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Recommendation for an E-Commerce Implementation for a Small Business

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Recommendation for an E-Commerce Implementation

for a Small Business

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Abstract

Small Business E-Commerce Solution

With the prevalence of the Internet it is important for many small businesses to have a Web presence to remain competitive. For this professional project the author has researched and proposed what it would take to put together an end-to-end E-commerce solution for a small local fly-fishing company in Boulder, Colorado and made a recommendation for implementation. This included researching what was available both open source and commercially for each of the E-commerce web site components, studying the business needs, and making a recommendation for implementation.   This allowed the author to pull together what has been learned throughout the Regis MSCIT E-commerce program and apply it in a meaningful way.

The project will had the following scope: requirement analysis that included a recommendation for a quality E-commerce enabled web site implementation including: domain registration, web site development (prototype), software development tools, hardware, E-Payment system selection, database integration, order fulfillment, Internet Service Provider (ISP) selection criteria, marketing the site, establishing trust, security, and a support & maintenance plan.

Table of Contents

List of Tables

List of Figures

Recommendation for an E-Commerce Implementation

For a Small Business

1. Chapter One: Executive Summary

1.1 Problem Introduction

The scope of the project was to come up with a design
recommendation for an E-commerce web site that specializes in
selling fly-fishing equipment and accessories. The proposal
describes a plan to provide guidance for a full E-commerce
solution.

The goal of a commerce enabled web site for the company
that the project manager is working with is to outsell the
competition and improve market share. It will allow sales to
move from a direct channel to a web enabled sales process that
will allow consumers to perform transactions by electronic
means. Web-enabled sales technology is more efficient and
flexible. It is a great market opportunity for many small
businesses such as the one the project manager is working with.

This implementation recommendation will take into account
that managing an E-commerce project will involve balancing three
things: resources, schedule, and scope. All these things are
interconnected and a change in one factor can affect the others.
The project manager will also take into account the size of the

company and the cost to implement the solution. Key things that

the project manager will look into are open source software and

software packages geared at running E-commerce for small

companies. The research will look at all the tiers of the

traditional three-tiered application approach: the front end

(browser), the middle tier application layer, and the third tier

that is the database.

1.2 Expected Outcome

     The outcome from this project will be a compilation of the

research on what an "ideal" E-commerce End-to-End solution for a

local fly-fishing company would be. The project manager will

present the research and make a recommendation on the findings.

This will include analysis and a prototype of the project that

can be built upon.

1.3 The Author's Role in the Project

     The author of this papers role in this project is that of

the project manager. The project manager will examine the

planning and analysis in great detail researching what it would

take for the fly-fishing company that she is working with to

have a successful, quality, E-commerce web site. Through her

role the project manager will be researching all the components

of an End-to-End E-commerce solution and making a recommendation to a small fly-fishing Company in Boulder, Colorado. If they like the recommendation, the project manager will help them to implement the solution that may occur after the completion of this professional project.

1.4 Significance of this Project

The significance of this project is that the author was able to apply what was learned at Regis to manage an E-commerce project from start to finish. This professional project paper can also be used as a guide for other students working on their professional project papers, as well as be used as a reference for other businesses to plan and implement E-commerce solutions.

1.5 Barriers/Constraints

Since this project is for a small local company with less than 2 employees, the project manager will need to keep in mind constraints in money, time, and resources that can be devoted to implementing a E-commerce web site.

1.6 Elements

E-commerce web site elements:

- Requirement analysis

- Domain registration

- Web site development (prototype)

    o Software tools

    o Hardware

- Shopping Cart

- E-Payment Gateway

- Database integration

- Order fulfillment

- Selection of an Internet Service Provider (ISP)

- Getting customers to the site

- Establishing trust

- Support & Maintenance

1.7 Contribution to the Field

When successfully implemented this project should be a good
example of what an E-commerce web site can look like for a small
company without a lot of money or resources. It will also bring
together the elements of the Regis MSCIT E-commerce program.

1.8 Scope

The project will have the following scope: requirement
analysis that includes a recommendation for a quality E-commerce
enabled web site implementation including: domain registration,

web site development (prototype), software development tools,

hardware, E-Payment system selection, database integration,

order fulfillment, Internet Service Provider (ISP) selection

criteria, marketing the site, establishing trust, security, and

a support & maintenance plan.

1.9 Deliverables

This project was managed using the Spiral approach to the

System Development Lifecycle (SDLC). The standard SDLC stages

or phases include a planning phase, an analysis phase, a design

phase, a development phase, a test phase, and an implementation

phase. The deliverables for each of these phases are:

1.9.1 Feasibility

- Analysis of competitor's web sites: a look at what web
  sites are in the same target market.

1.9.2 Plan

- Project Plan: a comprehensive and detailed plan for the
  entire project, including task lists, a work-breakdown
  structure, and project milestones.

- Software & hardware recommendation: a summary of what
  hardware and software resources were needed for this
  project.

1.9.3 Analysis

- Business and technical needs definition: a business and technical needs specification.

- Existing E-commerce research: a summary of current E-commerce technology.

1.9.4 Design

- Web site design usability review: a review of current web site usability standards.

- Shopping cart: a review of available shopping carts and how to implement the chosen cart.

- E-Payment gateway: a review of common E-payment gateways and how to implement the chosen one.

- Databases and order fulfillment: a discussion of how some companies use databases and order fulfillment systems in their E-commerce solutions.

- Prototype web site: a web site to review for design purposes.

1.9.5 Develop / Implement

- Domain Registration: summary of how to register a domain name.

- ISP Selection for web hosting: criteria for selecting a company for web site hosting.

- Search engine registration techniques: techniques of how

to make your site visible on the Internet.

- Cost breakdown of recommended solution: a document that shows the cost of implementing the recommended solution.

1.9.6 *Maintain*

- Support & maintenance plan: a plan of how to maintain the E-commerce web site going forward.

1.10 *Limitations*

The main limitation to this project is the cost of the project as well as resources to work on the project. At the moment the author is the sole resource on this project.

1.11 *Summary*

This project examines the main elements necessary to implement an E-commerce web site for a small company. This includes business analysis, project planning, design recommendations, prototype development, testing, and planning implantation.

2. Chapter Two: Review of Literature / Research

2.1 Existing Research and Literature

DEFINITION

E-commerce is described by Alan Hevner: "Electronic commerce (E-commerce) systems are the software components that perform in an integrated fashion as portals, market makers, or product and service providers to deliver business-to-business (B2B) or business-to-consumer (B2C) services (Hevner, Collins, & Garfield, 2002, p. 10)." E-commerce is typically considered doing business via the Web. It can also be termed: I-commerce, e-tailing, and e-business.

An interesting tidbit of information is that, loosely termed, the first e-commerce interaction was done by Richard Sears in 1886 when he sold a shipment of watches over telegraph to fellow operators and railroad employees. Because of this transaction he gained enough money to quit his job and start his own company, which eventually became Sears, Roebuck (E-commerce). Now however, e-commerce is generally acknowledged to be purchase of goods over the World Wide Web via secure servers that use e-shopping carts and electronic payment gateways.

HISTORICAL BACKGROUND

The point where e-commerce began to grow was in the 1990's. About 1994 the World Wide Web became widely known and spurted a growth in e-commerce (E-commerce). At this time customers were still weary of on-line credit card purchases and there were still major gaps in security protocols. By 1998 HTTPS, a security protocol had enough strength that consumers became more confident as shown by the numbers: "In 1998 on-line retail ("e-tail") sales were $7.2 billion, double the amount in 1997. On-line retail ordering represented 15% of non-store sales (which included catalogs, television sales, and direct sales) in 1998, but this constituted only 1% of total retail revenues that year. Books are the most popular on-line product order—with over half of Web shoppers ordering books (one on-line bookseller, Amazon.com, which started in 1995, had revenues of $610 million in 1998)—followed by software, audio compact discs, and personal computers. Other on-line commerce includes trading of stocks, purchases of airline tickets and groceries, and participation in auctions." (E-commerce). A large number of e-commerce web sites were created since beginning mostly in the US and Western Europe. This included a time around 2000 and 2001 called the dot-com collapse where a large number of solely e-businesses collapsed. This only helped traditional "brick-and-mortar"

businesses to recognize this new market opportunity. E-commerce is still strong in North America, Western Europe, and some Asian countries, but has lots of room to grow in Third World countries.

IMPLEMENTING E-COMMERCE FOR SMALL TO MID-SIZE BUSINESSES

The research that the author has found regarding implementing e-commerce is quite varied and very marketing oriented. Most of the research articles that the author reviewed focused in on certain software packages rather than general best practices for e-commerce design. One article that was helpful was the Verisign "How to Create an E-Commerce Web Site" article. In their article they have a seven step plan to create an e-commerce web site as summarized below(Verisign, 2006).

- **Step 1: Establish your online identity with the right web aggress** - details of how to get and manage your domain name. They suggest you pick a memorable domain name that is short and describes your business.

- **Step 2: Build a user-friendly site** - planning tips, site design tips, and tips for choosing design tools. Plan your site carefully, research your favorite E-Commerce sites, make sure your customers can find relevant content, make navigation easy, keep it simple,

and keep download times short.

- **Step 3: Set up your web server or select an ISP to host your site** - web hosting criteria that include: shared hosting vs. a dedicated server, hard disk storage space, availability, e-mail accounts, SSL encryption, and support.

- **Step 4: Minimize the risks of E-Commerce** - risks, trust, SSL, Authenticated SSL certificates, security with Verisign, privacy and security statements.

- **Step 5: Accept and manage all kinds of payments** - Internet payment processing, payment authorization and settlement, Verisign payment services, Internet merchant accounts, and information about fraud.

- **Step 6: Test, test, test**

- **Step 7: Promote your site**

In the table below the author summaries their general impressions of elements that e-commerce web sites must have.

E-Commerce Technical Must Haves	Customer Must Haves
Have a well-organized business structure, business processes, & sound business model	Has personal attention
Ensure a secure, well-designed attractive web site	Is user-friendly with good customer service
Examine product suitability	Has value
Embed reliability through security, encryption, up time, backups, & recovery plan.	Has adequate security & performance
Establish a customer relationship - ensure employees, suppliers, & partners have the same have a complete view.	Gives an incentive to return: coupons & discounts
Use a value chain where you focus on your core competencies.	Is easy to find what you are looking for
	Is easy to make a purchase with confidence

BUSINESS OWNER INTERVIEW

The project manager interviewed the business owner of the fly-fishing web site to determine his e-commerce web site needs and what he was looking for in the project. He was interested in web site design, an easy way to add products to the web site and manage orders, web hosting, e-commerce
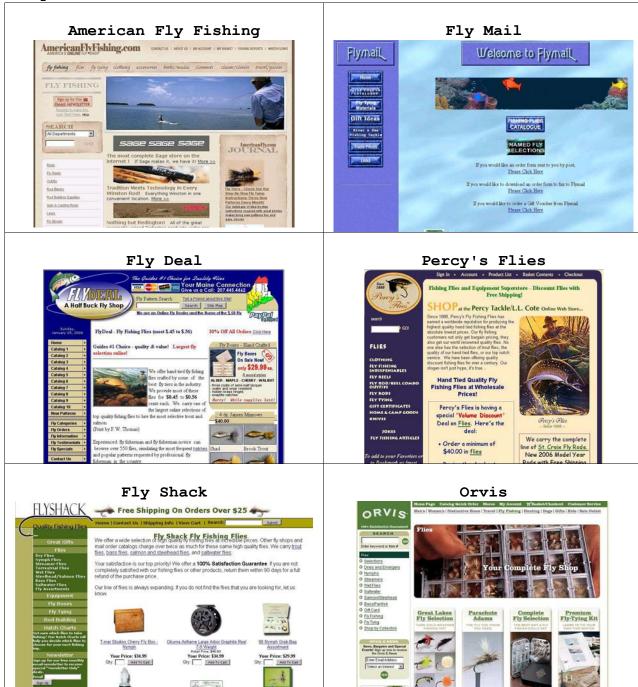
capabilities, web site search engine registration, and a customer e-mail list for quarterly sales marketing.
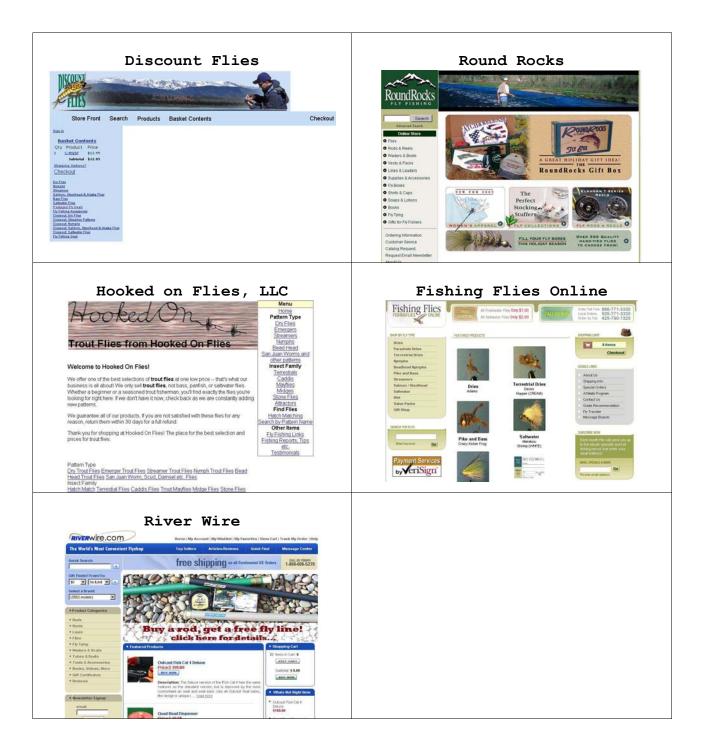
2.2 Competitive Analysis

For the competitive analysis the author looked at a Google search of fly-fishing flies and fly-fishing. This led the author to a number of different E-commerce retailers that are in the same market as the site that will be developed. Here is a brief summary of the findings. For the comparison usability was determined using the seven C's of web site usability criteria that will be explained later in this paper: context, content, commerce, community, connection, communication, and customization. More weight was given to the context of the web sites, which includes: the purpose, and audience of the web site, layout, navigation, and graphics. The scores were then added up to 10 to determine the final overall rating.

Site Name	URL	Est. Size / Location	Usability	Security / Payment System	Look & Feel	Overall
American Fly Fishing	www.americanfly.com	large/ CA	A	Secured by thawte / Retail on	Professional	9
Fly Mail	www.flymail.com	small/ UK	D	Couldn't Tell	Amature	2
Fly Deal	www.flydealflies.com	med / Maine	B	PayPal	Good	6 - don' t like menu nav.
Percy's Flies	www.percysflies.com	med / NH	B+	Merchant - https	Good	6 - Too many clicks to add stuff
Fly Shack	www.flyshack.com	small-med/ NY	B-	https	Okay	5 - No Error checking on order form. & no privacy policy
Orvis *	www.orvis.com	large / VA	A	Orvis - https	Professional	9
Discount Flies	www.discountflies.com	med / CO	B	Verified by Geo Trust	Good	6
Round Rocks *	www.roundrocks.com	med / MST (maybe CO)	A-	https	Good Plus	7 - Coludn't find out much about company, nice look & feel
Hooked on Flies, LLC	www.hookedonflies.com	small	D	PayPal	Amature	2 - Looked bad, no way to contact other than e-mail
Fishing Flies Online *	www.fishingfliesonline.com	med / CA	B +	Verisign	Good Plus	7 -
River Wire *	www.riverwire.com	med / US	B	Make-a-Store.com	Good	6 - Couldn't find any company info. Site seemed

Competitors Screen Shots

American Fly Fishing	Fly Mail
Fly Deal	Percy's Flies
Fly Shack	Orvis

Discount Flies

Round Rocks

Hooked on Flies, LLC

Fishing Flies Online

River Wire

2.3 This Project's Contribution

This project is one suggestion for implementing a web site that has E-commerce. It is a low cost solution that is easy to implement and uses many open source software applications. It is geared for small companies to be competitive with most of their competition in an era of growing E-commerce.

2.4 Summary

This project examined the research that was available on how to design an e-commerce web site including an article by Verisign. The basic steps include: choosing and registering a domain name, designing a usable/user-friendly web site, selecting web hosting, implementing security, providing payment processing, testing the web site, and marketing the web site. After examining existing research the author interviewed the business owner that the project was being focused toward. This allowed the author to determine the scope and needs of the project.

Of all the competitors' web sites that were looked at only the two largest were really professional: American Fly Fishing, and Orvis. There is a huge market opportunity in this area. Of the eleven web sites compared five were sponsored links of Google. This is where companies pay to have their web site show

up in a search of certain key words.   Usability was average on
most of the sites.   There were a variety of payment systems used
from ones developed in house like Orvis, to third-party payment
systems such as Paypal, Merchant, and Make-a-Store. COM.
Other security certificates such as Verisign and GeoTrust were
also used.

3. Chapter Three: Methodology

3.1 Research Methods

The research methods that were deployed during the project included research of existing technologies, interviewing the manager of the company the web site was for, prototyping, and using knowledge gained in the Regis MSCIT E-commerce program. The research method used most was researching what was currently available for E-commerce web sites. The interviews with the manager of the company took place monthly. The web site was then prototyped.

3.2 System Development Lifecycle

For this project a Spiral Life Cycle will be used. A Spiral approach to software development continues circling around all the phases of the development (Planning/Feasibility, Analysis, Design, Development, Testing, & Implementation) as each component is developed & matured. (Langer, 2002) This development process is an ongoing one where the project will mature at time goes on.

E-commerce projects in general have much more risk than traditional software design projects that use the waterfall design methodology, because of shorter and dynamic project schedules, new technologies, degree of scope change, project

mangers have a broad role and interface with more varied

stakeholders, costing the project is difficult, and developers

have broader roles and responsibilities (Langer, 2002).

Therefore, a spiral development approach would be better for

this project after the implementation recommendation has been

made. Because of the nature of this project, there could be a

high rate of change in user requirements, implementation risk,

user priorities, and function reuse. The author of this paper

has experience working with business owners on other projects

and believed that there was a high risk of user priorities

changing after the development on the project had begun. In the

spiral development approach, lower priority functions can be

delayed or not implemented unless time or money allows.

Functions that are used many times and high-risk functions are

developed first. The system is deployable to the customer in

less time and high priority requirements can be checked. In

this approach as the web site is developed the design team would

cycle through the phases: planning, analysis, design,

implementation, and support. The project would not "go-live"

until it was robust enough to handle E-commerce properly.

3.3 *Approach*

The approach taken with regards to this project is to do the following:

- Gather information about the web site
    - o How much business would the company like to do through its E-commerce site?
    - o How often will web-based material be updated?
- Define the system requirements
    - o What features or operations does the web site need? How will it be used?
- Prioritize the requirements
    - o This helps to focus on getting the most important features designed first.
- Examine the project for feasibility
    - o This establishes a high level view and helps to determine goals for the web site.
- Evaluate alternative solutions
    - o This is to determine if the solution chosen fits the time and money that you have.
- Review the recommendations with management
- Help management them in selecting the best solution for their company

The biggest difference between managing an E-commerce

project vs. a traditional project is that the whole project
timeline is accelerated and can be dynamic. In the E-commerce
market things change very quickly. Other challenges in managing
an E-commerce project include: managing scope creep, keeping up
with the risk of new and untested technologies, being aware of
lack of standards in this software area, determining cost with a
lot of variables, and keeping up with the broad scope of the
project.

3.4 Specific Procedures

The following is an overview of each project phase, the
deliverables due within each phase, and some of the goals set by
the author of this paper.

3.4.1 Planning

- Define the business requirements.
- Produce a project schedule
- Review feasibility
- Launch the project

3.4.2 Analysis

The scope of the project is defined by gaining an
understanding of business and technical needs. During the

preliminary analysis, the system concept is defined through

interviewing and information gathering. The project will be

separated into various tasks and timelines will be created and

followed. The timeline will be documented in Work Breakdown

Structure (WBS).

- Review and analyze business requirements

- Define system requirements

- Research what is available both open source and

  commercially for each of the E-commerce web site

  components.

- Prioritize requirements

- Generate and evaluate alternatives

- Make a recommendation for an implementation of an E-

  commerce enabled web site that includes security

  features, and a three-tier implementation.

3.4.3 Design

A design model will be implemented to help communicate and

demonstrate the type of system that is going to be deployed for

the fly-fishing web site. It will be a representation of what

the system will look like. The model will display inputs,

outputs, processes, data, etc. These models will be

demonstrated in the form of diagrams, charts, and work flow

diagrams.

This phase will occur after the recommendation for an E-commerce web site is made. This phase may begin after this professional project is completed. There may be time to mock up a prototype of a sample implementation.

- Design or choose final components to integrate

- Select final solution

Understand web site usability

- Ease of information accessibility

- Purpose and audience

- Content

- Page layout

- Navigation

- Graphics

- Interaction and Feedback

3.4.4 Development / Implementation

- Implement hardware

- Implement software components: three-tier architecture (client, server, and database).

- Integrate system

- Implement security

- Verify and test system

- Train users

- Document the implementation and use

- Launch web site

3.4.5 Support & Maintenance

- Maintain

- Enhance

- Support

- Come up with a disaster recovery plan

3.5 Metrics/Measurements

The measure of success for this project will be if the fly-fishing company accepts these recommendations and successfully implements a quality E-commerce solution.

3.6 Review of Deliverables

3.6.1 Planning

In the planning for this project the first step is to determine who is going to design the site. Since the author is designing the site and not paying a company to design it here is a breakdown of the hardware and software needs, which fit the resources available.

Hardware and Software needs:

- ☑ Web design experience (HTML, JSP, graphic design), chosen based on prior experience of the author.

- ☑ Hardware needed: computer with plenty of RAM (128 Mb and up) and hard drive space (6 GB minimum)

- ☑ Web design software - Macromedia Dreamweaver MX 2002 (this also takes care of ftp for file uploading), chosen based on already having this software.

- ☑ Digital camera - for product photos - Canon Power Shot S100, which the author has.

- ☑ Image editing software - Adobe Photoshop 7 or open source GIMP can be used for free. The author has both software applications.

(Obringer, 2005)

3.6.2 Analysis

Work Breakdown Structure

Task Name	Completed (days)	Remaining (days)	Duration (days)	Hours
Phase 1 - Feasability				
Competitor Analysys	1	0	1	8
Phase 2 - Planning / Analysys				
Software & Hardware Needs	2	0	2	16
Define Business Needs	2	0	1	16
Explore Existing E-Commerce research	4	0	4	32
Phase 3 - Design				
Website Designed for Usability	2.5	0	2.5	20
Shopping Cart	3.5	0	3.5	28
Payment Gateway	2	0	2	18
Security / Privacy	4	0	4	32
Database/ Order Fulfillment	0.25	0	0.25	2
Prototype	10	0	10	80
Phase 4 - Implement & Maintain				
Domain Registration	0.25	0	0.25	2
Web Hosting	0.5	0	0.5	4
Search Engine Registration / Metatags	2	0		16
Cost Breakdown	2	0	2	16
Actual Design Implementaiton Schedule	2	0	2	16
Support & Maintenance Plan	2.5	0	2.5	20
Phase 5 - Project Next Steps				
Prepare and present recommendation to comp	6	0	6	48
Prepare and present Project Management Pla	0	2	2	16
Assist in implementing selected solution	2	8	10	80

Business Needs

The business YourFlyShop.com has the following business

needs:

☑ Web site

  o The backbone of this project was the web site itself.

    Within this project, "web site" refers to all pages

    rendered in HTML and accessible via web browser.

☑ Shopping Cart

  o The shopping cart is the software that enables the

    ordering process and catalog. This allows customers

    to select, review and purchase merchandise.

☑ Payment Gateway

  o The Payment Gateway is transaction processing that

    provides a secure transfer of funds from a customer's

    bankcard processing network to a merchant account.

☑ Process or software to track orders/inventory

  o This is a way to track and fulfill orders efficiently.

☑ Web hosting

  o A service to the web site on a web server that has a

    constant fast connection to the Internet which the

    Internet Service Provider maintains.

☑ Customer E-mail list

  o A database file to store customer e-mail for special

e-mail offers.

☑ Marketing

o A way to get customers to the web site.

3.6.3 Design / Development

This section will go into detail about design requirements, analysis of E-Payment systems, security, and usability.

Web Design and Usability

Well-designed E-commerce web sites attract target customers by conveying value proposition through the seven design elements of the customer interface. These design elements, sometimes called the seven C's of the customer interface, include: context, content, commerce, community, connection, communication, and customization (Rayport, 2002). When designing a Web site with quality in mind these seven elements are crucial to a successful customer experience.

CONTEXT

Context describes what look-and-feel the site has. It answers the following questions: What are the aesthetics? What is the audience and purpose of the site? How are the pages laid out? What is the navigation of the site? Does it use a lot of graphics?   The main design issues related to context are:

•Purpose and Audience

•Page Layout

•Navigation

•Graphics

PURPOSE AND AUDIENCE

Your audience helps to determine how your Web site will look and how interactive it is. The web site should be a reflection of your target audience. Keep in mind what your purpose is and how you can best show this to the people viewing your web site. You want the Web site to appeal to a certain audience and not attract other audiences and the purpose gives you a focus. Keep in mind your audience may have any special needs that you should consider when designing your site. You may have users with vision, mobility, or hearing impairments (Markel, 2001). What is your audience expecting to see when they come to your Web site? What is the purpose for your web site? This should always be considered throughout the whole design and development phase. Cynthia Calongne suggests grouping your audience to consider "The motivation, reading level, color sensitivity, culture, primary language, software knowledge, and background experiences of users is important as it alters the solution set for the design" (Calongne, 2001). The purpose should be clear when your site is visited. Make sure the pages have a consistent look and feel. Don't put too much text on a page.

Visitors don't want to read too much on one page. Consider the

use of space so the lay out is not too sparse or contain too

much. Make the page layout interesting. It should grab and keep

the users attention. Make the page a reasonable size. Consider

how large the graphics are and how long they will take to

download. Font and text should be easy to read. Use colors

that look good together. Make the navigation easy to follow.

It should be obvious where the links are and where they will

take you.

PAGE LAYOUT

     Important things to consider about page layout are that

your site is (Markel, 2001):

- ☑ Designed for your Audience and Purpose
- ☑ Consistent
- ☑ Readable
- ☑ Has simplicity
- ☑ Balance graphics, text, & white space
- ☑ Clear Links
- ☑ Extra features focused to your audience:
    - ➢FAQ
    - ➢Text only version
    - ➢Resource links
    - ➢Search
    - ➢Navigation
    - ➢Shopping Cart
    - ➢Delivery/ Tracking Information

NAVIGATION

     Navigation will help with the natural, logical organization

of the content on your Web site. Your site needs to be well

organized, so it can be the most effective. Make information

easy to find quickly. Make it easy to go back to previous pages

as well. If there is a lot of information on a page, include

links to the top of the page. Site maps are also helpful with

navigation around a site. When considering which navigation will

be best for you site think about vertical or horizontal

navigation along the page as well as what links within pages

will be used. Most pages allow a combination of vertical and

horizontal navigation. Also consider a site map along with it.

This is a page that shows the structure of your content and

links to access it. It does not show how users move around the

site.

GRAPHICS

Graphics are a great way to communicate. They should be

unique to your site. Branding (your company's logo) is an

important graphic to include. Graphics should be the smallest

file size possible but still look good. You don't want to slow

your users experience down if they have a slow Internet

connection and your page has a lot of graphics that take a long

time to download. If large graphics are necessary to your site,

you should consider thumb-nails (smaller pictures that will

display a larger version of that same picture when clicked on).

Graphics will help maintain consistency throughout your web site

as well. Graphics can include: logos, background, animation,

photographs and illustrations, interfaces and navigation bars,

and buttons. They will help determine the look and feel of your

site and should be focused to your target audience.

CONTENT

What you display to a customer is key to the success

of the site. It is the main thing that the customer visits your

site for. Cynthia Calongne defines what content is; "Content

includes the solutions and strategies employed to make it easy

for the user to accomplish important tasks, such as information

retrieval and navigation, making a purchase, and obtaining

feedback" (Calongne, 2001). Your content is determined by your

purpose. If you are selling something you want to make it

obvious and easy to complete a purchase. If you just want to

increase awareness about your company, your content will reflect

that. Think about what content you want to include on your Web

site and then about how you are going to organize it. Make sure

that it is consistent with the purpose of your company. When

planning your site also consider if you are going to create this

content yourself or license or link off to other content.

Another thing that you should consider about your content is the

total page size as well as the Internet connections of your

visitors and the bandwidth of your hosting company also called

an ISP (Internet Service Provider).

COMMERCE

       Commerce is the bottom line for many executives to

determine the successfulness of your site. It refers to selling

of goods, products, and services and the transactional

capability of your site. Does your site use the standard

shopping cart capabilities? The shopping cart may include

"information such as quantity, description, size, prices, and

availability" (Rayport, 2002). Shopping cart features can

usually be viewed at any time and have features to remove items

as well as proceeded to checkout which will show the total

price, taxes, and shipping costs. This transaction is usually

done using secure pages when the customer submits their payment

information. Commerce shows the profit of a Web site.

COMMUNITY

       Interaction between the sites users helps to define

community. A community is established when users are able to

interact with each other. Interaction and feedback are

important to establish a sense of community. Include

information that will let users communicate with each other to

add value to the site. This may be in the form of a blog (also

known as a web log), a chat session, a forum, or an FAQ page.

It is a value-add to your users as well as your site if users

can interact and share expertise with each other and learn from

each other.

CONNECTION

Connection is determined by the extent your site is

connected to linked to other Web sites (Rayport, 2002).

Connection can also be related to page navigation. It is

important to be connected to other sites if you have an audience

that might expect it. Connection can be internal to your company

as well as external. It is also an important part of a quality

Web site to make sure that you check that your links to other

sites are still valid on a regular basis. There are special web

programs that can automatically check this for you called spider

programs. These programs can navigate through your Web site and

check all the pages, links, and graphics to tell you where there

are problems and can be a useful part of maintaining connection.

COMMUNICAITON

The way the user interacts with the site and how the

site provides information back to the user is the communication

aspect of the customer interface. Rayport and Jaworski state

that this can take the following forms: "site-to-user

communication (e.g., e-mail notification), user-to-site (e.g.,

customer service request), or two-way communication (e.g.,

instant messaging)" (Rayport, 2001). Can the user find what

they need and get back information they want? Can the system

gather information about a user to be able to provide dynamic

content and a successful purchase? Interaction and feedback are

important. Your site should include information that will let

users contact you. It can also be helpful to have a link where

they can e-mail you or submit feedback. If your page has forms

that the users can fill out while interacting with your site

make sure they are reliable and secure. If a user doesn't feel

protected or feels that you are not gathering appropriate

information this can hinder interaction with your site.

Communication is also part of the customer service aspect that

people still want to have. If they cannot contact a real person

when they have a problem they will be less likely to use your

Web page in the future.

CUSTOMIZATION

        This is a way for users to customize the page for

their needs. Dynamic page creation is a way to accomplish

customization. This is the ability of a site to have users

define what they want to see as well as the site changing

itself. When users are allowed to select what they want to see

it is called personalization. When your company changes content

dynamically it is called tailoring (Rayport, 2001).

Customization is becoming more and more expected in the E-

commerce realm. The extent that your site is customized will also depend on your purpose and audience.

There are many ways to design a quality web site. When focusing on designing the customer interface explore the seven C's of the customer interface: context, content, commerce, community, connection, communication, and customization (Rayport, 2002). Considering these aspects will help to ensure that your Web site meets user expectations in a quality manner. It will also help make your site a quality one that will have many new and repeat customers.

Shopping Cart

See table in the addenda of Shopping Cart Software.

A shopping cart in e-commerce is the term applied to the software that works metaphorically like a real shopping cart allowing customers to select items that they would like to purchase and place them in their cart for checkout. They can also remove items they decide not to purchase. The shopping cart software can calculate how much the order will cost including taxes as well as shipping and handling costs. Most off the shelf shopping cart software like those listed in the addenda of this paper requires installation on the server that your web site is hosted or on a secure server to protect the sensitive ordering information as well as some integration into the HTML of your web site. E-shopping carts usually use HTTP cookies or query strings (Answers.com, 2006).

Payment Gateway

See table in the addenda for a list of Payment Gateways.

A payment gateway is the software that is the interface between the shopping cart software and the bankcard-processing network. It is software that must be secure because it takes the customer's order payment information and transfers the funds from the payment they have selected, such as a credit card, to the merchant's account. There are fewer trusted companies that provide payment gateway software in this market space than shopping cart software. These companies must have a rapport with the bank's that maintain the bankcard processing systems. "A Payment Gateway provides credit card processing, billing, reporting and settlement and operational services to acquiring and issuing banks, manages the process of transferring authorized and captured credit card funds between different financial accounts such as the merchants company checking account. These corporations typically charge merchants a discount rate and a transaction fee for this service. These fees vary from processor to processor" (RealCart, 2005).

Security / Privacy / Trust

Security is important to all customers that make a purchase over the Internet. Along with a secure site it is important to establish trust to gain new customers and keep returning customers. To establish trust you must minimize customer risk through security and use of trusted third parties for payment systems. You must also have a usable site that has support.

A privacy policy is a must for a quality E-commerce web site. This will describe how you intend to use personal information about customers and what they order. This is a good practice and will make sure that you are in compliance with the FTC Act. More can be found at the FTC web site (www.ftc.gov). Your privacy policy should be easy to find and use simple easy to understand terms. It should also give the customer an option of not sharing their information (Obringer, 2005).

Order Fulfillment / Databases

Since this is a small-scale project and small company there is not currently a plan to create a database or order tracking system. In the future this may be added after further research into what software is available. One option is to use an open source database such as SQLPlus.

Prototype

A prototype web site was developed for review of the business owner to clarify business needs, design needs, and well as for general layout and design review. In the author's experience business focused people may not describe a design vision in enough detail for developers to have a clear idea of what they want. A prototype is a great starting point that the business owner can review and critique. A prototype allows them to see what the site could look like and puts them a step ahead for knowing what the final site could look like and what changes they would like to see in the final design. See the addenda for screen shots of the current web site.

3.6.4 Implementation

The implementation of this project includes a schedule and cost breakdown of the project. This section describes domain registration, ISP selection criteria for web hosting, and search engine registration techniques.

Domain Name Registration

Domain registration is a way to be registered with the Internet Domain Name System (DNS) so that a particular domain name (www.yourcompany.com) will be associated with a computer on the Internet that you "registered" with telling where the actual site is. There are many companies that offer domain registration at various costs. They are called Registrars and they provide domain information to the central registry maintained by ICANN that manages and coordinates resolving all domains universally. By registering, your web site can be found and you can get e-mail for your domain name. Most registrars have services such as: domain name registration, DNS management, domain forwarding, e-mail forwarding, domain locking, and sometimes even offer web hosting services. Some popular registration sites include Register.com, domains.yahoo.com, stargate.com, domain.com, GoDaddy.com, and Alphus.net. Prices can vary from $2.99 a year with domains.yahoo.com to $35 a year for two years with domain.com. When selecting a registrar make sure that they are ICANN accredited. This can be checked on the InterNic web site (http://www.InterNic.net).

Web Hosting

Web hosting is where you lease space for your web site to reside on a server that is connected to the Internet all the time (Obringer, 2005). If you have your own domain name you will use virtual web host that allows people to find your site by typing in your domain name in their browser. Virtual web hosting will usually cost between $10-$50 per month depending on the complexity of your site. There are almost infinite companies that offer web hosting. Selecting a quality web hosting is very important to the success of your E-commerce web site. The best way to select an Internet Service Provider (ISP) for web hosting is to have a checklist to see if it can support the needs of your web site. The criteria used by this project manager were as follows:

☑ Has good customer service and support

☑ Is cost effective

☑ Supports Macromedia Dreamweaver

☑ Has sufficient storage space

☑ Provides e-mail for the domain

☑ Supports SSL

☑ Has adequate site uptime

☑ Has FTP capability

☑ Supports E-commerce

☑ Has site backups

☑ Has site statistics

☑ Has an account control panel

☑ Has customer references

☑ Supports future web site growth

Search Engine Registration and Marketing

Once the e-commerce web site is up and ready for business what kind of things are important for generating business on the Internet? It is important to look into Search Engine Optimization or SEO techniques. 6am media describes this as: " The process of improving web pages so that it ranks higher in a search engine for targeted keywords with the ultimate goal of generating more revenue from the web site. There are many SEO techniques. In general, these techniques can be categorized as On-Page Optimization, On-Site Optimization, and Off-Site Optimization"(6Am Media, 2006). There is also what is called White hat SEO sites that follow guidelines provided by search engines as well as Black hat SEOs that uses techniques that are prohibited or questionable according to search engine guidelines, such as spam (6Am Media, 2006). On-site optimization may include the HTML META tags as well as the content and layout of the page. META tags are hidden html tags

that contain information about the web site. META tags can

include a list of keywords that search engines often use to

index their databases. META tags are becoming less important in

some search engine indexing. As far as page content goes you

may want to not use frames or dynamic html because this can

cause problems for search engine bots or spiders trying to index

the page. Bots, robots, crawlers, or spiders, are programs that

search engines use to traverse the Web following links from page

to page to collect an index that can be searched on to provide

relevant information (Access To E Business, 2004). There

hundreds of different ways that search engines use to index

pages. Some of these include (Access To E Business, 2004):

❖ Click popularity - how often a search engine result is

  clicked

❖ Keyword density - how many times a word appears in a page

  based on the total number of words on that page.

❖ Link popularity - how many other sites that a search

  engine has indexed have links to your site.

❖ Link analysis - quality and relevance of links pointing to

  the site

❖ Relevancy - how close the page is to the search term

  requested

❖ Reputation - If well known popular sites have a link to

your site you will have a higher reputation.

❖ Theme - is where the search engine tries to determine what

the page is about

Popular search engines and search directories for

registering a web site with can include (Search Engine Watch,

2005): Google, Yahoo, Ask Jeeves, AlltheWeb, AOL Search, HotBot,

Teoma, Gigablast, LookSmart, Lycos, MSN Search, Netscape Search,

Open Directory, AltaVista, and Excite. The search engine

webpage http://searchenginewatch.com/links/article.php/2156221

also details how to register with all the above search engines.

The search engines listed above work differently some use

web crawlers to index pages, some are directories of sites that

are compiled by humans like Yahoo, and some are using paid

listing techniques such as sponsored sites at Google. One

economical plan to get a page listed fast as suggested by Danny

Sullivan, Editor in Chief of Search Engine Watch, is to pay a

$300 flat fee to have your page listed with Yahoo, and use

Google and Overture paid listings for $25 and $75(Sullivan,

2004). Also, submit the page to The Open Directory that is free.

For directory listings make sure you use keywords and non-

marketing terms. After that the page should be found or indexed

by more search engines and have more web traffic. For this

project the web page will be submitted through the Yahoo and The

Open Directory, it will also use the free Google link

registration as well as the pay-per-click feature of Overture,

which costs $5 setup and .10 per click.

Cost Breakdown

Item	Cost	Service Provider
Web Hosting	$40/mo	Netrack
Domain Name Registration	$9.95/yr	Stargate.com
Search Engine Marketing	($5/setup & $.10/click) ($300)	Overture Yahoo
Shopping Cart	Free - Open Source	ZenCart
Payment Gateway	($179/setup, $19.95/mo for 500 transactions)	Vierisign - PayFlow Link
Web Design	N/A	Design done in house
Web Support Maintenance	N/A	Supported in house
Hardware	Development computer	Using already available resources
Software	(GIMP for graphics - open source, HTML, Java.	Using already available resources
Digital Camera		Using already available resources
TOTAL	**(~$394/1 time setup + $70/mo)**	

Project Plan

The project plan shown here is one recommendation for and the design implementation.

ID	Task name	Est. (hrs.)	% Comp.	Start	Finish	Assigned resource
	YourFlyShop.com Project Plan	0				
	% Complete =>	0%		100%	3/3/2006	*<= Today's Date*
	Estimated Total =>	371.9		01/00/00	04/25/06	
1	**Analysis**	40	0%	03/03/06	03/14/06	
1.01	Identify requirements for E-Commerce Site	10	0%	03/03/06	03/06/06	IT Lead
1.02	Identify team	10	0%	03/07/06	03/08/06	IT Manager
1.03	Finalize responsibilities	10	0%	03/09/06	03/10/06	IT Manager
	Survey environment					
1.04	Survey equipment: software, hardware	10	0%	03/13/06	03/14/06	IT Lead
2	**Document summary of request**	20	0%	03/16/06	03/18/06	
2.01	Complete YourFlyShop.com Project Description Document	10	0%	03/16/06	03/17/06	IT Lead
2.02	Review project requirements w/management	10	0%	03/16/06	03/17/06	IT Lead
3	**Develop project plan**	20	0%	03/20/06	03/21/06	
3.01	Customize project template	10	0%	03/20/06	03/21/06	IT Lead
3.02	Review project plan w/management	10	0%	03/20/06	03/21/06	IT Lead
4	**Coordinate w/client and stakeholders**	11.25	0%	03/22/06	03/23/06	
4.01	Determine target date w/ implementation team	10	0%	03/22/06	03/23/06	IT Lead
4.02	Schedule meeting w/stakeholders	0.25	0%	03/22/06	03/22/06	IT Lead
4.03	Meet w/stakeholders	1	0%	03/23/06	03/23/06	IT Lead
	Review project plan	0.5	0%	03/23/06	03/23/06	IT Lead
	Identify potential risks	2	0%	03/23/06	03/23/06	IT Lead
	Set schedule	8	0%	03/23/06	03/23/06	IT Lead
5	**Itemize activities**	245	0%	03/27/06	04/15/06	
	Phase 1 - Feasability					
5.01	Competitor Analysys	20	0%	03/27/06	03/30/06	IT Lead
	Phase 2 - Analysys					
5.02	Define Business Needs	5	0%	03/22/06	03/23/06	IT Lead
5.03	Explore Existing E-Commerce research	10	0%	03/23/06	03/24/06	IT Lead
	Phase 3 - Design					
5.04	Software & Hardware Needs	30	0%	04/03/06	04/07/06	IT Lead
5.05	Website Designed for Usability	20	0%	04/07/06	04/12/06	IT Lead
5.06	Shopping Cart	30	0%	04/03/06	04/07/06	IT Lead
5.07	Payment Gateway	30	0%	04/07/06	04/11/06	IT Lead
5.08	Database	30	0%	04/11/06	04/15/06	IT Lead
5.09	Order Fufillment	30	0%	01/31/00	02/04/00	IT Lead
5.1	Prototype	30	0%	01/31/00	02/04/00	IT Lead
	Phase 4 - Implement & Maintain					
5.11	Domain Registration	5	0%	02/04/00	02/07/00	IT Lead
5.12	Web Hosting	5	0%	02/04/00	02/07/00	IT Lead
5.13	Search Engine Registration / Marketing	5	0%	01/00/00	01/03/00	IT Lead
5.14	Cost Breakdown	5	0%	02/07/00	02/08/00	IT Lead
5.15	Actual Design Implementaiton Schedule	5	0%	02/07/00	02/08/00	IT Lead
5.16	Support & Maintenance Plan	5	0%	01/00/00	01/03/00	IT Lead
6	**Miscellaneous (= 10% of estimated time required for proje**	33.625	0%	04/18/06	04/24/06	
7	**Assess project**	1	0%	04/24/06	04/24/06	IT Manager
8	**Update project plan template**	1	0%	04/25/06	04/25/06	IT Project Manager

3.6.5 Support and Maintenance

Support and Maintenance Plan

Support Plan

The support plan identified the main area that needs
support is the web site maintenance and support. This will be
done by providing e-mail support as well as regular updates and
reviews to the web site by the main developer. Third parties
like the web hosting company, shopping cart and payment gateway
software providers will cover all other support including
hardware and software upgrades that pertain to their piece of
the web site. The web site will have monthly backups. And
support issues brought to the developer will be looked into
within a 48 hour period.

3.7 Resource Requirements

The resources for this project were limited. The author
was the only one working on all the project management and
project implementation. The hardware & software resources
included a web server, a purchased domain name, open source web
server software (fedora), and an open source database MySQL.

3.8 Outcomes

The outcome of the project proposal of an e-commerce

implementation was presented to the business owner and reviewed
and then approved to implement. The author gained experience in
managing a project from start to finish with bring all the
elements together successfully.

3.9 *Summary*

The methodology that was used during this project was to
research existing e-commerce solutions, apply the knowledge
gained in the MSCIT program at Regis, and interview the business
owner the web site was for to determine and ideal solution. It
was recommended that during the web site development that a
Spiral development approach be used. Specific procedures in the
Spiral design process include: planning, analysis, design,
develop, implement, and maintain. The deliverables associated
with all the design phases were approved and the business needs
were defined. Deliverables were explained for each of the
project phases. Project planning defined what the hardware and
software needs were, what the business needs were, and provided
a work break down table. The design phase examined: what makes
up a usable web site with the seven C's of design, shopping
carts, payment gateways, security and privacy, order
fulfillment, and a prototype of the design. The implementation
phase defined: domain name registration, web hosting, search

engine registration, a cost breakdown, a project plan, and a

support and maintenance plan.

4. Chapter Four: Project History

4.1 How the Project Began

This project began with a talk with my boyfriend's brother who owns his own fly-fishing company. He already has an E-commerce web site www.flyfishingflies.com and he paid a lot of money to the person who developed and maintains the site. The author wanted to see how much time and effort it would take to design another web site prototype for him and how much it would cost to maintain the site. It will use a different URL, which he has already registered www.yourflyshop.com that is different from the current web site.

4.2 How the Project was Managed

This project was managed using project management techniques: planning, assigning work, setting a schedule, and reporting status. This was managed through the project plan. The number of people that were involved were few, so that made the project easier to manage and communication was effective.

4.3 Significant Milestones

The project milestones and their deliverables are described below.

Project Milestones Table	Phase	Deliverables	Milestone
	Feasibility	Initiating Project kickoff Researching Competitors	❖ Completing competitor analysis
	Planning/Analysis	Exploring existing research Defining the business needs Developing the project plan	❖ Compiling existing research ❖ Completing the project plan
	Design	Specifying design components: • Web site • Shopping cart • Payment Gateway • Security / Privacy	❖ Identifying design components ❖ Researching and selecting design components
	Implement	Defining implementation: • Domain registration • Web hosting • Design implementation schedule • Cost break down Prototyping the web site Delivering implementation recommendation	❖ Prototyping the web site ❖ Acceptance of recommendation
	Next Steps	Preparing project management plan Assisting in implementation of selected solution	❖ Designing & deploying web site

4.4 Changes to the Project Plan

From the initial project plan the schedule is what changed the most. The schedule had to be extended due to time constraints of the author. The scope of the project remained fairly consistent. The project plan was hard to manage having only a single resource to complete all the work.

4.5 Evaluation of Project Goals and Deliverables

This projects goal was straight forward, to create a recommendation of how to implement a quality E-commerce web site. The recommendation created over the course of this project did exactly that. It provided a look into existing research, as well as one way to successfully create an E-commerce web site for a small company.

It would have been nice to expand the scope of the project to include implementing the proposed solution. This was out of scope because of project resources being limited to one person that took on multiple hats, project manager, designer, and author of this paper.

4.6 What Went Right and What Went Wrong in the Project

Overall this was a successful project. The technology available is what made this project complete smoothly. Existing research helped to narrow down the scope of options to research.

Of the things that the author would have changed, she would have liked the deliverables to include completed E-commerce web site in action. More people resources would have been very helpful.

4.7 Project Variables and Their Impact on the Project

The main project variables were constraints on time, resources, and money. Because of lack of time the project was only a recommended solution and was not implemented before completion of this project. The lack of funds also put constraints on which software and services could be purchased.

4.8 Summary of Results

The project manager of this project had a clear channel of communication with the small business owner. This made the project decisions go smoothly and efficiently. The project was well researched and fairly easy to pull together. The main constraint of this project was the lack of time and people resources.

5. Chapter Five: Lessons Learned and Next Evolution of the Project

5.1 What the Author Learned from the Project Experience

This was a great project experience for the author, because it let the author utilize the skills and knowledge that they have learned in the E-commerce MSCIT program at Regis. It also helped the author apply Program Management skills such as planning a project and managing its resources. The learning was consistent throughout the whole project. Some of the most interesting parts were interacting with the business owner to determine the business needs as well as researching existing technologies.

5.2 What Could Have Been Done Differently

The author would have tapped into more resources when designing the actual web site. A better back end user interface to manage and track products would have been helpful, especially as a plan to have a web site that can scale easily as the company grows.

5.3 *Whether or Not the Project Met Initial Expectations*

This project met the initial expectations laid out at the beginning of the project. It delivered a recommended E-commerce web site solution. It also put together a plan to implement the next phase of the project.

5.4 *Next Stage for the Project*

The next stage is to pick a web host, design the web page, complete with shopping cart and payment gateway software. Eventually this may include looking into software to manage order fulfillment or a database to store customer information for newsletters or other mailings.

5.6 *Conclusions and Recommendations*

This project produced a recommended implementation for an E-commerce web site. The element of the project that changed the most was the project time line. This was because the project manager was also the designer. One recommendation would be to pull more than one person in to implement the project. This will allow for a more consistent project schedule. As more people are added to the project effective communication becomes more critical and there can also be added cost.

5.7 *Summary*

This was a great learning experience that concluded the MSCIT program with an emphasis in E-Commerce. It allowed the author to pull resources and knowledge together from classes as well as personal experience. The author gained more experience in project management as well as technical writing. Because the author got to mage the project from start to finish they would have added more time and resources to the project. This would have allowed the scope to expand to include a completed web site.

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7.0 Exhibits / Addenda

7.1 Screen Shots of Current YourFlyShop.com web site

YourFlyShop.com - Web Browser

http://www.harco.com/flyfishing/companyInfo.h | Go | Search

YourFlyShop.com

YourFlyShop.com - 3100 Euclid Ave. - Boulder, CO 80303
Ph: 303.415.1100 - Fax: 303.247.9110 - Toll Free:1-866-347-4523
E-mail us!

HOME

COMPANY
INFORMATION

FLY RODS

REELS &
FLY BOXES

DRY FLIES

NYMPHS

ACCESSORIES

SHOPPING CART

Your Fly Shop .com

Experts in fly fishing for over 25 years! Our flies are
high quality, in stock and always ready to ship.

We are a small company based in Boulder
Colorado. We have been in business for 25 years.
Our goal is to provide our customers with the best
quality fly fishing products and expert advice. We
are well established and known within the fly-fishing
industry. We supply fly fishers in every state in the
United States as well as over seas.

We have one of the largest selection and sizes of
flies in the industry at the best prices. We believe in
only selling the best quality products. We appreciate
your business and we will do everything possible to
satisfy you as a customer.

Sincerely, YourFlyShop.com Staff

Home | Contact Us | FAQ | Shipping | Shopping Cart | Specials | Dry
Flies | Steel Head - Salmon | Bead Heads | Nymphs | Specialty Flies |
Streamers | Fly Rods | Reels | Accessories

(c)2006 YourFlyShop.com- webmaster | Info

Waiting for www.harco.com...

YourFlyShop.com - Web Browser

http://www.harco.com/flyfishing/flyRods.html   Go   Search

YourFlyShop.com

YourFlyShop.com - 3100 Euclid Ave. - Boulder, CO 80303
Ph: 303.415.1100 - Fax: 303.247.9110 - Toll Free:1-866-347-4523
E-mail us!

HOME

COMPANY
INFORMATION

FLY RODS

REELS &
FLY BOXES

DRY FLIES

NYMPHS

ACCESSORIES

SHOPPING CART

Fly Rods

Qty	Model	Price	Cart
	8.5 Ft. - 4 Piece - 3/4 Wt. pic 1 , pic 2 and pic 3	$158.00	Add to Cart
	9 Ft. - 4 Piece - 3/4 Wt. pic 2 and pic 3	$158.00	Add to Cart
	9 Ft. - 4 Piece - 5/6 Wt. pic 1, pic 2 and pic3	$158.00	Add to Cart
	9 Ft. - 4 Piece - 6/7 Wt. with Fighting Butt pic 1 , pic 2 and pic 3	$168.00	Add to Cart
	9 Ft. - 4 Piece - 7/8 Wt. with Fighting Butt pic 1, pic 2 and pic 3	$168.00	Add to Cart
	9 Ft. - 4 Piece - 8/9 Wt. with Fighting Butt pic 1, pic 2 and pic 3	$178.00	Add to Cart
	9 Ft. - 4 Piece - 9/10 Wt. with Fighting Butt pic 1, pic 2 and pic 3	$178.00	Add to Cart

Home | Contact Us | FAQ | Shipping | Shopping Cart | Specials | Dry
Flies | Steel Head - Salmon | Bead Heads | Nymphs | Specialty Flies |
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HOME

COMPANY
INFORMATION

FLY RODS

REELS &
FLY BOXES

DRY FLIES

NYMPHS

ACCESSORIES

SHOPPING CART

Shopping Cart

The following items are in your cart:

Checkout

Home | Contact Us | FAQ | Shipping | Shopping Cart | Specials | Dry
Flies | Steel Head - Salmon | Bead Heads | Nymphs | Specialty Flies |
Streamers | Fly Rods | Reels | Accessories

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Waiting for www.harco.com...

7.2 E-Commerce Shopping Carts

Source (http://www.trustcommerce.com/carts.php)

Cart	Description	Cost
	[StoreForge](#) StoreForge is a unique new way for merchants to quickly and easily build webstores without the need for any dynamic web programming! You can design your web site in standard HTML, and let StoreForge do the rest.	
	[OS Commerce](#) An Open Source cart written in PHP.	FREE
	[Interchange](#) The Redhat Linux integrated shopping cart system. A very robust cart for feature-rich sites, written in Perl.	
	[Mal's E-Commerce](#) ($6/mo) Add simple Buy Now buttons to your product pages and your customers can fill out an order while they browse your web site. Requires a Premium account to process with TrustCommerce.	$6/mo
	[SquirrelCart](#) (Single Site License - $69.00) Squirrelcart is a PHP / MySQL e-commerce system. It is a fully customizable, robust shopping cart, designed with the advanced developer and web novice in mind.	Single Site License $69.00
	[EcomPal Basic](#) (free, $5/mo Upgrade) eComPal is a complete shopping cart that organizes your customer's order and collects the payment information, including credit cards, online check payments, and COD orders.	free, $5/mo upgrade
	[Make-a-Store](#) Make-a-Store's cart is template-driven and Open Standards-compliant, and includes both hosted and purchasable solutions.	

	X-Cart PHP/MySQL/Smarty-based software that can be used as a shopping cart solution or as a powerful customized web shop. X-Cart is optimized for smooth performance and clean look.
	Lite Commerce A lightweight and easy to use store builder package, powered by PHP and MySQL. From the makers of X-Cart.
	3dCart Fast, reliable, and easy to use, 3dCart will get your business online in just a few minutes. This all-inclusive solution provides software, hardware, and support. For more information contact Mark Lubow at 800-828-6650 x 112.
	AllCommerce An Open Source shopping cart written in Perl.
	VPASP Comprehensive shopping cart now in use in over 70 countries. Open ASP source. Windows and Unix. Runs in any language/currency. Hundreds of features.
	Comersus Popular Shopping Cart Google friendly 100% compatible with TrustCommerce. Other features: taxes, shipping, multilanguage, stock, encryption, auctions, reviews, order tracking, multilevel categories. Optional Packs with UPS, USPS, DHL, SQL, mySQL and WAP catalog.
	Volusion Ecommerce Software Volusion Ecommerce Software is dedicated to innovating and evolving ecommerce. Our all-in-one ecommerce solution is the most cutting-edge and customizable shopping cart software on the market.
	dbCanvas The dbCanvas solution to Turnkey Ecommerce is dbShop. This shopping cart has many features, but is still easy to configure and customize.

	ZenCart The open source eShopping solution developed by like-minded shop owners, programmers, designers, and consultants who think eCommerce should put merchant's and shopper's first. And since it is open source – it's FREE!	FREE
	PDG Cart PDG Software provides solutions to help businesses of all sizes establish sophisticated e-commerce Web stores. Real time UPS/USPS. Export to QuickBooks, Froogle, Yahoo Shopping. Sell digital downloads. 30-day evaluation for all new merchants.	

Other E-Commerce Carts: LiveMerchant Priusant CCTranMan 1ShoppingCart.com PowerStoreASP QB Automation BillThru NetPurchase PepperCart SalesCart MyCart Click Cart Pro BigeBag AACart Auctiva ProductCart QuickEStore ShopSite Andale ECOMPRO EasyStoreCreator Comersus MyWebSiteTool.com EasyCart BIZyCart Veracart SunShop Shopping Cart NMS Deluxe Shopping Cart Cart Manager Power Service Cart cf_ezcart 5th Avenue Shoppe VirtualShop SoftwareProjects Payment Center Zoovy e-commerce Fractal Commerce Ecommerce Templates ampleShop Advanced Cart v2 SEO-Cart B2I Shopping Cart CartFusion ShopFactory Money Cart .Net Cart Apple Cart StoreFront Virtual Store 2000 Mercantec SCartServer SightShop CatalogIntegrator Smart Cart 2ndSite NetStores Make-a-Store Freedom Networking Solutions Shop-Script CartMonster run Skip Interactive Agency Agile Cart King Cart Services RomanCart Side Street Shop ECmerchant 5.5 Credit Card Store DesignCart AbleCommerce Power Shop Cart CyberOffice QuickCart.com GoldbarOne Miva Merchant ASP.Net Storefront GoECart WebShopz Decentrix Web Site Solution UltraCart.com ProCart X-Cart SecureNetShop Portline ecomnow Next Gen Cart
(Source:http://www.authorize.net/solutions/merchantsolutions/merchantservices/shoppingcartdirectory/)

7.3 *Payment Gateways*

Source (http://www.oscommerce.com/solutions)

E-Payment	Description	Cost

	2Checkout.com - You specify the description, price, etc. of the electronic goods you want to sell. Then automated routines create links for you to add to your site. Buyers click on the link, fill out their payment information and 2CO deposits the money into your 2CO account and routes them to your download area.
	  No term contracts
	  No equipment or software needed
	  Easy to use plug-n-play code
	  Simple commission fee structure
	  International suppliers accepted
	  List products & services just about anything
	  Supports recurring billing
	  Works with existing shopping carts
	  Automatic purchase order notification
	  State of the Art fraud detection
	  Great for simple or complex needs
	  Comprehensive account management tools
	  Robust shipping options
		$49 one time signup fee
		
		$0.45 per Sale
		
		5.5% of Sale Amount

PayPal	PayPal - Web site Payments Standard: PayPal payment forms accepted: Major credit cards: Visa, MasterCard, American Express, Discover, bank transfers, debit cards, or PayPal account balance. There's no approval process, and no shopping cart needed. Customers shop on your web site and pay you on PayPal either with their PayPal account or by just entering a credit card number. They don't even need a PayPal account. Accept donations, subscriptions, and recurring payments. No monthly, startup, or cancellation fees—plus no annual contract. Plus, you get the option to take credit cards via phone, fax, mail, or in person, with Virtual Terminal. (USA only, monthly fees apply).	No monthly, startup, or cancellation fees. Transaction rates 1.9% - 2.9% + $0.30 USD, depending on monthly volume.
PSiGate	PSI Gate - **PSiGate Merchant & Gateway Accounts Include** - Real-time Credit Card Processing - Cdn and/or US merchant accounts - World Class Fraud Protection - Customizable Fraudshield Module - Browser-based eTerminal - Fast and Efficient Application Process - Real-time Reports - Transparent Web APIs (COM, Perl, Java, etc) - Integration with Many Shopping Carts	Canadian based.

	TrustCommerce - Credit card processing, Retail/POS, ACH (electronic checks), subscription / recurring billing, continuity and installment billing, and virtual POS needs utilizing our Credikey™ product line. These packages were designed to accommodate our Fortune 500 clients, as well as our small business merchants. Open source is all about freedom; the empowerment of the programmer. Offering our clients the ability to adapt, pioneer, or revise applications across all languages and operating systems.	Request a quote.
	AuthorizeNet - Authorize.Net provides Internet Protocol (IP) payment gateway services that enable merchants to authorize, settle and manage credit card or electronic check transactions anytime, anywhere. Authorize.Net offers Web merchants several methods for connecting to the payment gateway. One popular solution is to use shopping cart software—a virtual "checkout" for customers shopping at a Web site.	Request a quote.

SECPay	SECPay – SECPay is a UK based company offering services primarily to the UK market. If you are a business based outside of the UK you will need either to gain a UK Internet Merchant Account from a UK merchant issuer or obtain a Merchant Account from an international issuer such as Euroconex (for Europe) or Paymentech (for North America). The key-determining factor for most businesses is what currency they wish to trade in. If you want to trade primarily in GBP Stirling then a UK based merchant account issuer or Euroconex are suitable. SECPay can handle cards from all major card issuers, including Visa, Mastercard, JCB, American Express and Diners. We handle these using the accepted card verification processes, and within the standard procedures of the SECPay service you choose. The payment from overseas cardholders to a UK merchant account will be made in the selected currencies of your choice pre-agreed with whichever bank your Internet Merchant Account is held. Your bank will require a separate account for each currency.	Set-up Costs, Transaction Charges, & Monthly Service Charges. Just UK based.
USA epay A GorCorp ® Company	USAePay - The USA ePay Merchant Console Virtual Terminal is the main toolkit in the USA ePay line of products. One can think of the Merchant Console as an internet-based credit card machine with an enormous amount of extra features.	

April 18, 2006

E-Commerce Web Site Design For a Small Fly Fishing Business

Kelly Harr

Regis University, MSCIT

Overview

Project Introduction

Research / Existing Solutions

Methodology

Project History

Prototype Screen Shots

What Went Well / Lessons Learned

Next Evolution of the Project

Conclusion

Questions?

Project Introduction

- Researched E-Commerce web site design best practices and techniques for small to medium size companies.

- Developed a prototype for design purposes.

- Recommended a plan for an E-Commerce web site implementation for a small local fly fishing company

Research: Overview

1. Determined business needs for an E-Commerce web site

2. Reviewed competitor web sites in the same market.

3. Researched existing solutions and best practices for E-Commerce web site design for small to medium size companies

4. Explored off-the-shelf solutions and costs

Research: E-Commerce Market

Total Worldwide eCommerce Revenues, 2004 (B2B & B2C)

Region	Total
North America	$3.5 trillion
Asia Pacific	$1.6 trillion
Western Europe	$1.5 trillion
Latin America	$81.8 billion
Rest of World	$68.6 billion

Source: http://www.forrester.com/

http://www.ecominfocenter.com/index.html?page=/infosources/websites/statistics.html

Research: Business Needs

Web Design — **Order Mgmt.** — **E-Com.** — **Marketing**

- ✓ **Web Design**
- ✓ **Web Hosting**
- ✓ **Domain Name Registration**
- ✓ **ISP Selection**

- ✓ **Order Process (Fulfillment)**

- ✓ **E-Payment System**
- ✓ **Merchant Acct.**
- ✓ **Shopping Cart**
- ✓ **Security**

- ✓ **Search Engine Registration Techniques**
- ✓ **E-mail List**

Research: Competitors

Research: Best Practices

Step 1

Step 2

Step 3

Step 4

Step 5

Establish your online identity with the right web address	Build a user-friendly site	Set up your web server or select an ISP to host your site	Minimize the risks of e-Commerce	Accept and manage all kinds of payments
• Memorable • Short • Descriptive	• Plan • Site design • Existing sites • Relevant • Easy Navigation	• Storage • Availability • Encryption • Support	• Risks • Trust • Security • SSL • Privacy statements	• Payment processing • Payment authorization •Merchant Accounts
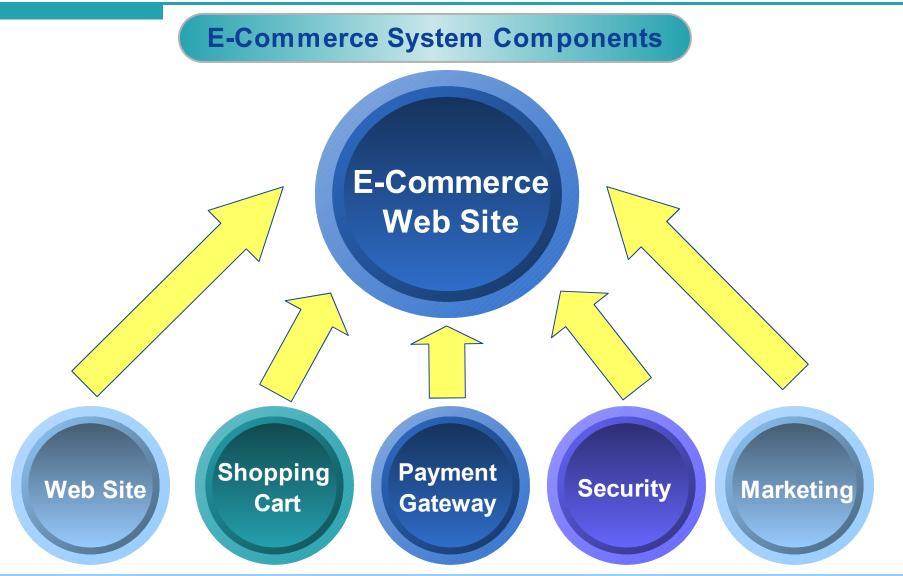
Verisign. (2006). *How to Create an E-Commerce Web Site*.

Retrieved February 26, 2006, from Verisign Web Site:
http://whitepapers.zdnet.co.uk/0,39025945,60031340p-39000548q,00.htm

Research: Web Site
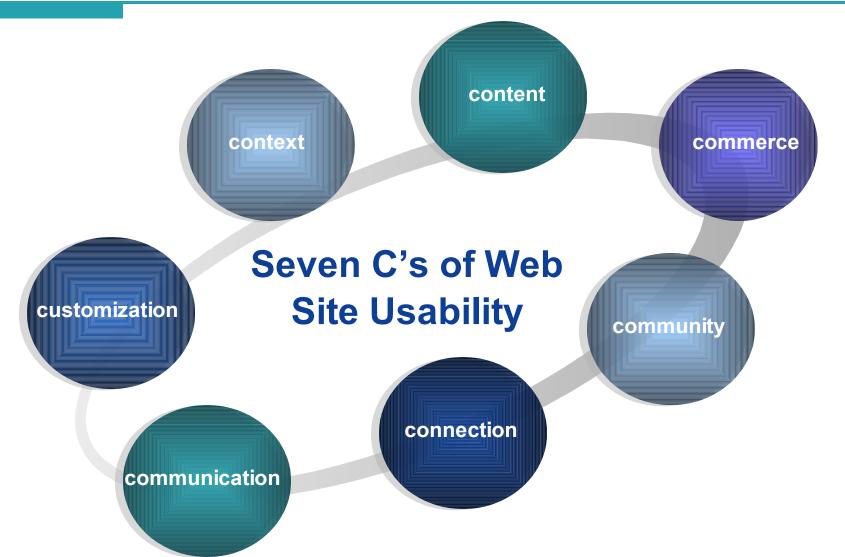
- **Web Design**
- **Domain Name Registration**
- **Web Hosting**

context

content

commerce

customization

Seven C's of Web Site Usability

community

communication

connection

Research: Shopping Cart

off-the-shelf solutions

osCommerce · eCOMpal · Comersus · XCART · 3dcart · StoreForge · Make-a-Store · Complete Tools For Online Business · interchange · powered by zencart the art of e-commerce · PDG · PDG SOFTWARE Inc. · AllCommerce · volusion · VP·ASP · COMPREHENSIVE shopping cart · SQUIRRELCART · Shop · Mal's e-commerce · Lite Commerce · as easy as surfing the web

Research: Payment Gateway

off-the-shelf solutions

Research: Security
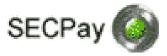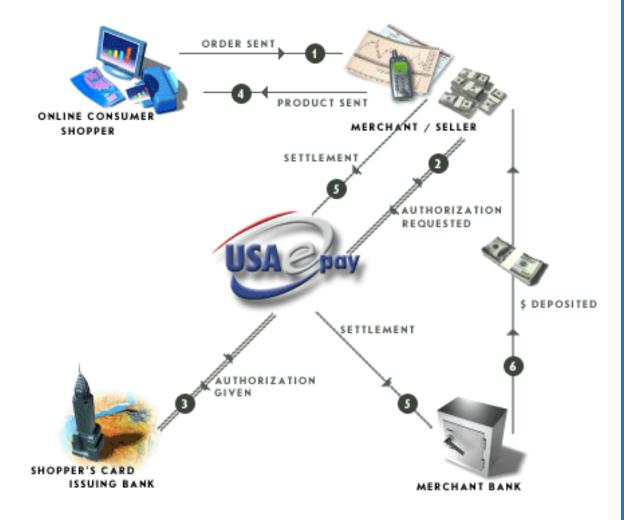
- **Digital Signatures and Certificates**

- **Secure Socket Layers (SSL)**

- **Transactions**

Research: Marketing

- **Search Engine Registration**
- **Page Optimization**
  - content
  - layout
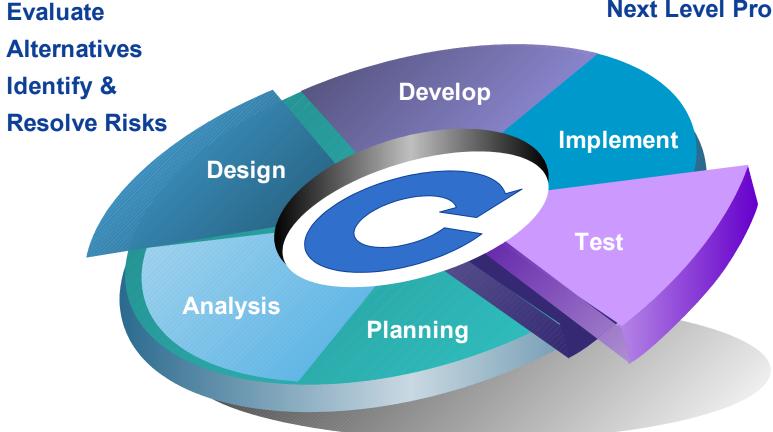 - meta-tags
- **Search Directories**

Research: Best Practices

E-Commerce Must Haves!

Business Standpoint	Customer Standpoint
Embed reliability through security, encryption, up time, backups, & recovery plan.	Has adequate security & performance as well as protects your privacy. Display a privacy & security policy.
Ensure a secure, well-designed attractive web site.	Is user-friendly, easy to find what you are looking for and provides value, and inspires confidence through security.
Examine product suitability	Is a product that lends well to web purchases.
Have a well-organized business structure, business processes, & sound business model.	Good customer service. Order is fulfilled and payment is easy and secure.
Establish a customer relationship - ensure employees, suppliers, & partners have the same have a complete view.	Has personal attention Gives an incentive to return: coupons & discounts
Use a value chain where you focus on your core competencies.	Is easy to make a purchase with confidence

Methodology: Spiral SDLC

Methodology: In Action

| Task #	Task Name
	Phase 1 - Feasability
1	Completed Competitor Analysys
	Phase 2 - Planning / Analysys
4	Defined Software & Hardware Needs
2	Defined Business Needs
3	Explored Existing E-Commerce research
	Phase 3 - Design
5	Reviewed Web Site Usability
6	Researched & Selected Shopping Cart
7	Researched & Selected Payment Gateway
8	Researched Security / Privacy
9	Examined Database/ Order Fulfillment
10	Prototyped Web Site
	Phase 4 - Implement & Maintain
11	Registered Domain
12	Selected ISP for Web Hosting
13	Search Engine Registration / Metatags
14	Cost Breakdown
15	Created Design Implementation Schedule
16	Created Support & Maintenance Plan
	Phase 5 - Project Next Steps
17	Presented Recommendation to Company
18	Composed Project Management Plan
19	Assist in implementing selected solution

Project History
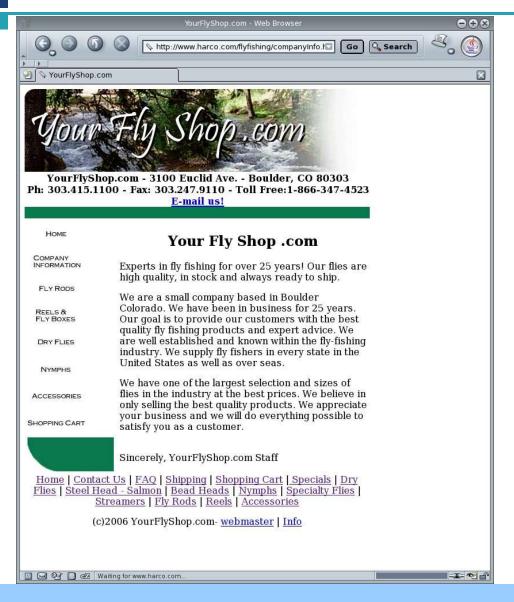
- Project started with discussing e-commerce web sites with a friend that runs a local fly-fishing business.

- The goal was to come up with an easy cost effective, quality way to have an online business in addition to the mail order business.
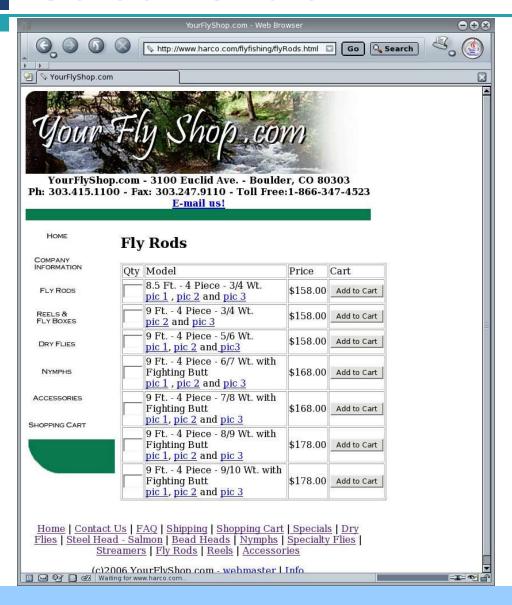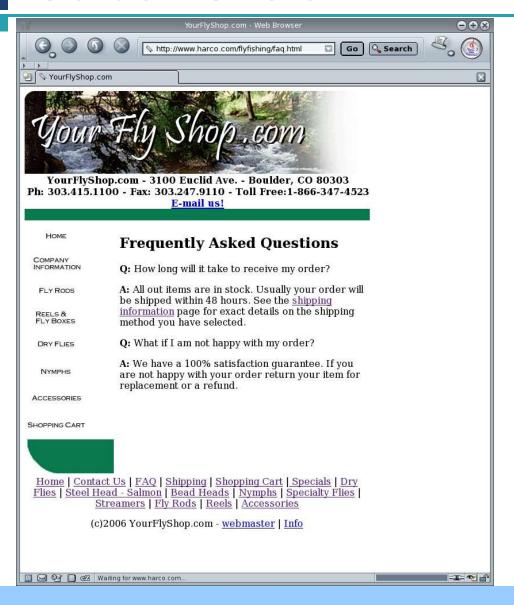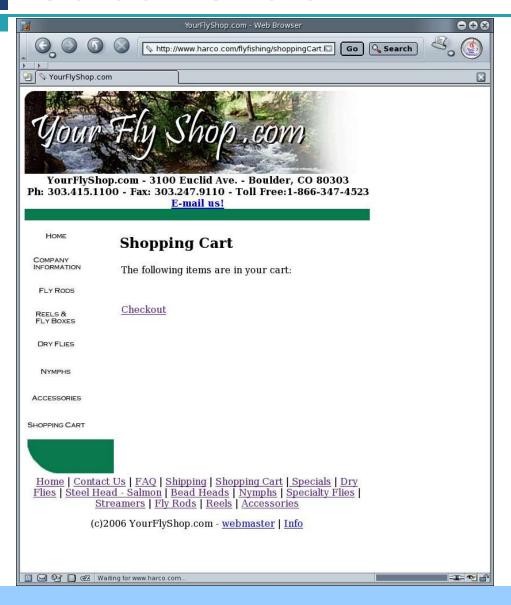
Screen Shots

Screen Shots

Screen Shots

Screen Shots

Screen Shots

Cost Breakdown

Item	Cost	Service Provider
Web Hosting	$40/mo	Netrack
Domain Name Registration	$9.95/yr	Stargate.com
Search Engine Marketing	($5/setup & $.10/click)	Overture Yahoo
Shopping Cart	Free - Open Source	ZenCart
Payment Gateway	($179/setup, $19.95/mo for 500	Vierisign - PayFlow Link
Web Design	N/A	Design done in house
Web Support Maintenance	N/A	Supported in house
Hardware	Development computer	Using already available resources
Software	(GIMP for graphics - open source, HTML,	Using already available resources
Digital Camera		Using already available resources
TOTAL	**(~$394/1 time setup + $70/mo)**	

What Went Well

- Researching the main components of e-Commerce
- Competitor Analysis
- Definition of Business Needs
- Decision Making was quick
- Communication was effective with few people involved
- Project Planning

Lessons Learned

- Planning the scope, budget, & resources can be challenging
- Managing a system design end-to-end
  - Wearing all the hats (Project Manager, Developer, Tester)
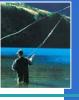- Tap into more resources

Next Evolution

- Continue with Spiral SDLC
- Follow Project Plan schedule to implement chosen solution
- Refine and test selected web site solution
- Complete shopping cart and payment gateway integration
- Select web host
- Final sign off to go live.

Conclusion: Summary

- **Researched existing solutions**
  - **Web Design**
  - **Shopping Carts**
  - **Payment Gateways**
  - **Security**
  - **Marketing / Search Engine Registration**
- Determined business needs
- Used the Spiral SDLC methodology to prototype a site and select a solution
- Presented Cost Breakdown, Prototype, and Project Plan for implementation to the business owner
- Received sign off to implement project plan

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Questions?