    </select></p></td></tr>
  <tr><td colspan="2"><p align="center"><font color="#8b4513">Picture of product can be updated manually</font></p></td></tr>
  <tr><td><p><input id="btnUpdate" type="submit" value="Update Product" name="btnUpdate" style="WIDTH: 110px; HEIGHT: 24px" size="91"></p></td><td><p><input id="btnReset" type="reset" value="Reset" name="btnReset" style="WIDTH: 92px; HEIGHT: 24px" size="46"></p></td></tr>
  <tr><td align="center"><FONT face="Tempus Sans ITC" color=saddlebrown size=3>* Information is required</FONT></td></tr>
</table>

<!--DesignerControl startspan
<OBJECT id=LayoutDTC1 classid:clsid:1F56DB72-9821-11D1-B7B7-00C04FD6564F>

</OBJECT>

<!-- DesignerControl endspan-->

</td>
<script language="vb" runat=server>

Dim sID ' As Object
Dim sProdName ' As Object
Dim sProductDesc ' As Object
Dim sSupplierID As String
Dim sPrice As String
Dim sSupName As String
Dim intSupplierID ' As Object
Dim sSelectCategory ' As Object
Dim sCatName As String
Dim sProdID As String

Sub SaveCategory()
    sCatName = ""
    sSelectCategory = ""
    sProdID = ""
    sCatName = Request.QueryString("CatName")
    sSelectCategory = Request.QueryString("Category")
    sProdID = Request.QueryString("ProdID")
End Sub

Sub GetDetail()
    sID = ""
    sProdName = ""
    sProductDesc = ""
    sSupplierID = ""
    intSupplierID = 0
    sPrice = ""
    sSupName = ""
    Dim rs ' As ADODB.Recordset
    Dim sSQL As String
    OpenDB("../doghouse.mdb")
    sSQL = "SELECT * From Products Where ProductID = " + sProdID + ""
    rs = cn.Execute(sSQL)
    If Err.Description <> "" Then
        Response.Write("<br>rs.Open: " + Err.Description)
    Else

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Response.Write(slID)
slID = rs.Fields("ProductID").Value
' get txt value from database
sProdName = rs.Fields("ProductName").Value
sProductDesc = rs.Fields("ProductDesc").Value
intSupplierID = rs.Fields("SupplierID").Value
sSupplierID = CStr(intSupplierID)
Select Case intSupplierID
Case 1
    sSupName = "TIA"
Case 2
    sSupName = "Chewtastic"
Case 3
    sSupName = "TigertailFoods"
Case 4
    sSupName = "EK USA"
Case 5
    sSupName = "Hasbro"
Case 6
    sSupName = "Doskocil"
Case 7
    sSupName = "Stylette"
Case 8
    sSupName = "Dallas"
Case 9
    sSupName = "Booda"
End Select
sPrice = CStr(rs.Fields("Price").Value)
End IF
rs.Close()
rs = Nothing
CloseDB()
End Sub

UpdateProduct.aspx

<%@ Page language = "VB" Debug="true"%>

<!--#include file="../common/utilities.aspx"-->
<!--#include file="PopGlobNav.aspx"-->
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
</head>
<body background="../images/big_paws.jpg">
<P align=center>
UpdateProduct()

%>

</P>
<P align=center>&nbsp;</P>
<P align=center>&nbsp;</P>
<P align=center><FONT face="Tempus Sans ITC" color="saddlebrown"><STRONG>Update</STRONG></FONT>
<P size=5><%=sCatName %>-><%=sID %></P>
was completed!</P></FONT></P>
<P align=center>

<A href="products.aspx?Category=<%=sCategory %>&amp;CatName=<%=sCatName %>"
RODUCTION face="Tempus Sans ITC" size=5
color="#006633"><STRONG>Ok</STRONG></A></P></body>
<br><br><br><br><br>
<!--#includefile="PopFooter.aspx"-->
</html>
<script language="vb" runat=server>

Dim sCatName As String
Dim sCategory As String
Dim sProdName As String
Dim sID As String
Sub UpdateProduct()
    Dim intSelectCategory As Object
    Dim slInitialName As Object
    'get category from queryString
    sCatName = Request.QueryString("CatName")
    sCategory = Request.QueryString("Category")
    sID = Request.QueryString("ID")
    'Dim var for db
    Dim sProdID As Object
    Dim sPrice As String
    Dim sSupplier As String
    Dim sDescription As String
    sProdName = Request.Form("txtProdName")
    sPrice = Request.Form("txtPrice")
    sSupplier = Request.Form("txtSupplier")
    sDescription = Request.Form("txtDescription")
    Dim rs As Object
    OpenDB("../doghouse.mdb")
    sSQL = "UPDATE Products SET ProductName="
    sSQL = sSQL + "" + sProdName + ""
    sSQL = sSQL + "ProductDesc=" + "" + sDescription + "",
    sSQL = sSQL + "Price=" + sPrice

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$$ SQL = SQL + \",.SupplierID=\" + Supplier
SQL = SQL + \" WHERE ProductID = \" + sID + \""
' Response.Write \"<br><b>SQL Command: </b>\" + SQL
' for debug
cn.Execute(sSQL)
If Err.Description <> \" Then
 Response.Write(\"<br>cn.Execute \" + Err.Description)
 End IF
CloseDB()
End Sub
</script>

Adoptions.aspx

<%@ Page language = \"VB\" Debug=\"true\" %>

<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
</head>
<!--#include file=\"PopGlobNav.aspx\" -->
<body vlink="darkseagreen" alink="orangered" link="seagreen"
background="../images/big_paws.jpg">
<!--METADATA TYPE="DesignerControl" startspan
<OBJECT classid="clsid:1F56DB70-9821-11D1-B7B7-00C04FD6564F">

</OBJECT>

<!-- Begin Layout Header -->
<table border="0" width="100%" height="100%">
</table>
<table width="100%" cellpadding="1" cellspacing="1" id=TABLE1>
<tr>
<td width="25%" align="center">
<font face="Tempus Sans ITC" size="4" color="White"><STRONG>
<a href=\"Products.aspx?Category=1\&amp;catName=Food\">Products</a></STRONG></font>
</td>
<td width="25%" align="center">
<font face="Tempus Sans ITC" size="4" color="White"><STRONG>
<a href=\"Suppliers.aspx\">Suppliers</a></STRONG></font>
</td>
<td width="25%" align="center">
<font face="Tempus Sans ITC" size="4" color="White"><STRONG>
<a href=\"Customers.aspx\">Customers</a></STRONG></font>
</td>
<td width="25%" align="center" bgcolor=Black>
<font face="Tempus Sans ITC" size="4" color="White"><STRONG>
Adoptions</STRONG></font>
</td>
</tr>
</table>
</body>
</html>
<table width="100%" cellpadding="1" cellspacing="1" id=TABLE1>
  <tr><td width="25%" align="center" bgcolor=blue><font face="Tempus Sans ITC" size="3" color="white"><STRONG>Product</STRONG></font></td>
  <td width="75%" align="right" bgcolor=black><font face="Tempus Sans ITC" size="3" color="white">
    [ <A href="Products.aspx?Category=1&catName=Food" >Food</A> ]
    [ <A href="Products.aspx?Category=2&catName=Collars" >Collars</A> ]
    [ <A href="Products.aspx?Category=3&catName=Cups" >Cups</A> ]
    [ <A href="Products.aspx?Category=4&catName=Houses" >Houses</A> ]
    [ <A href="Products.aspx?Category=5&catName=Beds" >Beds</A> ]
    [ <A href="Products.aspx?Category=6&catName=Toys" >Toys</A> ]
    [ <A href="Products.aspx?Category=7&catName=Clothing" >Clothing</A> ]
  </font></td></tr></table>

<!--METADATA TYPE="DesignerControl" startspan-->
<OBJECT classid="clsid:1F56DB71-9821-11D1-B7B7-00C04FD6564F"
    width="300px" height="22px">
  <OBJECT>
    —
</OBJECT>
<!--METADATA TYPE="DesignerControl" endspan-->

</OBJECT>

<!-- End Layout Header -->

<!--METADATA TYPE="DesignerControl" endspan-->
</P>
</tr>
</table>

<br>
<P align=center><font face="Tempus Sans ITC" color=saddlebrown><b>Under Construction!</b></font></P>

</OBJECT>

<!-- Begin Layout Footer -->

<!--METADATA TYPE="DesignerControl" endspan-->

</OBJECT>
Suppliers.aspx

<%@ Page language = "VB" Debug="true" %>

<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
</head>
<body vlink="darkseagreen" alink="orangered" link="seagreen" background="/images/big_paws.jpg">
</body>
</html>
<table>
<thead>
<tr>
<th>%</th>
<th>Product</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>25%</td>
<td>Food (Products.aspx?Category=1&amp;catName=Food)</td>
<td></td>
</tr>
<tr>
<td>75%</td>
<td>Collars (Products.aspx?Category=2&amp;catName=Collars)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cups (Products.aspx?Category=3&amp;catName=Cups)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Houses (Products.aspx?Category=4&amp;catName=Houses)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Beds (Products.aspx?Category=5&amp;catName=Beds)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Toys (Products.aspx?Category=6&amp;catName=Toys)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clothing (Products.aspx?Category=7&amp;catName=Clothing)</td>
<td></td>
</tr>
</tbody>
</table>

**Under construction!**
Customers.aspx

<%@ Page language = "VB" Debug="true"%>
<html>
<head>
<meta NAME="GENERATOR" Content="Microsoft Visual Studio 6.0">
</head>
<body vlink="darkseagreen" alink="orangered" link="seagreen" background="../images/big_paws.jpg">
</body>
</html>
<table width="100%" cellspacing="1" cellpadding="1" id=TABLE1>
<tr><td width="25%" align="center" bgcolor=blue><font face="Tempus Sans ITC" size=3 color=white><STRONG>Product</STRONG></font></td>
<td width="75%" align="right" bgcolor=black><font face="Tempus Sans ITC" size=3 color=white>
[<A href="Products.aspx?Category=1&catName=Food">Food</A>]
[<A href="Products.aspx?Category=2&catName=Collars">Collars</A>]
[<A href="Products.aspx?Category=3&catName=Cups">Cups</A>]
[<A href="Products.aspx?Category=4&catName=Houses">Houses</A>]
[<A href="Products.aspx?Category=5&catName=Beds">Beds</A>]
[<A href="Products.aspx?Category=6&catName=Toys">Toys</A>]
[<A href="Products.aspx?Category=7&catName=Clothing">Clothing</A>]
</font></td></tr>
</table>
Sub FoodLocalNav()
    Response.Write("<table width=""100%"" cellpadding=""1"" cellspacing=""1"" id=TABLE1>")
    Response.Write("<tr>")
    Response.Write("<td width=""25%"" align=""center"" bgcolor=Black>")
    Response.Write("<font face=""Tempus Sans ITC"" size=""4"" color=""White"">")
    Response.Write("Products</STRONG></font></td>")
    Response.Write("<td width=""25%"" align=""center"" ><font face=""Tempus Sans ITC"" size=""4"" color="#006633"><STRONG>Suppliers</STRONG></font></td>")
    Response.Write("<td width=""25%"" align=""center"" ><font face=""Tempus Sans ITC"" size=""4"" color="#006633"><STRONG>Adoptions</STRONG></font></td>")
    Response.Write("<td width=""25%"" align=""center"" ><font face=""Tempus Sans ITC"" size=""4"" color="#006633"><STRONG>Customers</STRONG></font></td>")
    Response.Write("<td width=""25%"" align=""center"" ><font face=""Tempus Sans ITC"" size=""4"" color="#006633"><STRONG>Adoptions</STRONG></font></td>")
    Response.Write("<table>")
    Response.Write("<table width=""100%"" cellpadding=""1"" cellspacing=""1"" id=TABLE2>")
    Response.Write("<tr>")
    Response.Write("<td width=""25%"" align=""center"" bgcolor=Black>")
    Response.Write("<font face=""Tempus Sans ITC"" size=""3"" color=""White"">")
    Response.Write("Select Category."</STRONG></font></td>")
    Response.Write("<td width=""75%"" align=""center"" bgcolor=black><font face=""Tempus Sans ITC"" size=""3"" color=""white"">")
    Response.Write([ Food ])
"
Sub CollarLocalNav()
    Response.Write("<table width="100%" cellspacing="1" cellspacing="1" id=TABLE1">
    <tr align="center">
        <td width="25%" align="center" bgcolor=Black">
            <font face="Tempus Sans ITC" size="4" color="#006633" >>STRONG<<</font>
        </td>
    </tr>
    <tr align="center">
        <td width="25%" align="center">
            <font face="Tempus Sans ITC" size="4" color="#006633" >>STRONG<<</font>
        </td>
    </tr>
    <tr align="center">
        <td width="25%" align="center">
            <font face="Tempus Sans ITC" size="4" color="#006633" >>STRONG<<</font>
        </td>
    </tr>
    <tr align="center">
        <td width="25%" align="center">
            <font face="Tempus Sans ITC" size="4" color="#006633" >>STRONG<<</font>
        </td>
    </tr>
</table>>"")
End Sub

Response.Write("[ <A href="Products.aspx?Category=2&catName=Collars"
>Collars</A> ]")
Response.Write("[ <A href="Products.aspx?Category=3&catName=Cups"
>Cups</A> ]")
Response.Write("[ <A href="Products.aspx?Category=4&catName=Houses"
>Houses</A> ]")
Response.Write("[ <A href="Products.aspx?Category=5&catName=Beds"
>Beds</A> ]")
Response.Write("[ <A href="Products.aspx?Category=6&catName=Toys"
>Toys</A> ]")
Response.Write("[ <A href="Products.aspx?Category=7&catName=Clothing"
>Clothing</A> ]")
Response.Write("[ <A href="Products.aspx?Category=4&catName=Cups"
>Cups</A> ]")
Response.Write("[ <A href="Products.aspx?Category=3&catName=Cups"
>Cups</A> ]")

Sub CollarLocalNav()
    Response.Write("<table width="100%" cellspacing="1" cellspacing="1" id=TABLE1">
    <tr align="center">
        <td width="25%" align="center" bgcolor=Black">
            <font face="Tempus Sans ITC" size="4" color="#006633" >>STRONG<<</font>
        </td>
    </tr>
    <tr align="center">
        <td width="25%" align="center">
            <font face="Tempus Sans ITC" size="4" color="#006633" >>STRONG<<</font>
        </td>
    </tr>
    <tr align="center">
        <td width="25%" align="center">
            <font face="Tempus Sans ITC" size="4" color="#006633" >>STRONG<<</font>
        </td>
    </tr>
    <tr align="center">
        <td width="25%" align="center">
            <font face="Tempus Sans ITC" size="4" color="#006633" >>STRONG<<</font>
        </td>
    </tr>
</table>>"")
End Sub
Sub CupLocalNav()
  Response.Write("<table width=""100%"" cellpadding=""1"" cellspacing=""1"" id=TABLE1">
  Response.Write("<tr>
  Response.Write("<td width=""25%"" align=""center"" bgcolor=Black>"
  Response.Write("<font face=""Tempus Sans ITC"" size=""4"
  color=""White""><STRONG>"
  Response.Write("<A href=""Customers.aspx"">Customers</a></STRONG><font>
  Response.Write("<td width=""25%"" align=""center""
  Response.Write("<font face=""Tempus Sans ITC"" size=""4"
  color=""#006633""><STRONG>"
  Response.Write("<A href=""Adoptions.aspx"">Adoptions</a></STRONG><font>
  Response.Write("<td width=""100%"" cellpadding=""1"" cellspacing=""1"" id=TABLE2">
  Response.Write("<tr>
  Response.Write("<td width=""25%"" align=""center"" bgcolor=Black>"
  Response.Write("<font face=""Tempus Sans ITC"" size=""3"
  color=""White""><STRONG>"
  Response.Write(" Select Category-></STRONG><font>
  Response.Write("<td width=""75%"" align=""center"" bgcolor=black><font face=""Tempus Sans ITC"" size=""3"
  color=""white"">"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
  Response.Write("<A href=""Products.aspx?Category=4&catName=Houses"
  Response.Write("<A href=""Products.aspx?Category=2&catName=Collars"
  Response.Write("<A href=""Products.aspx?Category=1&catName=Food"
  Response.Write("<A href=""Products.aspx?Category=5&catName=Beds"
  Response.Write("<A href=""Products.aspx?Category=6&catName=Toys"
  Response.Write("<A href=""Products.aspx?Category=7&catName=Clothing"
Response.Write("<A href="Products.aspx?Category=7&catName=Clothing"
>Clothing</A>")
Response.Write(" </font>")
Response.Write(" </td>")
Response.Write(" </tr>")
Response.Write(" </table>")

End Sub

Sub HouseLocalNav()
    Response.Write("<table width="100%" cellspacing="1" cellpadding="1" id=TABLE1>")
    Response.Write(" <tr>")
    Response.Write(" <td width="25%" align="center" bgcolor=Black"
    Response.Write("<font face="Tempus Sans ITC" size="4"
    color="White">
    Response.Write(" Products</font></td></tr>")
    Response.Write("<table>")
    Response.Write("<tr>"
    Response.Write("<table width="100%" cellspacing="1" cellpadding="1" id=TABLE2>")
    Response.Write(" <tr>")
    Response.Write(" <td width="25%" align="center" bgcolor=Black"
    Response.Write("<font face="Tempus Sans ITC" size="3"
    color="White">
    Response.Write(" Select Category-</font></td>"
    Response.Write("<table width="75%" align="center" bgcolor=black<body><font face="Tempus Sans ITC" size="3" color="white">
    Response.Write(" [<A href="Products.aspx?Category=1&catName=Food"
    >Food</A> ]")
    Response.Write(" [<A href="Products.aspx?Category=2&catName=Collars"
    >Collars</A> ]")
    Response.Write(" [<A href="Products.aspx?Category=3&catName=Cups"
    >Cups</A> ]")
    Response.Write(" [<A href="Products.aspx?Category=5&catName=Beds"
    >Beds</A> ]")
    Response.Write(" [<A href="Products.aspx?Category=6&catName=Toys"
    >Toys</A> ]")
    Response.Write(" [<A href="Products.aspx?Category=7&catName=Clothing"
    >Clothing</A> ]")
    Response.Write(" </font>")
    Response.Write(" </td>"
    Response.Write(" </tr>")
    Response.Write(" </table>"
End Sub
Sub BedLocalNav()
    Response.Write("<table width=""100%"" cellpadding=""4"" cellspacing=""4"" id=TABLE1>"
    Response.Write(" <tr>"
    Response.Write(" <td width=""25%"" align=""center"" bgcolor=Black">"
    Response.Write(" <font face=""Tempus Sans ITC"" size=""4""
    color=""White""><STRONG>"
    Response.Write( "Products</STRONG></font></td>"
    Response.Write(" <td width=""25%"" align=""center"">"
    Response.Write(" <font face=""Tempus Sans ITC"" size=""4"
    color=""#006633""><STRONG>"
    Response.Write( "<A href=""Customers.aspx"">Customers<a></A></STRONG></font></td>"
    Response.Write(" <td width=""25%"" align=""center"">"
    Response.Write(" <font face=""Tempus Sans ITC"" size=""4"
    color=""#006633""><STRONG>"
    Response.Write(" <A href=""Adoptions.aspx"">Adoptions<a></A></STRONG></font></td>"
    Response.Write(" <td width=""25%"" align=""center"">"
    Response.Write(" <font face=""Tempus Sans ITC"" size=""4"
    color=""#006633""><STRONG>"
    Response.Write(" <A href=""Suppliers.aspx"">Suppliers<a></A></STRONG></font></td>"
    Response.Write(" <td width=""25%"" align=""center"">"
    Response.Write(" <font face=""Tempus Sans ITC"" size=""4"
    color=""#006633""><STRONG>"
    Response.Write(" <A href=""Products.aspx?Category=1"">Collars<a></A>"
    Response.Write(" <A href=""Products.aspx?Category=3"">Cups<a></A>"
    Response.Write(" <A href=""Products.aspx?Category=4"">Houses<a></A>"
    Response.Write(" <A href=""Products.aspx?Category=6"">Toys<a></A>"
    Response.Write(" <A href=""Products.aspx?Category=7"">Clothing<a></A>"
    Response.Write(" </table>"
    Response.Write(" </font>"
    Response.Write(" </td>"
    Response.Write(" </tr>"
    Response.Write(" </table>"
End Sub

Sub ToyLocalNav()
    Response.Write("<table width=""100%"" cellpadding=""4"" cellspacing=""4"" id=TABLE1>"
    Response.Write(" <tr>"
    Response.Write(" <td width=""25%"" align=""center"" bgcolor=Black">"
"
Response.Write("<font face="Tempus Sans ITC" size="4"
color="White"><STRONG>")
Response.Write("Products</STRONG></font></td>")
Response.Write(" <td width="25%" align="center"> <font face="Tempus Sans ITC"
size="4" color="#006633"><STRONG></font></td>")
Response.Write(" <table width="100%" cellpadding="1" cellspacing="1" id=TABLE2"><tr>
Response.Write(" <td width="75%" align="center" bgcolor=Black>"
Response.Write(" <font face="Tempus Sans ITC" size="3"
color="White"><STRONG>")
Response.Write(" Select Category-&gt;</STRONG></font></td>")
Response.Write("<td width="75%" align="center" bgcolor=black><font face="Tempus
Sans ITC" size="3" color="white">")
Response.Write(" [ <A href="Products.aspx?Category=1&amp;catName=Food"
>Food</A>] )
Response.Write(" [ <A href="Products.aspx?Category=2&amp;catName=Collars"
>Collars</A>] )
Response.Write(" [ <A href="Products.aspx?Category=3&amp;catName=Cups"
>Cups</A>] )
Response.Write(" [ <A href="Products.aspx?Category=4&amp;catName=Houses"
>Houses</A>] )
Response.Write(" [ <A href="Products.aspx?Category=5&amp;catName=Beds"
>Beds</A>] )
Response.Write(" [ Toys ] )
Response.Write(" [ <A href="Products.aspx?Category=7&amp;catName=Clothing"
>Clothing</A>] )
Response.Write(" </font>"
Response.Write(" </td>")
Response.Write("<hr/>")
Response.Write(" </table>")
End Sub

Sub ClothingLocalNav()
Response.Write("<table width="100%" cellpadding="1" cellspacing="1" id=TABLE1>")
Response.Write(" <tr>
Response.Write(" <td width="25%" align="center" bgcolor=Black>"
Response.Write(" <font face="Tempus Sans ITC" size="4"
color="White"><STRONG>")
Response.Write(" Products</STRONG></font></td>")
Response.Write(" <td width="25%" align="center" bgcolor=Black>"
Response.Write(" <font face="Tempus Sans ITC" size="4"
color="#006633"><STRONG>")
Response.Write(" <A href="Suppliers.aspx">Suppliers</A></STRONG></font></td>")
Response.Write(" </font></td>")
Response.Write(" </tr>
Response.Write(" </table>")
End Sub

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GLOSSARY

A
Active Server Pages (ASP).
Advanced Digital Network (ADN).
Application Program Interface (API)
Artificial intelligence (AI)
American Standard Code for Information Interchange (ASCII)

B
Business-to-Business (B2B)
Business-to-Consumer (B2C)
Business-to-Distributor (B2D)
Business-to-Employee (B2E)
Business-to-Government (B2G)

C
C# (pronounced: C-sharp)
Common Gateway Interface (CGI)
Common Language Runtime (CLR)
Component Object Model (COM)
Consumer-to-Business (C2B)
Customer Relationship Management (CRM)

D
Developer-to-Developer (D2D)
Digital commerce (d-commerce)
Dynamic HTML (DHTML)
Dynamic Link Library (DLL or .dll)
Document Object Model (DOM)
Digital Subscriber Line (DSL)
E
Enterprise Resource Planning (ERP)

F
File Transfer Protocol (FTP)
Framework Class Library (FCL)

G
Graphical User Interface (GUI)

H
Hypertext Markup Language (HTML)
HyperText Transfer Protocol (HTTP or http)

I
Institute of Electrical and Electronics Engineers (IEEE)
Internet Information Server (IIS)
Internet Protocol address (IP address)

J
Javascript (Jscript)

L
Line-of-business (LOB)

O
Open Database Connectivity (ODBC)
Object Linking and Embedding (OLE)

P
Practical Extraction and Report Language (Perl)
S
Sticky content *a.k.a. stickiness*

**Structured Query Language (SQL)**
Structured Query Language Server (SQL server)

T
Transmission Control Protocol/Internet Protocol (TCP/IP)
Three-tier client/server (3-way interaction)

U
Uniform Resource Locator (URL)

X
eXtensible Markup Language (XML)
REFERENCES


Kalani, A., & Lee, B. (2002). ASP.NET 1.0 with VB.NET. Acocks Green, Birmingham, United Kingdom: Wrox Press Ltd.


Payne, Ch. (2003). ASP.NET in 21 days (2nd ed.). Indianapolis, IN: Sams Publishing.


