

iTRADE

A Thesis

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of

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## DECLARATION

We hereby declare that this thesis is based on the results found by ourselves. Materials of work found by other researcher are mentioned by reference. This thesis, neither in whole nor in part, has been previously submitted for any degree.

Signature of  
Supervisor

Signature of  
Author

## ACKNOWLEDGMENTS

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## ABSTRACT

The motive behind this project is to build a communication media using web portal, so that different type of business organization can communicate and build business relationship more efficiently. This web portal will help them exchanging information and creating a platform that would encourage new potential companies to communicate and expand with the help of other established company or organization.

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## CHAPTER I. Project Definition

### 1.1 Client Survey

#### Client Survey – Web Design

##### 1) General Information – just the basics

Project Name: iTrade

Current URL (or desired URL): <http://www.itrade.com>

Contacts for this project: Hasan Al Khaled, Ph: 01717077776  
Saikat Ahmed Kachi, Ph: 01911100872

Target date for launching the demo of the site: 12/8/2009

External factors that influence/affect the schedule:

##### 2) Why?

- a) What is the business problem you hope to solve with this project?  
It is difficult to make communication between business entrepreneurs.

##### 3) Who?

- a) Who is your customer/target audience? Describe your target audience (age range, education level...)  
Our target customers are business companies, vendors, merchandisers etc.

Age- 21 and above

Education level- H.S.C. and above

#### 4) Value

a) Why do your customers need you? What is your most important benefit (to the customer not you)?

1. Fast communication
2. Reliable
3. Categorized Search

b) What do you offer that is different from your competition?

We have one of the highest production capabilities.

c) What is your product in the eyes of the customer?

It seems effective

d) How do (will) customers use your site? What are their goals?

Our customer will search for their product and order according to their limit and our price.

#### 5) Perception

a) List adjectives describing how you want visitors to perceive the new site.

1. Business communication
2. Company profile
3. Company and Product search

b) Is this different than their current perception?

It is very different from their current perception because they have to find customers and then have to contact with them.

c) List URLs of sites you like. What do you like about these sites?

1. <http://www.ebay.com/>
2. <http://www.alibaba.com/>
3. <http://www.shop-script.com/>
4. <http://www.mightymerchant.com/>
5. <http://www.ecommercepartners.net/>

## 6) Content

a) Do you have existing content for the site or will you create new content? Who will write the new content?

Yes, but it will need to be redesigned by developers.

b) Any visuals or content you want to use from your current site or marketing materials (logo, color scheme, navigation, naming conventions, etc.)?

Yes, we want to use our logo.

## 7) Technology

a) Any specific technologies you would like to use in your site? (Flash, AJAX, etc) If so, explain how they will enhance the user experience.

ASP.Net - Easy programming model, flexible language option, great tool support and enhanced reliability.

b) Any required database functionality (dynamic content generation, personalization, login...)?

MS SQL server

c) Need for secured transactions? (Like online shopping)

Not now, will be integrated later.

d) Any additional programming requirements? (Like search functionality)

Search engine optimization.

## 8) Marketing

How do people find out about your current site? What triggers prompt a visit (referral links, incentives, search engine terms)? How do you currently distribute the URL within your organization on and offline?

Do you have a marketing strategy in mind to promote this project? If yes, could you describe it?

## 9) Updating

a) How do you plan to keep the content on the site current and updated?  
Inventories and company profile will be updated by user. Other administrations will be updated by admin.

b) How often should content change on your site?  
Look and feel - half yearly.

c) Who is responsible for updating and providing content?  
The developers.

d) What software will they use to keep the site updated?  
Admin panel in asp.net

## 10) Additional Notes/Comments

## 1.2 Project Brief - Creative Brief/Tech Specs

### iTrade Project Brief

Project Name: iTrade

URL: <http://www.iTrade.com/>

Project Goals:

- Create a web portal for communicating for business to business.
- Make communication faster and convenient between businesses.
- Make it easy for the business entrepreneurs to find and search according to their business need.
- Categorized business profile.

Target Date for Launch for demo: ideally-start of 1<sup>st</sup> quarter must be done by mid of august.

Audience:

- General – prospective business personal, vendors, visitors, merchandiser...
- Tasks - browser or search perspective Business Company to build communication.

Perception

- Current – academic, unapproachable, inaccessible, university focused
- Desired – inviting, robust, smart, fresh, up to date, intellectual, enhanced reliability,

## Message

Trust our experience to manage your business!

## Competitive Advantage

- iTrade is full of efficient content that is of great interest to the public. While some of our content can only be accessed by the current academic community, there are many opportunities to communicate between different business companies: For example, the categorized list of companies to match your business criteria.

### 1.3 Project Plan

First we make a project guide line to complete the tasks, and then we had made client surveys to collect necessary information. After that we discussed with the clients and made the project plan.

Design Steps	Deliverables	Tasks	Begin Date	End Date	Done (Y/N)	Who (person(s) responsible for this task)
1	<b>Project Definition</b>					
	<b>Client Survey</b>	Interview client using Client Survey	25/6/2009	25/7/2009	y	Cyrus, Kachi
	<b>Project Brief - Creative Brief/Tech Specs</b>	1st draft - write a high level Creative Brief/Tech Specs based on client survey Client feedback on Creative Brief/Tech Specs	26/6/2009	26/7/2009	y	Cyrus, Kachi
	<b>Project Plan</b>	Final Creative Brief/Tech Specs 1st draft - create a timeline of project dates with work assignments Review 1st draft of Project Plan with client and all project team members for feedback	27/6/2009	28/6/2009	y	Cyrus, Kachi

**2 Site Structure**

	Finalize Project Plan (recognizing that this is a living document)				
<b>Maintenance Plan</b>	Interview client using Web Site Maintenance Plan 1st draft of Maintenance Plan Client feedback on Maintenance Plan Final Maintenance Plan	29/6/2009	30/6/2009	y	Cyrus, Kachi
<b>Content Outline</b>	Create a list of existing content on the current site Brainstorm content that needs to be created based on Creative Brief Review list, trimming content that does not match goals or audience needs Organize content into categories. Consider using a card sort 1st draft of Content Outline Client feedback on Content Outline Final Content Outline	30/6/2009	30/6/2009	Y	Cyrus, Kachi
<b>Site Diagram</b>	1st draft of Site Diagram Client feedback on Site Diagram Final Site Diagram	1/7/2009	2/7/2009	y	Cyrus
<b>Wire Frames</b>	1st draft of Wire	3/7/2009	3/7/2009	y	Kachi



			Frames				
			Client feedback on Wire Frames				
			2nd draft of Wire Frames				
			Client feedback on 2nd draft				
			Final Wire Frames				
<b>3</b>	<b>Visual Design</b>						
		<b>Design Round 1</b>		4/7/2009	4/7/2009	y	Kachi
			1st round of Visual Designs for home page and one sub-page (provide at least 3 different designs)				
			Client feedback on 1st round of designs				
		<b>Select Final Design</b>		5/7/2009	6/7/2009	y	Cyrus, Kachi
			Final visual design for home page and all unique sub-pages				
<b>4</b>	<b>Site Development</b>						
		<b>Target technical specs</b>		7/7/2009	20/7/2009	y	Cyrus, Kachi
			Browser compatibility: Internet Explorer 6+, Firefox 1.05 +, Mozilla 1.7+, Safari 1.2 + Platforms: Macintosh and PC. Screen Resolution: 1024x768 Connection Speed: 56k+ Page download size: 30 to 80k. Accessibility: Section 508 compliant.				
				7/7/2009	7/7/2009	y	Kachi

	<b>Functional Specs</b>	Visual design: Photoshop CS3. Language: asp.Net, Database: MS SQL Server, Frontend: XHTML Transitional, CSS, jQuery	8/7/2009	8/7/2009	y	Cyrus
	<b>Updated Project Plan</b>	Review original project plan/timeline and further define any additional coding and integration tasks, confirm time estimates and resources	9/7/2009	10/7/2009	y	Cyrus, Kachi
	<b>Build and Integrate Site</b>	Build templates using web standards  Pour content into templates  <i>Insert coding tasks (and resources/time estimates) here</i> Backend programming  Integration Search Personalization/login Secure Transactions  Web Stats	11/7/2009	20/7/2009	y	Cyrus, Kachi
<b>5 Testing</b>			21/7/2009	2/8/2009	y	Cyrus, Kachi
	<b>Content Review</b>	Editor and content expert review Prioritized list of changes	21/7/2009	21/7/2009	y	Cyrus

	High priority changes made Final Content Review	22/7/2009	22/7/2009	y	Kachi
<b>Link Review</b>					
	WebXM report on broken links Resolve all broken links				
<b>Functionality Review</b>		23/7/2009	23/7/2009	y	Cyrus, Kachi
	Create list of website functional tasks Create test plan Objective testing ideally done by someone outside the development team Prioritized list of issues				
	High priority changes made Final Functionality Review	24/7/2009	24/7/2009	y	Cyrus, Kachi
<b>Validity Review</b>					
	Run automated tests for valid (X)HTML and CSS Prioritize list of changes				
	High priority changes made	25/7/2009	25/7/2009	y	Cyrus, Kachi
<b>Accessibility Review</b>					
	Run automated tests for Accessibility Run manual tests for Accessibility Prioritize list of changes				
	High priority changes made	26/7/2009	26/7/2009	y	Cyrus, Kachi
<b>Browser/OS Resolution Testing</b>					

	Create test plan for testing all targeted browser/OS combinations Document all browser/OS combinations tested and prioritize problems found High priority changes made				
<b>Connection Speed Testing</b>		27/7/2009	27/7/2009	y	Kachi
	Use the Web Page Analyzer to review speed and size of pages				
<b>Usability Testing</b>		27/7/2009	28/7/2009	y	Cyrus
	Conduct informal or formal usability testing Prioritize list of issues High priority changes made				
<b>Search Engine Optimization</b>		29/7/2009	29/7/2009	y	Cyrus, Kachi
	review pages for semantic html and fine tune				
<b>Load Testing</b>		30/7/2009	30/7/2009	y	Cyrus, Kachi
	contact your server administrator to discuss load testing techniques				
<b>Security Review</b>		30/7/2009	2/8/2009	y	Cyrus, Kachi
	request automated SecurityXM Scan review file authorizations review authentication methods conduct authentication test resolve any security issues				

		if necessary, receive security approval from ITS				
<b>6</b>	<b>Launch</b>	<b>Style Guide</b>	3/8/2009	6/8/2009	y	Cyrus,Kachi
		Visual Design Standards Naming Conventions  Site Structure Templates				
		<b>Launch</b>	8/8/2009	8/8/2009	y	Cyrus,Kachi
		Set date to go production Inform interested parties of launch date  Go live! Conduct quality assurance testing to make sure everything is running smoothly Be available for fine tuning / troubleshooting Celebrate!				
		<b>Maintenance</b>	8/8/2009	9/8/2009	y	Cyrus,Kachi
		Implement the maintenance plan				

#### 1.4 Maintenance Plan

First we make a project Maintenance Plan, then after a discussion with the client and getting feedback we have completed the final project Maintenance Plan.

## CHAPTER II. Site Structure

### 2.1 Content Outline

The main contains of our web portal iTRADE are:

- a) User Registration: Any business entrepreneur can be our user by filling some necessary information.
- b) Browse: Can easily browse company profile.
- c) Search: Search can be done by company or product.
- d) Message System: Different entrepreneurs can communicate with each other by using the message system.
- e) User control panel: Users can modify their own profiles, inventory, account, settings and send messages.

## 2.2 Site Diagram

Figure 2.2 (a) Site Diagram

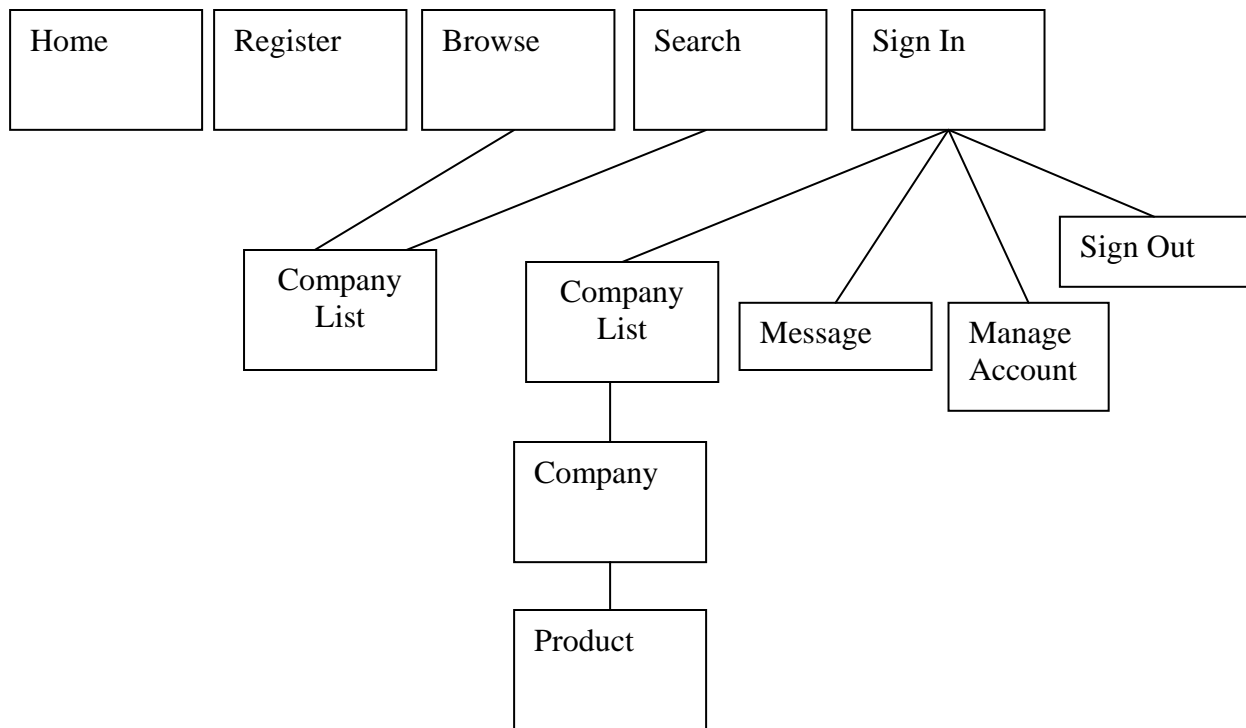
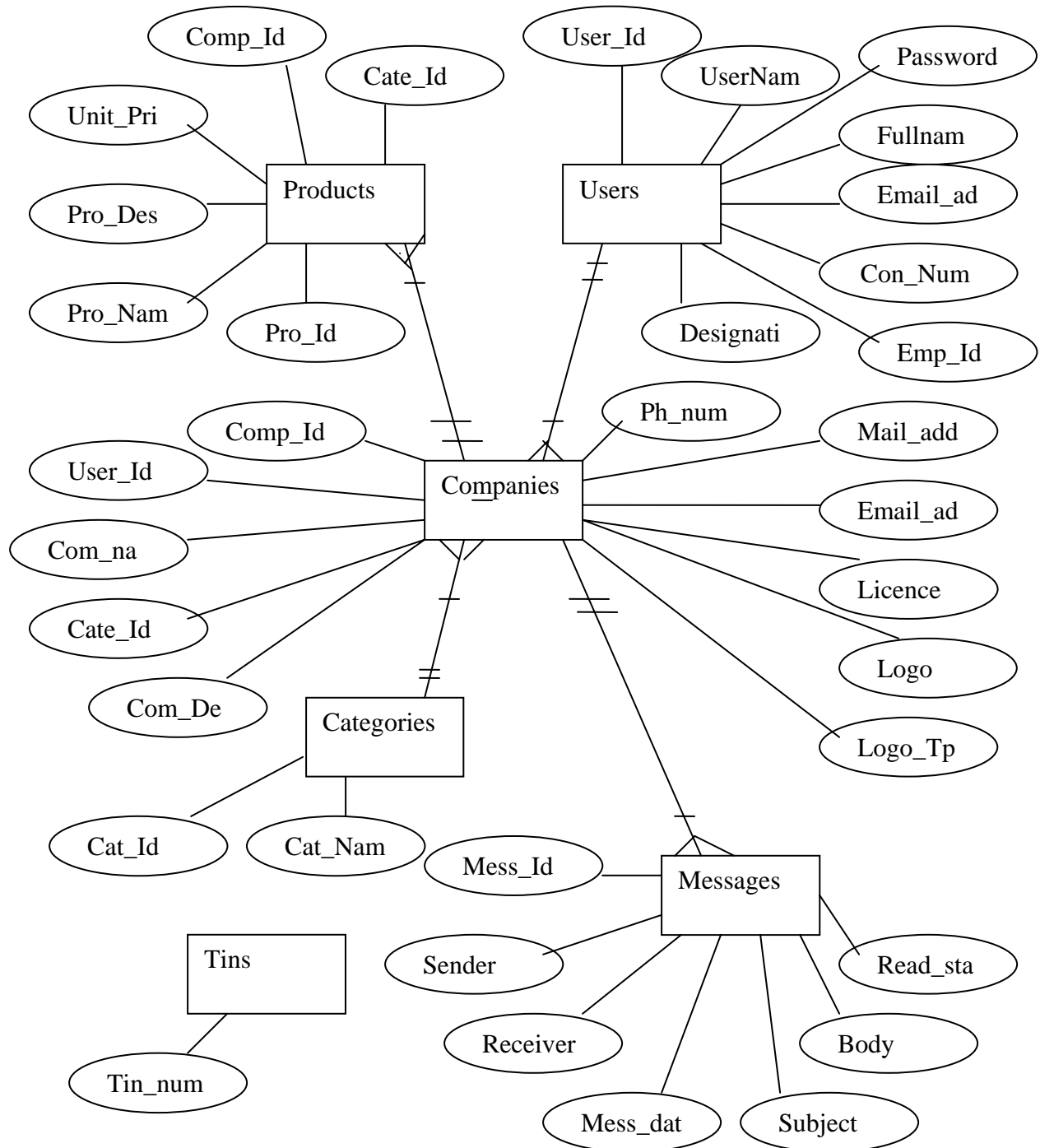


Figure 2.2 (b) E-R Diagram

....





## 2.3 Wire Frames

## CHAPTER III. Visual Design

### 3.1 Design Round 1

First we have prepared couple of visual design with sub pages for our clients and after that we modified the designs with our client's ideas.

### 3.2 Select Final Design

Final visual design with all the sub pages is made after taking feedback from our client.

## CHAPTER IV. Site Development

### 4.1 Target technical specification

Browser compatibility: Internet Explorer 6+, Firefox 1.05 +, Mozilla 1.7+, Safari 1.2 +

Platforms: Macintosh and PC.

Screen Resolution: 1024x768

Connection Speed: 56k+

Page download size: 30 to 80k.

Accessibility: Section 508 compliant.

### 4.2 Functional Specification

Visual design: Photoshop CS3.

Language: asp.Net,

Database: MS SQL Server,

Frontent: XHTML Transitional, CSS, jQuery

### 4.3 Updated Project Plan

First we review the original project plan/timeline and then further define any additional coding and integration tasks, confirm time estimates and resources to complete our web portal.

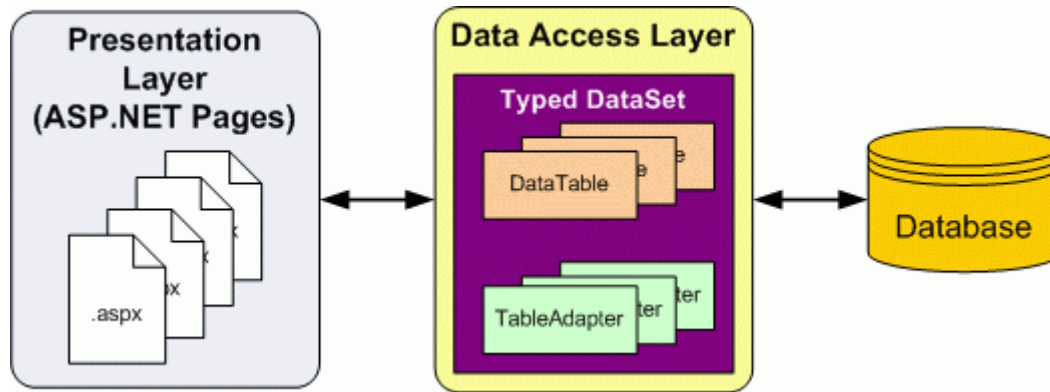
#### 4.4 Build and Integrate Site

To build and integrate site we had completed in the following sequence:

1. Build templates using web standards
2. Pour content into templates
3. Insert coding tasks (and resources/time estimates) here
4. Backend programming
5. Integration
6. Search
7. Personalization/login
8. Secure Transactions
9. Web Stats

As Web developers, our lives revolve around working with data. We create databases to store the data, code to retrieve and modify it, and web pages to collect and summarize it. We will start with creating a software architecture composed of a Data Access Layer (DAL) using Typed DataSets, a Business Logic Layer (BLL) that enforces custom business rules, and a presentation layer composed of ASP.NET pages that share a common page layout. Once this backend groundwork has been laid, we'll move into reporting, showing how to display, summarize, collect, and validate data from a web application. For this web portal we will be using a Microsoft SQL Server database placed in the App\_Data directory. We will start from creating the Data Access Layer (DAL), followed by creating the Business Logic Layer (BLL) in the second tutorial, and working on page layout and navigation in the third.

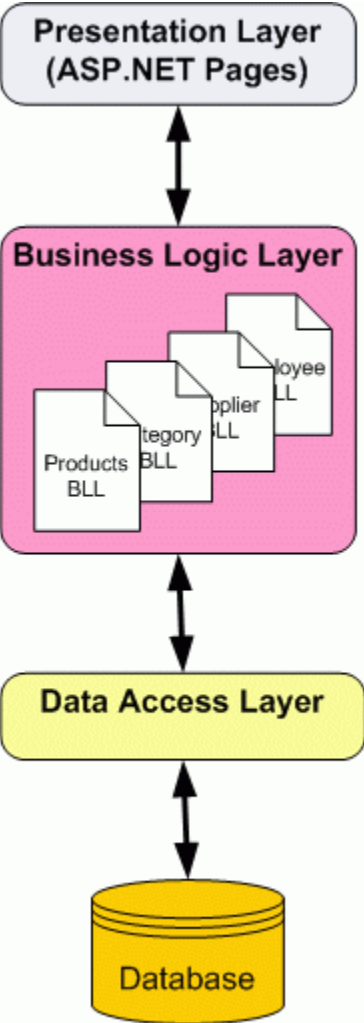
Figure 4.4(a). All Data Access Code is Relegated to the DAL



The Data Access Layer (DAL) created cleanly separates the data access logic from the presentation logic. However, while the DAL cleanly separates the data access details from the presentation layer, it does not enforce any business rules that may apply. For example, for our application we may want to disallow the CategoryID or SupplierID fields of the Products table to be modified when the Discontinued field is set to 1, or we might want to enforce seniority rules, prohibiting situations in which an employee is managed by someone who was hired after them. Another common scenario is authorization – perhaps only users in a particular role can delete products or can change the UnitPrice value.

Here we will see how to centralize these business rules into a Business Logic Layer (BLL) that serves as an intermediary for data exchange between the presentation layer and the DAL. In a real-world application, the BLL should be implemented as a separate Class Library project; however, we will implement the BLL as a series of classes in our App\_Code folder in order to simplify the project structure. Figure 4.4(b) illustrates the architectural relationships among the presentation layer, BLL, and DAL.

Figure 4.4(b) The BLL Separates the Presentation Layer from the Data Access Layer and Imposes Business Rules



## CHAPTER V. Testing

### 5.1 Content Review

First we took a review of our contents and then we had prioritized our list of changes and after that according to our priority we had modified our contents and then made the final content review.

### 5.2 Link Review

First we reviewed the links and then made a webXM report on broken links and then resolve all broken links.

### 5.3 Functionality Review

To do functionality review we did the following tasks:

1. Create list of web site functional tasks
2. Create test plan
3. Objective testing ideally done by someone outside the development team
4. Prioritized list of issues
5. High priority changes made
6. Final Functionality Review

### 5.4 Validity Review

We have run automated tests for valid (X)HTML and CSS, after that we made a list of problems that occurs. We had prioritized the problem list and solve those problems accordingly.

## 5.5 Accessibility Review

First of all we run automated tests for accessibility and then run manual tests for Accessibility to find our problems. After that we had prioritized the problems and solve those problems accordingly.

## 5.6 Browsers/OS Resolution Testing

To do browsers/OS resolution testing first we create test plan for testing all targeted browser/OS combinations and then after tested those combinations we had documented all browser/OS combinations problem list and solved those problems according to their priority.

## 5.7 Connection Speed Testing

We had used the Web Page Analyzer to review speed and size of pages.

## 5.8 Usability Testing

First we conduct informal usability testing and then formal usability testing to solve the usability problem.

## 5.9 Search Engine Optimization

For search engine optimization we had reviewed the pages for semantic html and fine tune.



## 5.10 Load Testing

Before the load testing, first we had contacted the server administrator to discuss load testing techniques and after that we did the load testing.

## 5.11 Security Review

For security review we did the following things:

1. request automated SecurityXM Scan
2. review file authorizations
3. review authentication methods
4. conduct authentication test
5. resolve any security issues
6. if necessary, receive security approval from ITS

## CHAPTER VI Launch

### 6.1 Style Guide

To look our portal stylish and smart we did the followings:

1. Visual Design Standards
2. Naming Conventions
3. Site Structure
4. Templates

### 6.2 Launch

We have decided to launch our product on 12<sup>th</sup> of August.

## References:

1. .NET Framework Developer Center

Web:< <http://msdn.microsoft.com/en-us/library/aa581776.aspx>>

Web:<<http://msdn.microsoft.com/en-us/library/aa581779.aspx>>

2. Web:< <http://www.ebay.com/>>

3. Web:<<http://www.alibaba.com/>>