
* A work in Progress

# Business Development

**Objective:** The Business Development department will qualify, develop, and secure profitable strategic partnerships and affiliate agreements with product, service, and content providers (vendors). Business Development strives to maximize revenue for Mucho.com while providing value to the Mucho.com community.

**Revenue Generation:**
Mucho.com will build an annuity stream from the different services where we choose to be linked. Revenue will be generated from three (3) initial sources.

1. Our primary revenue source will be from the vendors we link to our portal. For each successful transaction we will share in the revenue generated. Anticipated revenues range between 1% - 20% of the transaction between the customer and vendor with typical ranges between 8% -10%.

2. For vendors that may be difficult or inappropriate to structure a revenue sharing model as described above, we will charge a "per click" fee for all vendors who link their information to our site.

3. Once we have valid data returned on our site's demographics we will be able to attract sponsors for special offers. Internet advertising is still in the infancy phase with prices declining and effectiveness still being measured. Advertising revenue will be considered a source of possible additional income and not a source of primary revenue.

Please see the projected profit and loss for revenue estimates.

**Business Development Timetable:**

**Phase I (month 1-2):**
Identify, qualify, develop, and secure profitable relationships with core vendors.

Examples include:

| | | | |
|---|---|---|---|
| • *Insurance:* | AON | AFLAC | Insweb.com |
| • *Delivery Services:* | FedX | DHL | Smartship.com |
| • *Employee Services:* | Team America | PEO acquisitions | Human Resources |
| • *Travel:* | Preview Travel | Carlson | Travelocity.com |
| • *Credit Card:* | MasterCard | Discover | Virtual wallets |
| • *Office Supplies:* | Viking | Office Depot | Onvia |
| • *Training:* | AIM | Dale Carnegie | Xerox |
| • *Lending/Finance:* | Banks | VC's/Angels | Compubank.com |
| • *ISP's / Integration:* | Verio | Syntel | Earthlink |
| • *ASP's:* | Corio | Celarix | USI |
| • *Mgt. Consulting:* | Big 6 | Emyth | Consultant.com |
| • *Staffing/Recruiting:* | Kelly Svc. | Mgt. Recruiters | Hotjobs.com |
| • *Long / Local Phone:* | AT&T | Teleworth.com | Phonezone.com |
| • *Computer Hard/Soft:* | Dell | Gateway | Intraware |
| • *Marketing Research:* | D&B | Bus. Prospector | e-marketer |
| • *Marketing Promotion:* | Events Banners | Direct Mail | Bigstep.com |
| • *Auto/Truck Fleet Sales:* | Big 5+ | Iveco | Autonation.com |
| • *Real Estate/Off. Space:* | Colliers Intl | Koll | Realestate.com |
| • *Collections:* | Farwest | CLN | Collector.com |

| | | | |
|---|---|---|---|
| • *Barter:* | ValueCard | American Barter | intracommunity |
| • *Legal Services:* | Strauss Nickerson | Team America | StartBusiness.com |
| • *Fueling/Gasoline:* | Cardlock | Chevron | Shell |
| • *Gifts / Books:* | Gift.com | Flowers.com | Amazon.com |

**Phase II (months 3-4):**
Following user focus group direction, secure relationships with designated vendors and identified needs category vendors.

- Begin Co-op and reverse marketing coordination with Content department and Marketing department to increase Mucho.com's community member acquisition.
- Continue strengthening acquired vendors and keep identifying, developing, securing and expanding new profitable vendor relationships.

**Phase III (months 5-launch):**

- Continue strengthening vendor relationships and designing special promotional concepts with vendors and Mucho.com Content department.
- Continue Phase I & II objectives.

**Phase IV (Site operational and expanding):**

- Review Mucho.com community data and analyze success / failure of strategic partners and affiliate programs. Take appropriate action.
- Following community feedback, secure relationships with designated vendors and identified needs category vendors.
- Use growing community data to renegotiate strategic partner and affiliate agreements to increase revenue and strengthen Mucho.com's market position.
- Identify, develop, and secure new categories of vendors such as industrial service and product suppliers. Introduce to the community and analyze feedback. Take appropriate action.

## Personnel Needs:

The VP of Business Development will be able to handle all of Phase I. By mid-Phase II an Account Manager and Administrative Assistant should be added to properly strengthen vendor relationships and build new affiliations and strategic partnerships. In Phase IV , following community data review, an Account Manager should be added for every 15 vendor categories added above the initial core vendor group.

Account Managers will be responsible for 15-20 vendor categories. The position requires a proven industry performer capable of quickly initiating and closing a broad array of relationships.

Vendor categories to Business Development personnel table

| | Phase I | Phase II | Phase III | Phase IV |
|---|---|---|---|---|
| Vendor Categories | 23 | 35 | 50 | 65 |
| Additional Persons | 1 | 2 | 1 | 1 |
| Total Personnel | 1 | 3 | 4 | 5 |

# Marketing

Mucho.com Marketing Plan

I. The Internet and the World Wide Web
   a) The Future of Business-to-Business E-commerce
   b) How Businesses Use the Web

II. Overview of the Mucho.com Portal
   a) The Mucho.com Portal
   b) Target Market Demographics

III. The Marketing Plan
   a) Statement of Objectives and Assumption
   b) Marketing Information Assimilation and SWOT Analysis
   c) Strategic Plan
   d) Marketing Timeline and Tactical Plan

**The Internet and the World Wide Web**

The Future of Business-to-Business E-commerce

The Internet has already begun to revolutionize the way business is conducted. More companies, large and small, are web-enabling their businesses to streamline costs, enhance their competitive position, improve customer satisfaction and leverage the global marketplace.

Internet commerce initially focused on the business-to-consumer marketplace (B2C). Amazon.com, Ebay, and Yahoo! have all built a large base of loyal customers. In recent months, however, the emphasis has shifted to the business-to-business (B2B) arena.

An article in the August 2, 1999 issue of Fortune Magazine entitled When Businesses Sell to Other Businesses Online states that "business-to-business e-commerce promises to be the Next Big Thing in Internet development. Not just big----bigger than everything that's come before it. The $43 billion in US B2B revenues last year already dwarfs the consumer side's $8 billion, according to Forrester Research. Business-to-consumer is a drop in the bucket compared to what's about to happen to business-to-business. Forrester estimates that US business-to-consumer revenues will grow to $108 billion in 2003, while B2B revenues will balloon to $1.3 *trillion*."

How Businesses Use the Web

Selling goods is not the only reason that businesses utilize the Internet. A June 1998 study by CommerceNet and Nielsen Media found the following activities for which businesses use the Internet:

- 75% for gathering information
- 54% for collaborating with others

- 50% for providing vendor support and communications
- 46% for researching competitors
- 44% for communicating internally
- 38% for providing customer service and support
- 33% for publishing information
- 23% for purchasing products and services
- 13% for selling products and/or services.

**Overview of the Mucho.com Portal**

The Mucho.com Portal

Mucho.com is a newly formed Internet Company that will become the home site for small and medium-sized businesses. This business-to-business web site will be the "community" for the key individuals in our target market. The Mucho.com web site will function as an Internet portal that will afford business owners a single source for all of their business needs, including, but not limited to, payroll, staffing, human resources, insurance, finance, benefits, business and computer equipment, office supplies, shipping, marketing, etc.

The target market for Mucho.com is businesses in the United States and abroad with up to 2500 employees. Our target audience is the business owner and the staff around him/her that researches, recommends and/or makes decisions on the myriad of products and services that we offer and to which we will link.

Businesses increasingly face severe scale hurdles in order to grow and compete. These hurdles include: 1) a lack of purchasing power, 2) a lack of time to research available options, 3) a lack of expertise to evaluate potential purchase options, 4) a lack of professional and sometimes social interaction, and 5) a lack of training for improvement. Mucho.com will improve the competitiveness of small and medium-sized businesses relative to larger businesses and help level the playing field for its community members.

Target Market Demographics

According to the Small Business Administration, there are currently over 12 million small businesses in the United States, with roughly half of these employing more than one employee. The SBA maintains that these small businesses represent 99.7% of all employers and 47% of all employees.

## The Marketing Plan

Marketing is generally accepted as an "art" rather than a "science". For this reason, the following process for developing our Marketing Plan is presented as a guideline.

Statement of Objectives and Assumptions

The objective of Mucho.com is to become the leading source for business services, information and community on the Internet. Our target market is US businesses that employ up to 2500 employees. Mucho.com will provide business owners and key decision-makers a single stop for all of their business needs. Some of the features we will provide include:

| Portal Features | Marketplace |
|---|---|
| Guest Speakers | Insurance |
| Bulletin Boards | Financing |
| Product Reviews/Comparisons | Office Supplies |
| Member Spotlight | Office Furniture |
| Business Poll | Hardware/Software |
| Business Book of the Week | Cellular Phones/Plans |
| Chat | (PDAs) Palm Pilots |
| Business Services | Pagers |
| Directories | PR/Promotion |
| Revenue Sharing | Subscription Services |
| Business Tools | Best Buy |
| Procrastination Page | Application Services |
| Mucho Points/Charitable Donations | Shipping Services |
| Competitive News | Web Services (ISP) |
| Government Services | Web Hosting |
| Stocks | Web Development |
| Weather | Sales/Marketing |
| Training/Continuing Education | Travel Services |
| Custom Newsfeeds | |

*Our focus groups results will dictate the need for additional, prioritized services that we may offer through Mucho.com

The Mucho.com portal will evolve as our community members' needs change and as we expand into specific markets. This evolution will result in the offering of additional products/services that will continue to bring members back to Mucho while enhancing the value of our web site to attract new members. Some of these additional products/services could include, but not be limited to the following:

| | | |
|---|---|---|
| Utilities | Mailing Houses | Equipment Rentals |
| Alarm Services | Courier Services | Tools |
| Uniform Services | Flowers/Gifts | Safety Supplies |
| Copy Services | Janitorial Supplies/Svcs | Moving Services |
| Industrial Supplies | Restaurant Supplies | Packaging Services |

The primary focus of Mucho.com is to build community. With a targeted community the services we offer will quickly generate revenue and profit for the company. Our initial forecast for community development is as follows:

*Year 1: Unique Mucho Members: 150,000 (1.5% of target market)
*Year 2: Unique Mucho Members: 400,000 (4.0% of target market)

1. 6,000,000 target businesses
2. 60% have one potential Mucho member
3. 18% have one-and-a-potential Mucho members
4. 11% have two potential Mucho members
5. 9% have potential Mucho members
6. 1% have potential Mucho members
7. 1% have potential Mucho members

Thus, potential community members = 10.2 million.

**Marketing Information Assimilation and SWOT Analysis**

The SWOT analysis is a tool used to determine Mucho.com's Strengths, Weaknesses, Opportunities and Threats and helps assess our business' present competitive position and how and why it will be achieved.

Although the Mucho.com web site has not yet been launched, we still are able to generate a SWOT analysis based upon the target market need for our service and compare it to other sites that may be considered competitive to Mucho.com.

Mucho.com has recognized the following list of competitors. The following sites may be considered tangential competitors, in that they offer some of the services that will be included on Mucho.com, and they have been developed in a portal format. In addition, we need to be aware that other firms have or will be entering our arena in the near future.

| **Business-to-Business Portals** | **Features of Portal** |
|---|---|
| Smartbizsearch.com | Geared to SOHO, Entrepreneurs. Includes essential services, guest chat, business tools, marketplace. Limited content. |
| BizProlink.com | Geared towards distributors, suppliers, and manufacturers. Community links. E-commerce "hub". Greater focus on individual industries vs. broader business marketplace. Links lead to separate portals, all related in appearance and function. |
| AllBusiness.com | Limited in content. Nothing compelling about the site. Mainly, just a series of links. Focused on small business forms. |
| American Express | Very geared to AMEX offerings. This site sells their products. Lack of business-oriented content. Slow-loading web site. |
| Quicken.com | Targeting Small Office/Home Office market. Not a strong sense of Community. Focus on selling Intuit products. |
| DigitalWork.com | Quickly get you to try to buy something. Content doesn't seem to be unbiased |
| Onvia.com | Limited content. Nothing compelling about the site to get visitors to return. |

In addition to the above online sources, Mucho.com is aware that we will be competing with existing bricks-and-mortar establishments that offer the products/services that we will offer through our portal site.

## SWOT Analysis of the Mucho.com Portal:

### Strengths:

Community focus We are not focused on selling merchandise. Instead, our focus is on developing community and providing information. The content and community aspects of our site will keep members on the site, which in turn will generate revenue through our sales channels.
Leadership Mucho.com's Chairman and principal owner has started twelve small businesses. Our President has spent the past 8 years as the owner of an Internet software and consulting services business. Both our

President and Chairman are well connected in the local and national business communities through the CEO Club, Executive Forum, Chamber of Commerce, and other associations geared towards business owners.

Experience of Management The management team brings years of experience in developing web sites for business clients. Five key members of our management team have worked for a web development firm(s) and/or web and software consultant firms. We are confident in our ability to design, develop, implement and market our product.

Vision We understand what it takes to appeal to the needs of the small- and mid-size business owner. No fewer than seven of our core management team has owned a small business, spanning web development, business/software consulting, staffing, software development, construction, real estate, fulfillment, law, and distribution, among others.

Design Many of the B2B and B2C portals have been lacking considerably in functionality and usability. Successful web sites must not only provide value but also must capture their audience and keep them coming back. With a staff experienced in content management and design, we feel the Mucho.com portal will not only provide a comprehensive list of services, it will also be simple to use and aesthetically pleasing.

Competition We are not entering a crowded field. In comparison to Business-to-Consumer web sites, Business-to-Business is relatively new. There is not one leading competitor in the top 1500 web sites, according to PCdata Online Reports, despite some recent marketing efforts by these sites.

Technology Mucho.com will be using Java-based technology to develop our portal. This ensures scalability as our business grows. This technology is platform-independent. As little as 9 months ago, this technology was not proven in the broader marketplace. Since then, Java technology has gained widespread acceptance for server side processing through the use of Servlets and Java Server Pages. In addition, we will be utilizing the most advanced version of HTML , including DHTML, Cascading Style Sheets and JavaScript.

## Weaknesses:

Time to Market Oftentimes, the first to the Internet Market tends to be the most recognizable and successful. There are cases where the first to market has failed, thus providing a case study for later entrants. Generally, the winner has been the one who not only develops a sound product, but who is willing to spend the money to market it effectively. We may not be first to market but our uniqueness leads us to believe that we will not have a true competitor by the time we launch. However, we must approach development swiftly, as if we intend to see like competitors on our radar screen.

We also feel that by the time we launch, the Y2K issue will be behind our target market, which has been recognized as the last segment that will have solved this problem.

Name Recognition For all practical purposes, Mucho.com currently has zero name recognition. That said, we feel the name is one that sticks, and have heard comments of the sort from colleagues and business associates. Compare that to the generically named competitors listed above, which would likely be confused with one another. People remember names like Yahoo!, Excite, Amazon, Monster Board, and Motley Fool. They will also remember Mucho.com.

**Opportunities**

Need In our research, we have not found a single B2B portal that fully addresses the needs of the small- to medium-sized business community. Although there are other sites that sell products, others that provide chat and/or bulletin board services, and others still that provide newsfeeds, we feel that the Mucho.com portal will provide an aggregation of useful information and services that will be heralded by our target market communities.

Profitability Although there is development expense leading up to the launch of the Mucho.com portal, and marketing expenses afterward, this is not a capital-intensive product/industry. The Internet affords a nationwide and even global audience and can be effectively managed with a relatively small staff. Revenues and profits will come not only from affiliate marketing programs with our suppliers but also through content sponsorship.

Differentiation The Mucho.com portal will be unique. Nothing like it exists on the market today. We feel we are not only aggregating the best of what may already exist, but have several services and ideas that will keep us differentiated. When copycats attempt to follow us down the road, we will already have the luxury of being first to market.

**Threats**

Competition Oracle, Intuit and Microsoft, have announced plans to provide a B2B web site to aid the small business owner. It appears that their sites will be related to their core business, and may even complement the Mucho.com portal site. Sites such as Onvia.com, AllBusiness.com and DigitalWorks.com are in the pre-IPO stage, and may go public before Mucho.com's launch, which will provide them with a war chest for advertising. In addition, established bricks and mortar companies may already offer to our target customers some of the same products/ services as Mucho.com, and they may have a loyal following.

**Strategic Plan**

The Strategic Plan addresses member generation, advertising, timeline, and cost for effective promotion of Mucho.com.

Membership generation will largely take place through two methods: 1.) Mucho will generate co-marketing agreements (exclusively, where available) through various trade associations and business organizations, and 2.) Mucho.com will advertise to our target market via several media.

## Co-Marketing

Mucho.com will leverage existing contacts (primarily through networks formed by upper management) and will seek out additional partnerships with organizations including, but not limited to the following:

Associations:

| | | |
|---|---|---|
| CEO Club | CPA Associations | ABA |
| AMA | NAWBO | Executive Forum |
| Chambers of Commerce | President's Club | NFIB |
| S.B.A | Y.E.O. | Y.P.O. |
| Other trade organizations | | |

Other Organizations/leads:

| | | |
|---|---|---|
| Furniture Rental Stores | Money Store | Business Book Publishers |
| Franchises | AOL/Compuserve | M&A Firms/Associations |
| Business Schools | H&R Block/Tax Advisors | Insurance companies |
| Young Republicans | Financial institutions | PEOs |
| Payroll firms (ADP, etc.) | Event firms | Training Organizations |

The value proposition for the trade associations and business partners will focus on the great resource that Mucho.com is to small and mid-sized business owners and decision-makers. In addition, by endorsing Mucho.com as the online resource for business, Mucho will provide an affiliate commission to the organization. This will provide further incentive for the association to endorse Mucho.com and encourage membership and purchasing through our web site.

Advertising/Promotion

**Promotion Considerations**

| Marketing Option | Reach | Cost | Effectiveness to target market | Likelihood of employing |
|---|---|---|---|---|
| Public Relations | High | Medium | High | **High** |
| Direct Mail | Medium | Medium | High | High |
| Print (newspapers) | High | Medium | Medium | High |
| Print (magazines) | High | High | Medium | **High** |
| Print (trade pubs.) | Medium | Medium | High | **High** |
| Advertising Agency | High | High | High | **Medium** |
| Radio Advertising | High | High | High | **Medium** |
| Search Engines | Medium | Low | Medium | **High** |
| E-newsletters | Medium | Low | Medium | **High** |
| Co-op Marketing | Low | Low | Medium | **High** |
| Press/News Release | Medium | Medium | High | **High** |
| Opt-in Email | Low | Low | Medium | **High** |
| Outdoor (billboards) | Low | High | Medium | **Medium** |
| Outdoor (balloons) | Medium | Medium | Medium | **High** |
| Corporate Intranets | Medium | Low | High | **Medium** |
| Banner Ads | Medium | Medium | Low | **Medium** |
| Mailing Lists | Low | Medium | Low | **Low** |
| Sponsorships | Low | Medium | Medium | **Low** |

This represents just a portion of the available options to market Mucho.com. Additional research and cost analysis will need to be conducted to determine the most effective means to advertise.

The focus of the Mucho.com Marketing team is to do an exceptional job branding our company, yet our goal is membership generation. As is stated in the chart above, there are three factors that must be considered when determining how we promote the site. These three are:

1. Reach — How do we best reach our target markets?
2. Cost — What is our ROI for each option in terms of members per dollar spent?
3. Effectiveness — How effective is each option in responding to our advertisements, measured in terms of new members vs. reach.

The answers to these questions will help drive the likelihood that Mucho.com will employ each of these promotional options. Where applicable, we will gather data to support our activities and decisions, including through the use of focus groups.

Marketing Timeline and Tactical Plan

In parallel with conducting research on the available promotional options available to Mucho.com, we will be conducting a few focus groups to determine the following:

1. Web Usage (favorite sites, hours online, Internet uses, business needs, etc.).
2. Content preferences.
3. Marketing options.
4. Possible navigation/look & feel feedback.
5. Others.

The timeline for conducting the focus groups is as follows:

| Action | Date |
|---|---|
| 1. Identify (2) focus groups, via David and Cash. Discuss off-site possibility. | 8/12 |
| 2. Complete initial questionnaire w/ Bryan | 8/13 |
| 3. Review Questionnaire content w/ team. Incorporate feedback | 8/16 |
| 5. Schedule first focus group | 8/20 |
| 4. Finalize Questionnaire | 9/08 |
| 6. Schedule second focus group (*if possible) | 9/08 |
| 7. Complete first focus group | 9/16 |
| 8. Complete second focus group (*if possible) | 10/20 |
| 7. Compile results; share with team for further action | 9/20, 10/24 |

Assumptions:

1. Focus group size to be 8-12 persons.
2. Should be business owners/executives/decision makers.
3. TEAM customers, Executive Forum, Chamber members, WP clients, others.
4. Schedule it off-site, early A.M., provide breakfast.
5. Conduct online focus groups when appropriate.

In conjunction with the focus groups, the Marketing team will also be gathering data as described below to gather information to verify the reach, cost and effectiveness of our promotional options. The timeline is as follows:

| **Marketing Option** | Actions | **Date** | **Status** | **Priority** |
|---|---|---|---|---|
| Mailing Lists | Table for now | | | 4 |
| Sponsorships | Table for now | | | 4 |
| Print (newspapers) | Determine ad rates, demographics, & circulation for 5 top papers in US: WSJ, USA Today, NY Times, LA Times, Washington Post | 8/15 | Done | 1 |
| Print (magazines) | Determine ad rates, demographics & circulation for 10 top business mags: Forbes, Fortune, Biz Week, Entrepreneur, Success, Wired, Fast Company, Barron's, Industry Std., Economist, other | 8/31 | Done | 1 |
| Public Relations Agency | Determine Nat'l agencies focusing on our market. | 9/30` | Done | 1 |
| Radio Advertising | Determine ad rates & listenership of 20 top radio stations, including newstalk, talk shows, sports stations, PBS, musical | 9/30 | Done | 1 |
| Press/News | Determine top on-line Press Release agencies: | 9/30 | Done | 2 |

| | | | | |
|---|---|---|---|---|
| Releases | get $ rates: BusinessWire, InternetWire, PRNewswire, PRWeb, URLWire, WebWire, PressFlash, Digital Work | | | |
| Opt-in Email | Outline top “opt-in”/”permission” email firms. Get demographics | 10/01 | Done | 3 |
| Outdoor (balloons) | Talk to Mike/Bill | 10/01 | Done | 2 |
| Other | ID business editors for Chronicle, CC Times, Merc to determine how to get coverage; find out interest in Motley Fool type of weekly column | 10/01 | | 2 |
| E-newsletters | Determine top E-newsletters serving target market | 10/15 | Ppd. | 2 |
| Print (trade publications) | Identify top 25 trade publications and obtain ad rates/reach | 10/15 | Ppd. | 2 |
| Search Engines | Complete registration for top 10 search engines: Yahoo!, Alta Vista, Infoseek, HotBot, Lycos, Excite, Ask Jeeves, Infoseek/Go, Snap, GoTo, MSN, Netscape, Looksmart, Web Crawler. Use a Registering Service. | 10/21 | Deleg. | 1* |
| Advertising Agency | Determine Nat’l agencies focusing on our market. | 10/30 | Done | 1 |
| Outdoor (billboards) | ID top 5 US commute markets & local/nat’l billboard companies. Get info on ad rates/eyeballs | 11/15 | Deleg. | 3 |
| Co-op Marketing | Obtain names from Mike re: co-op marketing contacts at business partners | 12/01 | | 3 |
| Banner Ads | Links from association partners | 12/01 | | 1 |
| Online Advertising | Links from other sources (e.g. buy print ad space and get free link or banner on their web site). | 12/01 | | 1 |
| Bumper Stickers | Get them made > logo finalized. | 12/15 | | 3 |
| Corporate Intranets | Identify means to get contacts to target market | 12/15 | | 3 |

| Additional Considerations | **Date** | **Status** | **Priority** |
|---|---|---|---|
| Identify one/two top PR and Advertising firms. Outline requirements/costs/recommendations | 10/15 | Done | 1 |
| Have Mucho.com logo completed (for web, biz cards, letterhead, collateral, etc.) | 10/30 | Done | 1 |
| Hire (2) Marketing Associates | 11/15 | Done | 1 |
| Submit Marketing budget for sign-off | 11/30 | | 1 |
| Identify Performance Metrics per advertising medium | 12/15 | | 2 |
| Research potential monitoring tools (e.g. software) | 12/15 | | 2 |

The Marketing team will roll up its Marketing Plan for Mucho.com within 1 month of launch. This Plan will consist of defined objectives, data to back up Marketing plans/recommendations, cost information and a plan for determining performance/effectiveness of each type of promotion. We will also utilize focus groups, the experience of other Internet firms, and additional resources, where appropriate, to allow us to further focus our marketing efforts.

# Content Development

What's the Point?
The focus of the Content Department is:
To increase community membership

To ensure, through dynamic, informative, timely content, that community members and users consistently return to the site and use the services provided

To enable and encourage community interaction

To empower community members

To help community members make informed decisions

## Content Development Plan

This content development plan covers the inception of the Mucho.com site through the site launch, as well as anticipating staffing and process requirements over the first year of the site. Phase names reflect those used in the main Portal Development Plan.

Phase 1: Research and Planning
Determine Initial Content

Review/interpret Focus Group data

Determine Content Categories and Structure

Phase 2: Specifications
Develop Content Process Flow

Finalize Content

Prioritize Content Development

Develop Portal Process Workflow

Plan and Schedule Content Development

Determine Proposed Resources for Content

Develop Content Relationships

- Contracts, costs, etc.
- Schedule, formatting of news feeds, etc.

Develop initial Update Frequency Schedule

Phase 3: Implementation
Develop Original Content

- Interviews
- Articles
- Charts, Graphs, Comparisons

Develop Content Style Guide

Develop Community Glossary

Phase 4: Beta Testing/QA
Test processes, procedures, and schedule for content development

Update Content Process Flow, Content Style Guide, Update Frequency Schedule and procedures for content updates as necessary

Phase 5: Refinements
Develop initial Community Guide

Schedule approximately six weeks of content

Guest speakers/interviewees

Articles from external content developers

Phase 6: Deployment
Develop initial Community Guide

## Content Department Operating Model

Content for the Mucho site will be developed under a newspaper-magazine hybrid model.

Newspapers are generally organized around developing and delivering content on a daily basis – brief, easy reading that encapsulates a *change* in events or trends –, while magazines tend to develop "timeless" content that can be played anywhere from one month to many months later.

Magazine-style content allows the news organization to provide a deeper perspective of issues, and to step back from the immediacy of events to help determine cause and effect. This quality assists readers to perceive and comprehend trends or other cycles that may affect them. In business, typically, it is this information over time that will ultimately assist the enterprise to grow and flourish.

At launch, news feeds and in-house content development will support the newspaper features of the site: Resources, the top-level department categories, the Mucho poll reactions, etc. We anticipate the generation of a minimum of 10-20 "new" stories per day at launch (growing to an estimated 30-50 stories per day within the first six months). These stories will provide fresh content for each of the top-level departments, as well as home page or other page placement. They will be bright and snappy and no more than 500 words each. They will be supplied from in-house staff, freelancers or guest experts.

It is likely that articles might have potential for play across multiple sections. For example, an article on time management could easily appear in both the Management and Administrative sections, at different scheduled times and/or with slight modifications.

Approximately six to eight weeks before the site goes live, we will begin to develop an inventory of magazine-style content. These stories, also produced in-house, by freelancers or guests, will provide timeless features that can be drawn on for specific department categories or generic home page placement. These articles will be longer, anywhere from 1,000 to 2,000 words, and will be articulated for use as serial articles.

Serializing articles provides at least two benefits:

1. Reduces the quantity of unique articles needed by spreading the serial content over more than one day
2. Provides visitors a material reason for returning to the site during the same week

An inventory of approximately 20-40 serial articles will be developed prior to launch.

# Content Resources

## Department/Task Breakout

Content Management
Develop, direct, oversee, review all site content

Develop content business plan, strategy, implementation

Develop/maintain Content Process Flow

Develop/maintain Update Frequency Schedule

Community Management
Develop, direct, oversee, review all community issues

Help develop community enticements,

Help increase community interaction

Content Relations
Develop/maintain relations with ongoing content providers (ie. news feeds)

Develop/maintain relations with individual content providers (including guest speakers, chat guests, interviews)

News feeds
Review, select, categorize, edit news feed content

Content Development
Develop original content (including Tip of the Day, Mucho Poll question and results, About Us, etc.)

Editorial
Review and edit all original content and content from individual providers

Develop/maintain Mucho.com Content Style Guide

Chat Hosting
Host all specific chat discussions and guest speaker chat sessions

Report on activity, topics, etc. in chat rooms

Bulletin Board
Maintain the bulletin boards

Report on activity, topics, etc. on bulletin boards

Glossary
Develop/maintain Mucho.com community glossary and dictionary

## In-house Staff Requirements

The in-house content staff will be developed around individuals with a mix of writing, editing and development skills. This staff will be responsible for working closely with freelancers and guest experts in the development of their features, in addition to originating content themselves.

The Content Manager will act in the capacity of an Assignment Editor, funneling story ideas or rewrites to one of three writer-editors with responsibility for specific content areas of the site.

The responsibilities of these three writer-editors include assigning and assisting freelance writers and guest experts to deliver specific stories on time and to length, rewriting when necessary, and originating additional or sidebar content to accompany these stories, whenever appropriate.

A fourth in-house staff member will be available for additional rewrites and to assist in the development of vendor content.

These five staff members will comprise the initial content team up to within four weeks of launch. Additional writer-editors will be developed from freelance contributors and ongoing employee searches, bringing the total staff at launch to six to eight staff members. Using freelancers offers an opportunity to try out writers before bringing them in-house. This will prove beneficial in the short run as the community provides feedback and the site and content are modified as a result. Bringing in more writer-editors with particular skills before the needed skill-sets are determined places the Content Department in the unsavory position of having to spend a great deal of time trading in certain skill-sets for other or more valuable ones as the site content evolves with input from the community.

Within 60 days after launch, two additional staff positions will be filled. These may be additional writer-editor positions or editorial support positions, which will handle securing and trafficking outside news feed or other acquired content.

By mid-May, much of the site content process will be determined and additional staff positions will be filled as needed.

## External Content Resources

### News Feeds and Other Automated Resources

These resources will play an integral role in site features like the Mi Mucho page, Reading Room, department homes pages, the Procrastination Page and Marketplace. The breadth of this content could be enormous and efforts should be made, at least at launch, to offer an appropriate and varied selection but not try to be all things to all community members. Community members will be able to offer suggestions for additional feeds and other resources after launch and the Content Department will rely on these suggestions to fill gaps initially left in the original content rollout.

Feeds for the Mi Mucho page will include, but not be limited to:

Online magazines and newspapers

Stock and market information

Competitor press releases, other news information

Weather

Feeds for the Reading Room will include, but not be limited to:

Government services and information (SBA, SBIR, USPS, NLRB, etc.)

Online magazines and newspapers in a variety of top level categories(Entrepreneurial, Technology, Financial, Management, etc.)

Telephone directories

Forms

Feeds for the Department pages will include, but not be limited to:

Content appropriate news sources, including magazines, newspapers, product information, press releases, etc.

Feeds for the Procrastination Page may include:

- Online magazines and newspapers
- Business related cartoons
- Sports scores
- Horoscopes
- Quote of the Day
- Webvan and/or Peapod links
- Home Improvement sites (Home Depot, Garden.com, etc.)

Feeds for the Marketplace will include, but not be limited to:

- Product reviews (whenever possible, at least two sources – ZDNet)
- New Product Releases
- Online buying trends

Additional research by the Content Department to determine specific sources for these feeds and services will be conducted through year-end.

## Vendor Content

Vendor content will be culled from vendor-supplied product or company literature from which a Q & A format will be developed: we develop and supply questions to vendors based on promotional materials they provide, and a "questionnaire" is returned to them for completion. This approach provides the following benefits:

1. We retain control of the style and tone of the vendor "interview"
2. A standard format minimizes the chances that some vendors appear to receive "better" play of their products or services than others
3. This approach minimizes the need for extensive rewriting of blatantly slanted promotional copy
4. Affords employment opportunities to younger, less experienced, and "less expensive" writers who might otherwise have not developed sufficient writing and editing skills to handle more difficult reportorial tasks

## Freelancers

Given the breadth and depth of the proposed Mucho site, no small staff will be able to maintain the level of content development or specific areas of expertise that the site ultimately will demand to be a premier B2B on the net. Developing a cadre of freelancers can help to ensure that content demands are met while originating costs are controlled.

We propose using news organization contacts throughout the U.S. to identify freelance writing talent. For instance, contact with the San Francisco Chronicle, The Oregonian, and Wall Street Journal, to name a few, may yield significant freelancer leads. These freelance writers may be one-time or ongoing contributors. They will be paid on a per-piece basis or monthly stipend for X-number of articles or words. If they are already making business-specific contributions to regional news organizations, it is likely that they will be willing to repurpose that content for inclusion at the Mucho site. However, we do not intend that these articles be played verbatim. Some modification will be made so that the site content always appears original. Too, depending on arrangements made with writers, Mucho.com may elect to retain partial copyright of this content for inclusion in other web sites, promotions, or other uses.

Based on article lengths of 500 words and 1,000-2,000 words, freelancers will be paid $100-150 per shorter article, and up to $600 for a serialized piece. These rates are only estimates but are based on actual ranges used by some brick-and-mortar news organizations.

In cases of an ongoing contributor relationship, a monthly fee may be more cost effective. This may be the type of relationship we would develop for a regularly appearing expert column. Although, relying heavily on content experts that

are not regularly writing for publication may be problematic. While ongoing expert content is essential to the site, we may want to focus on developing a broad array of expert contributors and limit the number of their contributions. This will help avoid their potential over commitment and safeguard the Content Department against having to spend a great deal of time chasing down copy once it's assigned or a story idea is accepted.

### Community Submissions

One more avenue for securing content will be through community submissions. These "In My Opinion or Experience" articles may be submitted directly at the site, as reactions to other content, or as original submissions. Any community member may make a contribution. A token payment of Mucho points or otherwise will be made for all community-contributed content regardless of length.

Each of these price points and lengths are subject to change once the site is live and the community begins to assist in directing content, style, tone, etc.

## Community Contributions/Stringers vs. Staff – Financial Benefits

Web sites are not traditionally verbiage-heavy, so there may be a number of ways to provide broad-based timely content in small doses from an array of sources without having to build a large in-house staff.

Small community-created content features, like a Tip of the Day, Product Reviews, Case Studies, or similar items offer members an accessible way to contribute to the site, receive recognition, and engage in the community. The more small contribution areas we can conceive and develop, the greater the potential for widespread site appeal, and content cost containment. These contributor areas can be initially developed in-house, setting tone and style. The key to their success, however, will be to create some kind of competitive interest in or compelling reason for members of the community to make a contribution to the site. While Mucho points and perhaps a token payment are some incentive, it will be the perceived benefit of making a contribution to the community that ultimately will make these submissions successful, valuable, and an on-going resource, both to the community and the Content Department.

In the case of freelance stringers, we can purchase a minimum of 240 days of feature content, based on an average cost per article of $500, for the cost of one full-time staff position assuming an annual salary of $60,000. And that without the cost of employee benefits, equipment, office, telephone and other associated expenses.

Assuming that the Mucho site will publish only weekdays, the above number of freelanced content days equal to an annual salary provides us, at a minimum, nearly one year's feature content. Again, this is without taking into account employee expenses above annual salary. Freelanced content, then, may provide as much as 1.5 times the value per dollar spent than in-house writing talent.

This is all assuming that we pay for all of that content. It's conceivable that after launch, we can generate the name recognition and presence to attract contributions from business schools, graduate students, watchdog organizations, and other business-related entities without payment.

The downside is the increased workload for in-house staff members under the proposed system. In addition to creating content themselves, staffers will edit and supervise the development of outside content. They also will evaluate the success of content placement and play, and make appropriate modifications as necessary. As in all publishing environments, these writer-editors will need to QA content both prior to and after it arrives at the site. Additional responsibilities will include daily and weekly "budget" meetings to determine selection and placement of originated content, surfacing new contributors, identifying new content areas, etc.

## Staff Requirements through Site Launch

The Content Manager will be the Content Department's sole resource through Phase 1: Research and Planning. By the end of the Phase 2: Specifications, it is anticipated that the staff will grow to three members. Again, staff members will be required to multi-task, taking on several of the roles described above, with all staff members contributing to content development.

At present, with two staff members, we can accomplish necessary work toward building a foundation for adding staff (i.e., determining site style; tone and voice; identifying potential freelancers; and establishing a workflow and task breakdown, etc.). Once these action items are completed, there will be a clearer direction for staff development with regard to needed skill-sets, workflow, and job description.

By November, at least one new writer-editor will be needed, with a second writer-editor needed in early December. These writer-editors will be assigned "beats" with regard to content needs for which they will be responsible. A roster of potential freelancers will be in place that these writer-editors can assist to develop. A third junior staff member will be added by early January, with responsibilities for developing vendor content based on the Q & A format described earlier.

Initially, staff members will fulfill multiple roles. For example, the Content Manager will likely be responsible for Content Relations and Editorial duties, as well as some content development. As the site grows and community directions/suggestions expand content requirements, these roles will become first individual staff members and, eventually, individual departments under the Content Development umbrella.

# Content Development Design/Tools

## Guiding Documents

These documents will define content development department policies and procedures. These will all be living documents, constantly updated, expanded, and referenced throughout the lifecycle of the Mucho.com community.

Update Frequency Schedule

- Defines content update rules (i.e. no section can go 10 days without updating)
- Lists all sections and indicates frequency of content update

Content Process Flow

- Defines the flow of content development up to handover to Community Developer
- Defines content development standard operating procedures
- Defines content requirements

Content Style Guide

- Defines and itemizes Mucho.com content style issues (including grammatical rules, sentence structure, terminology, glossary requirements, slang use, reference style, etc.)

Community Guide

- Exists, initially, as an internal document (later perhaps the bylaws and rules of order for either the Community Advisory Board or the entire community) that helps define community roles, rules, and regulations

## Periodic Evaluation By Community

A questionnaire or other mechanism will be devised to engage community members in helping to determine voice/tone and content focus.

## Ongoing Competitor Evaluation

The Content Department will actively evaluate competitor sites to ensure our services, content, and style are differential; however, if a competitor provides new services or content that fits the Mucho model, the Content Department will determine ways to incorporate similar value-added content to the Mucho site.

## Voice

The voice or tone for the Mucho site will be a significant differentiating factor from other B2B sites. Almost all of the business-oriented sites – with one significant exception, the Motley Fool - are stiff, pedestrian and lacking a soul. Imbuing the Mucho site with at least some shade of personality through style and tone will help to drive and maintain a vibrant community of employers, employees and vendors looking for more than plain vanilla information. Although this style and tone must not be too irreverent, insincere, or bombastic because some people **do** like plain vanilla.

With that said, the Mucho voice should be slightly edgy outside of the straight news environment: with a tone of not complete belief or acceptance. The web is bursting with boosterism and virtual faith. If Mucho is to be considered a viable purveyor of authentic information, then the site must not appear to accept all things at face value. In fact, we may want to consider development of a feature like "The Klank of the Day," an irreverent pan of the Internet or business panacea of the day. This can take the form of a touted application, practice, or position.

## Community Interaction Services

These services will help to encourage community interaction.

Membership Directory
- Helps community members interact
- Allows community members to view other members business descriptions/objectives

Membership Rating System
- Is absolutely essential to establishing relations between community members
- Provides community members with a system to evaluate other members (ie. for private interaction, referencing content developed by community members, barters, auctions, chat, bulletin boards, etc.)

**Membership Indirect Email**
- Allows community members to interact in a private manner not afforded in chat and bulletin boards
- Protects community members from spam advertising and other unwanted contact

Community Advisory Board (2-5 years after launch)
- Provides community members with representation in the "government" of the community
- Allows community members to elect other members that will best represent their interests in the community (this, of course, depends on the model we use to create the Advisory Board)

# Initial Department Requirements

## Contractual Agreements

The Content Department requires a variety of employment agreements/contracts:

- Permanent – for permanent, in-house, staff members
- Retainer – for contributors who provide consistent content (ie. columns and/or expertise-driven sections)
- Per piece agreement – for contributors who provide a single article or series of content

The department also requires an agreement for newsfeed relationships. This will be for automated content feeds.

## Equipment

Anticipated equipment requirements are as follows:

- Black and white laser printer – similar to the HP LaserJet 4000TN in the main office.
- Scanner – with OCR software for scanning text and Photoshop for scanning photos/graphics.
- Content Department Server – for backup purposes, sharing documents, etc.
- Content Management System (Archival, tracking) – to be built by the IT Department? An additional system might be required for within the Content Department.

# Technology Infrastructure

## Objectives

**What are the criteria for the Mucho.com infrastructure?**

Hardware Platform

- **Intel Based**
- **RISC**

**System Software**

- **Operating System**
  - **Windows NT Server**
  - **Unix/Linux Based**

Database

**Web Server**

**Application Server**

**Search Engine**

**Streaming Audio**

## The Big Picture

**Languages and Technologies**

**HTML**

**JavaScript**

**Java**

**SQL**

**XML**

**Java Server Pages ( JSP )**

**Servlets**

**Tools**

**Development**

**HTML**

**Graphics**

**Java**

**Audio**

**Standard Applications**

**Chat**

**Bulletin Board**

**Infrastructure**

**Beans**

**How do we proceed?**

**Resources**

**Author's Note:**

Before reading this document you may have questions like "What the heck is a Portal?" and "Who the hell is this guy Mucho?". Well, I thought you might ask, so rather than send you to 'Ask Jeeves', I would like to direct your attention to the end of the document where I have attempted to address some of those questions. If you still have questions – well you know where I work!

**Objectives**

**What are the criteria for the Mucho.com infrastructure?**

Mucho.com is a Portal offering business to business services through the Internet. As such, there is the potential for much growth in the client base and the services offered. In the past as software systems have tried to meet any exponential growth factor they have been severely strained due to the software not being architected to reflect the real world. The software industry has been one of the last to incorporate a more 'real world' modeling through the use of Objects and Components. Today, this approach to software is the norm and Mucho.com must leverage all that an object/component-based system has to offer.

**#1 Mucho.com must be very scaleable**.

The users of Mucho.com will all have different needs and requirements. This diversity must be catered to with an easily customizable interface to the Portal. The basis of the interface is HTML pages with JavaScript, but the content of the pages must be dynamically tailored to their individual preferences.
There will be bounds to the customizable options but these must be extensible for the expected growth.

**#2 The Mucho.com user interface must be customizable on an individual basis.**

The system components of Mucho.com must be able to keep up with the growth, and the architecture of any E-Commerce initiative must support an N –Tier/distributed approach. All of the components of the Portal will be distributed. For example the Web Server processing user requests will hand off parts of the request to an application server which will in turn handoff to components that apply the business rules to the request. The response data will come from a database server. The Web Server, Application components and Database server are just three tiers of the N-tier system.

**#3 The Mucho.com Portal will be an N –Tier distributed application.**

Mucho.com must be able to track all activities that a user performs. Revenues that the portal generates will be based on the ability to track all billable activity and to bill customers on an individual and recurring basis.

**#4 The Mucho.com portal will have extensive user activity tracking and comprehensive reporting and billing on those activities.**

Mucho.com will provide its users the functionality to make purchases online and do so in a secure fashion.

**#5 The Mucho.com portal will provide a secure server environment protected through the use of HTTPS 40 bit encryption and a Digital Certificate.**

Mucho.com will provide dynamic content to users, this will be supported through a relational database server. The server must be capable of storing large volumes of data and provide high-level application services.
**#6 Mucho Code will be run on a high end server platforms.**

Mucho.com will employee a model/view architecture where the business objects will take care of the data and various views of the data will be separated from the data itself. The vast majority of interactive web sites still rely on monolithic CGI programs, templates, or scripts. Templating and scripting are still very powerful techniques, but the manner in which they are
usually used impedes maintainability, easy deployment and code reuse. Thus, scripting allows authors with little or no programming experience to participate in the design of an interactive web site, and leverage existing content creation tools. The downside of over reliance on templates and scripting is that it usually leads to poor code readability, and an entanglement of business logic with presentation logic.

Models are nothing more than standardized ways of accessing primitive data structures.

A view is a way of presenting a model. Mucho.com will use JavaBeans, Enterprise Beans and eventually Corba to separate the model from the view. Mucho.com will also leverage emerging technologies such as XML as it becomes more of a standard in the quest for the pure Model-View architecture.

**#7 Mucho Code will use the Model-View architecture in ALL dynamic content.**

**Hardware Platform**

**Intel Based**

Cheaper and more accessible.
Supports current skill sets.
Need fault tolerant with hot swappable disk arrays etc…
We will use Intel initially.

**RISC**

Expensive and proprietary. Ala SUN etc…
We must build Mucho.com with so that we can easily accommodate this platform in the future.

**System Software**

**Objectives:**

- Platform-independent on the client side, because PC, UNIX, and Macintosh users will use the portal.
- Platform-independent on the server side, because the environment will ultimately include both UNIX and Windows NT servers.
- Be able to connect to a variety of databases, since potential data sources included Oracle, Informix, and SQLServer.
- Be able to run on different web servers such as Apache, Netscape, Java™ Web Server, and Microsoft IIS.
- Total latency (network + web server + database) of no more than a few seconds per request.
- Easy to implement and employs code re-use

In developing Mucho.com we must architect for the greatest scalability and future growth. The current trend for E-Commerce sites is to have a webserver hand off the processing for dynamic content to an application server. This is shown in figure 1.

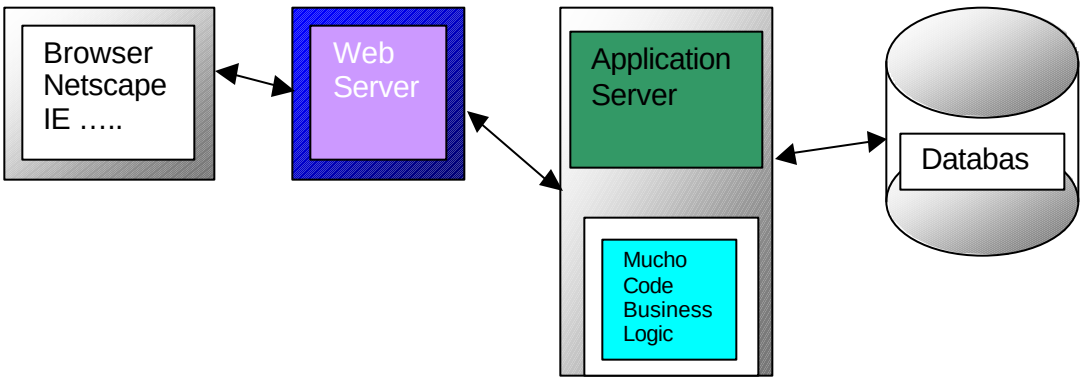


Figure 1

A new standard is gaining massive momentum with all the vendors that build application servers getting involved. The standard is the Java Servlet API and the Java Server Pages version 1.0.

Why is this standard gaining momentum and why should we care?
In the world of application software, code reuse is now a reality with object oriented programming. Java is an object-oriented language from the ground up, which allows all business rules for the above type of application to be written once.

The above objectives can be achieved with a system designed as per Figure 1.

- First, we will use pure HTML and JavaScript in the browser and utilize plugins like RealAudio and Flash to assist with any multimedia content.
- Second, on the server side Java is completely cross platform and most of the main application servers support the main operating systems. The application server vendor just writes one piece of platform dependent code for each webserver platform. The application server itself is written in Java.
- Third, the JDBC or Java Database Connectivity is now available for all major database systems. This means we can connect to any database from any application server.
- Forth, Application Servers support all main stream webservers.
- Fifth, Java server side implementations are fast. Lastly, Java is object oriented so we can design for code re-use.

**Operating System**
Windows NT Server

Just a few years ago, Windows NT servers on the Internet were rare, an effort to force the product into a task for which it wasn't suited. But times have changed. Leading performance, excellent programmability, and the widest variety of tools and third-party add-ons make Microsoft Windows NT Server 4 and Internet Information Server 4 (IIS) the best choice for Mucho.com.

The lingering perception is that Windows NT is neither secure nor stable enough for a high-traffic Internet site. But there is nothing inherently wrong with Linux, Solaris, or Windows NT that would make any of these OSs more stable than any other. Real-world experience shows that Web sites built on Windows NT can be as secure and stable as they need to be. Many large commerce sites, such as barnesandnoble.com, eBay, and Dell, were built on Windows NT and IIS, and all are high-traffic sites

Based on our current skill set the obvious choice is to use NT Server.

**Unix/Linux Based**

The hot story on the Web this past year has been Linux's growing popularity and its respectability as a platform for Web and enterprise development. Linux has its share of strengths, such as its large open-source developers community and its price (or lack thereof); and you can certainly build a Web-class application on it. But building such apps with Linux will take more work, and there are fewer choices of proven commercial software and they don't get the best performance, as the code is not optimized for particular hardware.

This platform is not in line with our current skill set but bears promise for the future. The learning curve for the Unix platform is pretty steep.

**Database**

The database will be Microsoft SQL Server 7.0 initially.
MS SQL Server leverages off of platform specific code, is fast and is a world class database.

We may want to consider an object database like POET, which will run alongside SQL Server. This would allow us to easily encapsulate our infrastructure objects and proprietary code.

**Web Server**

The Webserver will be IIS because of many recommendations – one from PC-Week is show below.

Performance – Source PCWeek

Reprising its victory from last year, IIS on Windows NT proved to be the performance leader. Its prowess is due to effective use of threading and efficient handling of file and network I/O. Case in point: In both the dynamic and e-commerce tests, IIS came out on top, especially as we increased the client load.

A complement to threading in Windows NT is its ability to achieve asynchronous I/O. Asynchronous I/O lets a threaded Web server process requests at the same time it performs file or network I/O. Without this capability, the Web server would sit and wait while the disk subsystem pulled a file from the hard disk or passed the requested file to the network. Instead, the server can work simultaneously on requests from other clients while the I/O subsystem handles the file or network I/O. A similar feature is available in Solaris but has yet to be fully implemented in Linux.

Another advantage of IIS is that it only needs to be optimized for a single platform. This may seem fairly obvious, but not having to worry about portability makes performance tuning a much more focused task.

## Application Server

. The definition that most developers agree on is that an application server is software that runs on a middle tier, between Web browser-based thin clients and back-end databases and business applications. Application servers handle all of the application logic and connectivity those old-style client-server applications contained.

The problem for Mucho.com is to evaluate the vendors in this market and test the application servers that we are interested in. The features of this critical piece of the puzzle vary from vendor to vendor. What we need is the following –

1. Database connection pooling
2. Java Servlet API support
3. Java Server Page version 1.0 support
4. Database transaction management
5. Load balancing between multiple application servers
6. Enterprise Java Beans and Corba support

On the low end of the price scale, application server tool makers, like Allaire, Inprise, NetDynamics (recently purchased by Sun Microsystems) , BlueStone, and Apptivity see application servers as an extension of their existing toolsets.

At the opposite end of the price and complexity scales are the transaction processing monitor makers--from BEA Systems and IBM--that have latched onto the application server trend.

Application servers offer server-side support for developing and deploying business logic -- business logic that may be located on the server or, more often, partitioned across client and server. This is nothing new: Enterprises rely daily on server-side business processing, ranging from mainframe transaction systems to client/server DBMS stored procedures. Running business processes on the server provides the following:

Re-use. A variety of client applications (HTML-only, Java applets, COM+ components, etc.) can share the same business logic.

Intellectual property protection. Sensitive business logic often includes or manages trade secrets that could potentially be reverse engineered.

Security of business logic. By leaving the logic on the server, user access can be controlled dynamically, revoked at any time.

Security of network communications. Application servers allow use of internet-standard secure protocols like SSL or HTTPS in place of less secure proprietary DBMS protocols.

Manageability. Server-side applications are easier to monitor, control, and update.

Performance. Database intensive business logic will often perform much better when located near the database, saving network traffic and access latency.

As Mucho.com grows we will be establishing links to other vendors for all kinds of transactions and data. The Application Server is the ideal way to encapsulate and manage this diversity.
The Application Server technology needs to be investigated by meetings with the major players:

1 IBM
2 BEA Weblogic
3 Inprise
4 Microsoft
5 Sun.

**Search Engine**

Mucho.com must raise the bar when it comes to its users finding useful information. With the advent of Ask Jevees more users than ever before are now aware that the natural language query is the way to get informa-tion. Also, Mucho.com must have a way to create topic hierarchies from a search that make it easy for the user to point and click to the information they need.

A search engine provides reports that tell you what questions are being asked and what questions are not being answered by the content on Mucho.com. This information can be used to direct product and market-ing plans to make sure we grow based on what our customers need.

The Ask Jeeves Corporate Solution is a custom question answering system that directly addresses customer frustration, low conversion to buy rates and exploding support costs by allowing a user to ask virtually any question that has an answer on your site and be taken immediately to the answer. Ask Jeeves will license their Corporate Question-Answering Service to companies on a turnkey basis. They analyze the site, e-commerce and customer service needs as well as the customer's browse and search experience, then use the information to create a custom question-answering service.

The fact that the Ask Jeeves Corporate Solution is custom based means that it will be expensive and require a certain amount of hand holding from Ask Jeeves in order to get it running. Also, they tailor their solution to a pre-existing site where their analysis will really pay off. At Mucho.com we need a search engine initially because all portals have a search engine but we need to have one we can manage ourselves initially.

With a Mucho.com search engine we can fill a major void on the Internet and see some quality revenues as well. People want smaller directories. They want to be able to go to a directory web site run by someone like Mucho.com that knows the content, that cares about the quality of the listings, and that doesn't try to be everything to everyone. Our focus will be on a self-maintained canned solution from a vendor that understands what we are trying to achieve.

Mucho.com can add search, some basic terminology:

A ***search indexer*** is a program that scans the files in your site and creates an index file, a place that stores all the words on your site in a special format for speedy lookup. Visitors use a search form to type in search terms and set various search options. When the user submits the form, a program called a ***search engine*** scans the previously created index file for matches to the search terms. Any matches, sometimes called hits, get formatted into an HTML page called the results listing. These results are usually sorted in order of relevance, with the closest matches at the top.

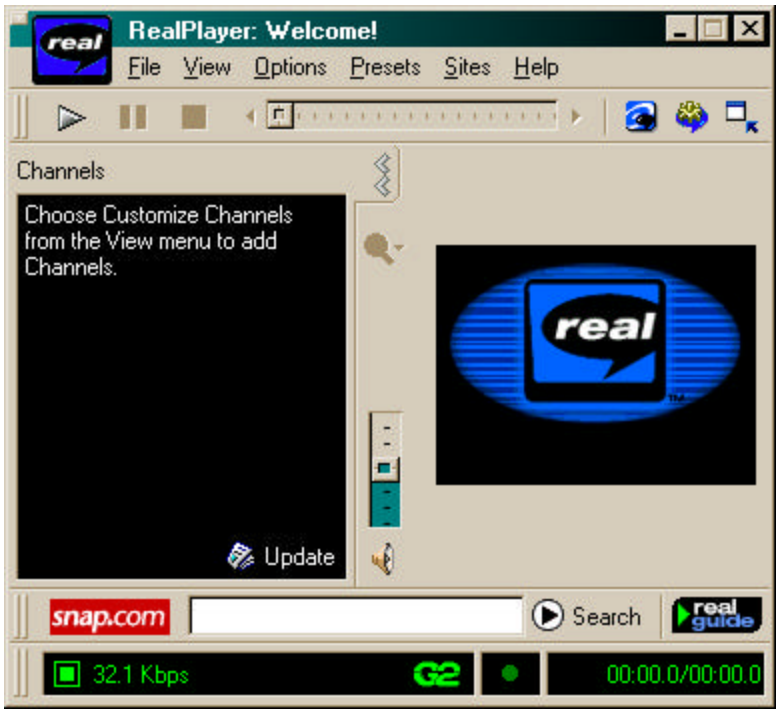
Some prospective search engine vendors that need to be investigated are:

1. InfoSeek – Ultraseek
2. Hyperseek - http://www.hyperseek.com
3. IndexFinger – http://indexfinger.com
4. InQuizit - http://www.itpinc.com/
5. Excalibur - http://www.xrs.com/products/products.html

Mucho will probably have some things to say – giving advice, describing a product or a service, even offering video training on a variety of topics. In order for the little guy to broadcast his message to the masses he will have to record his message. The recording will be converted into a digital file or stream of audio and a streaming audio server will serve the message.

Real Audio is the major proven player in this market and we can leverage off of their technology. Their Real Server solution will provide us with the following

1. Achieve precise tracking of user demographics.
2. Host pay-per-view events
3. Sell premium content subscriptions



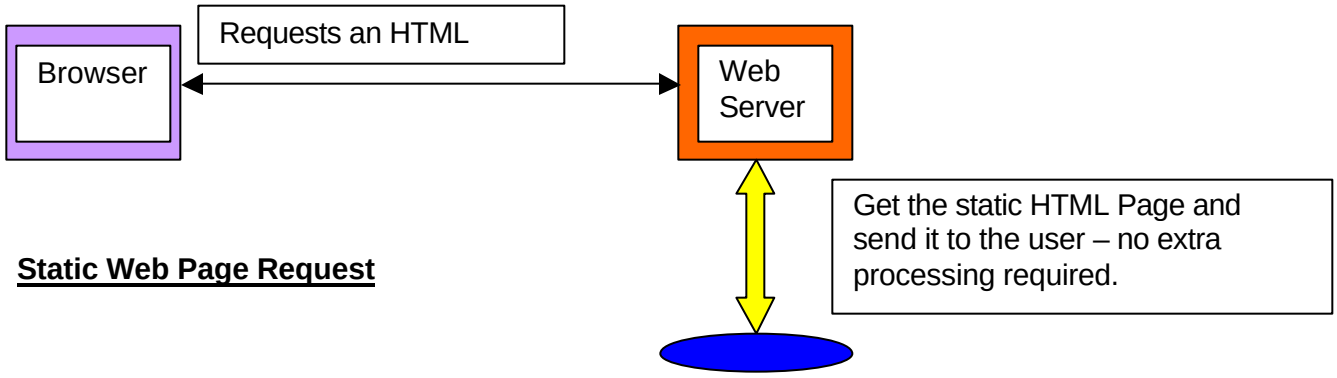

RealServer streams both live and on-demand material, through unicasting or multicasting. It works with Web servers to stream to clients over networks and the Internet.
1. A visitor browses a Web page and clicks a link to a streaming media
presentation served by RealServer.
2. RealServer creates a small metafile and sends it to the visitor's Web
browser.
3. The browser downloads the metafile and sends it to the visitor's
RealPlayer. The metafile, called a Ram file, contains the address (or
addresses) of the media presentation mentioned in the link.
4. RealPlayer reads the link in the metafile and requests the presentation
directly from RealServer.

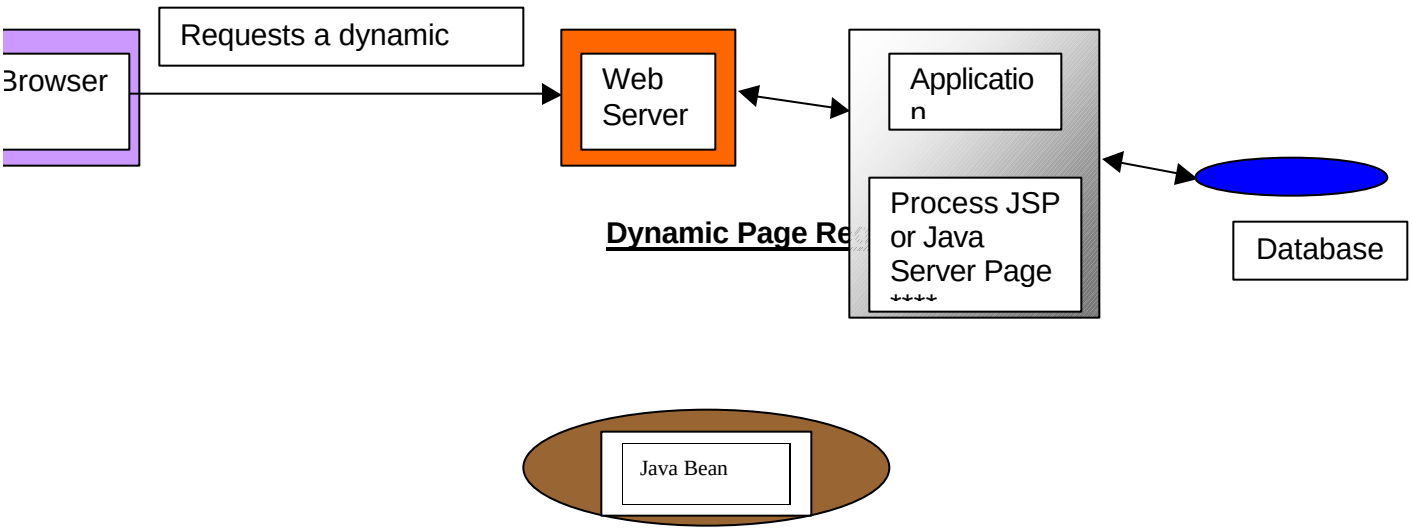
5. RealServer streams the files in the presentation to the RealPlayer.
Finally, RealPlayer plays the presentation.

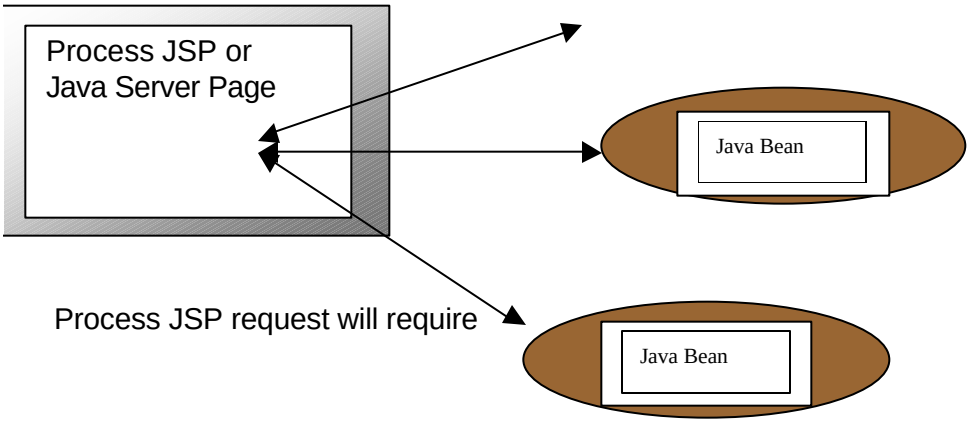
**The Big Picture**

The Mucho.com Portal will have two types of web pages: static (HTML files) and dynamic (JSP).

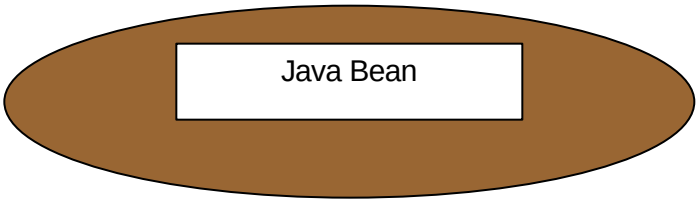
A static page is one where the content of the page is typed into the web page design tool and inserted on the page. The dynamic page is one where the content is obtained from a database at the time the web page is requested.






**Spill the Dancing Beans**




As the initial Mucho.com content requirements come to light so will the requirement for the different types of JavaBeans (objects) that will be required to satisfy the business rules for the site.

- Security Bean
- Individual User Bean
- Company Bean
- Database Access Bean
- Shopping Cart Bean
- Accounting Bean

_ * * * *

Java Beans have two kinds of attributes that make them extremely useful :

- Properties
- Events

For example – on a database bean - a property could be the actual network path to the database server and an event could when the bean gets connected or disconnected from the database. Users of the bean can register with it so the bean can tell the user when the event happens.

### Languages and Technologies

**HTML -** HyperText Markup Language, the authoring language used to create documents on the World Wide Web will be employed for all browsers supported by Mucho.com.

JavaScript – **Where necessary Mucho.com will use JavaScript to assist with form field validation and navigation in the client browser.**

**Java –** will be the main server side language.

**SQL –** Mucho.com employ SQL in all database transactions.

**XML -** As this technology evolves it will be used for transactions with online vendors and document presentation.

**Java Server Pages (JSP) –** Mucho.com will adhere to the reference specification as per Sun Microsystems in JSPv1.0.

**Servlets –** Where appropriate Servlets will be used in conjunction with JSP

### Tools

#### Development

**HTML –** DreamWeaver, HomeSite

**Graphics -** Adobe

Java – **JBuilder3 from Borland**

**Audio –** RealAudio

**Rational UML Modeling –** All Server Side components will be documented in Rational Rose for Java.

### Standard Applications

**Chat -** If a chat engine can be purchased as an autonomous plugin – that would be preferential. If we can purchase one that is built in JSP or Servlets that would be even better.

**Bulletin Board -** as per chat software.

**Infrastructure**

The initial development effort will be to develop a core set of Java Beans that will provide an infrastructure upon which all application development will be built. For example, user session management will be used no matter who is logged on to the site. Determining what a user can and cannot do will apply to all users. These kinds of infrastructure objects are generic to the site and must therefore be completed first.
As analysis proceeds, the first applications will be broken down in an object oriented analysis where the second level of development will focus.

**How do we proceed ?**

- Install the Mucho.com development server computer.
- Install and Configure IIS.
- Purchase and Install Microsoft SQL Server.
- Start looking for a database analyst and one more Java programmer.
- Install and test trial versions of the application servers.
- Talk to the application server vendors.
- Install and test the trial versions of the search engines.
- Purchase the Application Server
- Purchase the Search engine.
- Purchase Rational Rose for Java.
- Start the application OO analysis process.
- Develop the code management plan.
- Start the infrastructure bean(s) design.
- Start the infrastructure development.
- Start the site GUI design process.
- Start the site design process
- Define initial site scope and content specifications.
- Test the infrastructure.
- Start application(s) design.

- Start application development.
- Research hosting options.
- Meet with focus group for refinement of scope.

Resources

**1 –** Fulltime Database Analyst/ Data person - ASAP
**2** – Fulltime Java Programmer – In one month
**3** – Partime Java Programmer (Q/A person) – In one month

## GLOSSARY

**Application Server**

A program run on a mid-sized machine that handles all application operations between browser -based computers and a company's back-end business applications or databases. Because many databases cannot interpret commands written in HTML, the application server works as a translator, allowing, for example, a customer with a browser to search an online retailer's database for pricing information. Application servers are seen as filling a large and growing market; more than 25 companies now offer such products.

**Browser**

Short for Web browser, a software application used to locate and display Web pages. The two most popular browsers are Netscape Navigator and Microsoft Internet Explorer. Both of these are graphical browsers, which means that they can display graphics as well as text. In addition, most modern browsers can present multimedia information, including sound and video, though they require plug-ins for some formats.

**CGI**

Abbreviation of Common Gateway Interface, a specification for transferring information between a World Wide Web server and a CGI program. A CGI program is any program designed to accept and return data that conforms to the CGI specification. The program could be written in any programming language, including C, Perl, Java, or Visual Basic.

CGI programs are the most common way for Web servers to interact dynamically with users. Many HTML pages that contain forms, for example, use a CGI program to process the form's data once it's submitted. Another increasingly common way to

provide dynamic feedback for Web users is to include scripts or programs that run on the user's machine rather than the Web server. These programs can be Java applets, Java scripts, or ActiveX controls. These technologies are known collectively as client-side solutions, while the use of CGI is a server-side solution because the processing occurs on the Web server. One problem with CGI is that each time a CGI script is executed, a new process is started. For busy Web sites, this can slow down the server noticeably. A more efficient solution, but one that it is also more difficult to implement, is to use the server's API, such as ISAPI or NSAPI. Another increasingly popular solution is to use Java servlets.

**Database (RDBMS)**

Short for relational database management system and pronounced as separate letters, a type of database management system (DBMS) that stores data in the form of related tables. Relational databases are powerful because they require few assumptions about how data is related or how it will be extracted from the database. As a result, the same database can be viewed in many different ways.

An important feature of relational systems is that a single database can be spread across several tables. This differs from flat-file databases, in which each database is self-contained in a single table.

Almost all full-scale database systems are RDBMS's. Small database systems, however, use other designs that provide less flexibility in posing queries.

**Enterprise Java Beans**

Enterprise JavaBeans (EJB) allows developers to write components once and deploy them in the server environments that best fit their application and enterprise needs–from low-end Web application servers to large-scale enterprise servers. EJB development and run-time environments allow organizations to develop business logic that can be reused, deployed, and scaled according to needs. The single programming model and supporting tools makes it easier, faster, and less expensive to develop applications.

**HTML**

Short for HyperText Markup Language, the authoring language used to create documents on the World Wide Web. HTML is similar to SGML, although it is not a strict subset.

**Java**

A high-level programming language developed by Sun Microsystems. Java was originally called OAK, and was designed for handheld devices and set-top boxes. Oak was unsuccessful so in 1995 Sun changed the name to Java and modified the language to take advantage of the burgeoning World Wide Web. Java is an object-oriented language similar to C++, but simplified to eliminate language features that cause common programming errors. Java source code files (files with a .java extension) are compiled into a

format called bytecode (files with a .class extension), which can then be executed by a Java interpreter. Compiled Java code can run on most computers because Java interpreters and runtime environments, known as Java Virtual Machines (VMs), exist for most operating systems, including UNIX, the Macintosh OS, and Windows. Bytecode can also be converted directly into machine language instructions by a just-in-time compiler (JIT).

**JavaBeans**

A component architecture for the Java application environment. They are independent, executable modules that can run in a distributed computing environment

**Java Server Page**

The JavaServer PagesTM (JSP) technology provides a simplified, fast wayto create web pages that display dynamically-generated content. JSP technology was designed to make it easier and faster to build web-based applications that work with a wide variety of web servers, application servers, browsers and development tools.

**Mucho**

A cute little guy who probably knows more about the business to business portal than anyone else around. His voice will be heard all over the Mucho.com portal – after all he runs the place.

**Operating System**

The most important program that runs on a computer. Every general-purpose computer must have an operating system to run other programs. Operating systems perform basic tasks, such as recognizing input from the keyboard, sending output to the display screen, keeping track of files and directories on the disk, and controlling peripheral devices such as disk drives and printers.

For large systems, the operating system has even greater responsibilities and powers. It is like a traffic cop -- it makes sure that different programs and users running at the same time do not interfere with each other. The operating system is also responsible for security, ensuring that unauthorized users do not access the system**.**

**Portal**

A Web site or service that offers a broad array of resources and services, such as e-mail, forums, search engines, and on-line shopping malls. The first Web portals were online services, such as AOL, that provided access to the Web, but by now most of the traditional search engines have transformed themselves into Web portals to attract and keep a larger audience.

**Real Audio**

The de facto standard for streaming audio data over the World Wide Web. RealAudio was developed by RealNetworks and supports FM-stereo-quality sound. To hear a Web page that includes a RealAudio sound file, you need a RealAudio player or plug-in, a program that is freely available from a number of places. It's

included in current versions of both Netscape Navigator and Microsoft Internet Explorer.

**Search engine**

When a user enters text into a search form, a program called a search engine analyzes the text and searches for matching terms in an index file, which was created using a search indexer. The search engine returns the results of its search using a results listing.

**Search indexer**

A program that analyzes documents such as Web pages and creates a searchable index file. The resulting index file is used by a search engine to locate files containing specific words or phrases.

**Servlet**

An applet that runs on a server. The term usually refers to a Java applet that runs within a Web server environment. This is analogous to a Java applet that runs within a Web browser environment.

Java servlets are becoming increasingly popular as an alternative to CGI programs. The biggest difference between the two is that a Java applet is persistent. This means that once it is started, it stays in memory and can fulfill multiple requests. In contrast, a CGI program disappears once it has fulfilled a request. The persistence of Java applets makes them faster because there's no wasted time in setting up and tearing down the process.

**WebServer**

A computer that delivers (serves up) Web pages. Every Web server has an IP address and possibly a domain name. For example, if you enter the URL http://www.pcwebopedia.com/index.html in your browser, this sends a request to the server whose domain name is pcwebopedia.com. The server then fetches the page named index.html and sends it to your browser.

Any computer can be turned into a Web server by installing server software and connecting the machine to the Internet. There are many Web server software applications, including public domain software from NCSA and Apache, and commercial packages from Microsoft, Netscape and others.

**XML**

Short for eXtensible Markup Language, a new specification being developed by the W3C. XML is a pared-down version of SGML, designed especially for

Web documents. It enables designers to create their own customized tags to provide functionality not available with HTML. For example, XML supports links that point to multiple documents, as opposed to HTML links, which can reference just one destination each.

Whether XML eventually supplants HTML as the standard Web formatting specification depends a lot on whether it is supported by future Web browsers. So far, the only major browser vendor to endorse XML is Microsoft, which has stated that XML will be supported in a future version of Internet Explorer.

# Front-end Design

## Analysis of Front-end Design for
## Business to Business E-Commerce Portal

### I. Overview – Think Before We Design

As with any design process thinking before designing is the most efficient, effective approach to benefiting the front-end design team and ultimately the end user of Mucho.com. By addressing all the design variables currently facing a front-end web designer and by understanding the design criteria recommended by our future community members the Mucho.com front-end design team will be able to develop a quality business to business portal.

The front-end design analysis for the Mucho.com portal assumes the following; 1) internet technology is always changing, what is right for today's internet portals will change tomorrow, so this document will need to be continually reassessed and updated when appropriate, 2) The design requirements for the Mucho.com portal has been based mainly on the management teams interpretation of what a business to business portal requires and by modeling other existing internet portals functionality and features, further insight by our focus groups may impact the final outcome of the front-end design, and 3) many of the front-end design recommendations put forth in this document can and probably will be influence by the final site architecture recommended by Joe Ryan, Chief Technology Officer.

### II. The Front-end Basics

The "Front End" what exactly is it? The front-end of the Internet can be defined as anything the end user sees, hears, interacts with, or submits. It includes the look and feel of the site, the way the site and the information in the site is organized, and how one would navigate the site. This "look and feel" is critical in establishing an Internet presence.

The basics to the front-end design include an Internet browser (for viewing the web site), HTML programming language (for rendering the information on screen) and graphic design (for developing images and typography for the site) along with site content

### III. Standard vs. Emerging Programming Languages

#### Standard Languages

##### HTML (hypertext Markup Language)

The "backbone" of the Internet, HTML is a programming language that addresses how information will render in an Internet browser. HTML using source tags along with attributes and values to define the information on your computer monitor. Unfortunately for a web designer, advances in HTML tags is not being driven by the language itself it is being driven by the manufacturers of the internet browsers. Therefore causing little standardization in HTML tags supported in various browsers.

In 1994, the W3C, World Wide Web Consortium formed to propose unbiased, standardized protocols for Internet programming languages. To date, two recommended standards have been adopted by the programming community version 3.2 and version 4.0.

**Version 3.2** - Represented the consensus on HTML features for 1996. HTML 3.2 added widely-deployed features such as tables, applets, text-flow around images, superscripts and subscripts, while providing backwards compatibility with the existing HTML 2.0 standards

**Version 4.0** - HTML 4.0 supports more multimedia options, DHTML, scripting languages, style sheets, better printing facilities, and documents that are more accessible to users with disabilities

### JavaScript

A “client-side” (running entirely on the end user’s computer) programming language, JavaScript is fast, resides within the end users web page and requires no interaction with data from a server. It allows the front-end designer to modify content on the screen or interpret actions from the end users. Some examples of JavaScript in use today on the Internet are image rollovers, scrolling stock tickers, current date/time, and form validations.

As with HTML there are versions of JavaScript being supported by various Internet browsers. **Version 1.1** is supported by Netscape Navigator 3.0 and Microsoft Internet Explorer 4.0. **Version 1.2** is supported by Netscape Navigator 4.0 and Microsoft Internet Explorer 4.0 upgrades and 5.0.

## Emerging Languages

### DHTML

Dynamic HTML (DHTML) is the one of the most exciting enhancements to occur in front-end web design since the advent of version 4.0 browsers. It allows for handling site interaction entirely on the end user’s computer without sending and receiving information consistently over the Internet. DHTML is a combination of the two standard programming languages (HTML and JavaScript), a document object model, and Cascading Style Sheets.

### Cascading Style Sheets

Cascading Style Sheets (CSS) provide a way to control the layout, font characteristics, and other aspects of the display of your pages for all support platforms. It provides the front-end designer with absolute control over the rendering of information on the screen. No more HTML workarounds to control rendering differences in various browsers. CSS serves as a single file that is reference by other pages in the site, allowing for global changes to the site by manipulating the single CSS file.

### XML

Extensible Markup Language (XML) allows the programmer to develop their own “well formed” tags that can be understood by humans and computers alike. Programmers assign logical tags to the information contained in the document which then can be partitioned out easily into database fields or assign rendering information
for the screen.

## IV. Technologies

**RealAudio / Video** – Streaming Video / Audio

**Quicktime VR** – Interactive Video

Streaming video, sound, music, 3D and virtual reality come alive for Macintosh and Windows with the release of QuickTime 4. [Jun 8]

**Flash** – Animations, User Interfaces

First introduced in 1996, Flash has become the standard for creating high-impact vector based Web sites that deliver sound, interactivity, graphics and animations and perform flawlessly across multiple browsers and platforms.

## V. The Internet Browsers

### Overview

The Internet Browsers are the ears and eyes of the World Wide Web. Over the past ten years there have been a few companies that have attempted to compete in the browser market including AOL, Mosaic, Lynx, Netscape and Microsoft. As we look at the market today there are truly only two major competitors Netscape and Microsoft. Statistics are hard to come by on whom has the majority share but many analysts suggest Microsoft’s Internet Explorer has taken the lead in the browser wars.

### What Versions of Browser to Build For?

This is probably the most asked question by front-end programmers and designers and it is the hardest answer to come by. Reason being there are multiple variables to consider in deciding what browser to build for including end user operating systems, functionality requirements of the site, content requirements of site, and installed version browser base.

**Version 3.0** – Released in the middle of 1996, these versions of both Netscape’s Navigator and Microsoft Internet Explorer supports the HTML 3.2 standards which allowed for widely-deployed features such as frames, tables, applets, text-flow around images, and javascript. Although there is currently no hard statistics on installed version browser base being used by end users, heavily traffic sites estimate ***30% of their end users*** are using 3.0 browsers.

**Version 4.0** – Released in the middle of 1997, these versions of both Netscape’s Navigator and Microsoft Internet Explorer supports the HTML 3.2 standards and set the standards for the recommended HTML 4.0 standards. This version of browsers, extended the feature sets of version 3.0 browsers by including a whole new element of design control and interaction with cascading style sheets, DHTML, gif89a, and the by implementing the Document Object Model. Heavily traffic sites estimate ***65% of their end users*** are using 4.0 browsers.

**Version 5.0** – Released early 1999, these versions of both Netscape's Navigator (version 4.6) and Microsoft Internet Explorer supports the HTML 4.0 standards including more multimedia options, DHTML, scripting languages, style sheets, and better printing facilities. Many of the plugins that were considered add ons for previous browser versions have been incorporated in the browser package including real audio player and shockwave. Heavily traffic sites estimate ***5% of their end users*** are using 5.0 browsers.

## VI. Other Design Criteria

### Overview

Another essential piece to "thinking before we design" the front-end of the Mucho.com portal is understanding what baseline hardware our end users will be using to view the site as well as understanding the potential growth requirements of the site from a navigation and site architecture perspective.

### Access Speeds

There are two major means of connecting to the internet via a phone line or a cable line. Connecting via a phone line provides mainly three variations of access speeds to the internet 1) Dial up accounts which provide access speeds that range from 28.8kbps to 56kbps contingent upon the Internet Service Providers connections and the modems being used to connect to the service 2) ISDN or DSL which on provide access speeds that range from 128 KBPS to 1.5 MBPS 3) T1 lines or fractional T1 lines provide access speeds that range from 1.5 MBPS, while a T3 is 44 MBPS.

Connecting via a cable line provides speeds that range from Cable offers the fastest download speeds available to home users: theoretically up to 30 megabits per second (MBPS), more than 500 times faster than today's 56-kbps modems. (A corporate T1 line is 1.5 MBPS, while a T3 is 44 MBPS.)

The general rule in assessing download speeds for the Internet should be built to support lower speed requirements.

### Monitor Sizes

According to polls from CNET community members, average monitor size for the typical business owner is a 17' inch with a range from 15' inch to 21' inch. A majority of these monitors support resolution minimums 640 x 480 and a majority resolution of 1024 x 768. The cost for computer monitors has experienced a steady decline in the past three years. Allowing for larger monitor sizes to be purchased for relatively minor cost.

### Color Palettes

Two issues impact the amount of colors an end user can view on their monitor 1) Operating Systems for the Windows platform is shipped with 256 baseline colors and the Macintosh platform is shipped with 216 baseline colors which make up 216 of the 256 colors in windows 2) Video Card / Monitor to use a greater number of colors like millions of colors require the ability of the monitor to reproduce these colors and for the video card to provide enough memory for these colors to be rendered.

### Scalability

Build once and add on when necessary is the best approach to creating a front-end design that has growth potential as our community grows. In order to do this it is essential to develop a site and navigation architecture that allows for new sections to be added to the site without having to redesign the whole site. Brainstorming along with some forethought of value added services to be introduced in the future would lead to a design with scalability for the future.

## VII. The Required Tools of our Trade

Simple Text Editors – Alliare HomeSite, BBEdit
WYSIWYG HTML Editors – Macromedia Dreamweaver
Image Manipulation / Illustration – Adobe Photoshop / Illustrator, Macromedia Flash
Image Optimization – Adobe Image Ready
Batch Processing – Adobe Photoshop / Image Ready, Debabilizer

## VIII. Infrastructure Considerations

### Overview

So we have a sense of the variables impacting how we are going to design the front-end Mucho.com portal now we need to understanding other issues that can impact the efficiency of developing the site along with recommended implementation standards for streamlining the understanding of adding additional aspects to the site.

### Static vs. Dynamic Content

Static content on the Mucho.com portal is information that will be provided in HTML files, graphic elements, animations, audio files, etc. that will not require an application or database to drive or interpret the content. It is estimated that the Mucho.com portal will contain about 30% of static content.

Dynamic content on the Mucho.com portal is information that requires interaction with a database, secure transaction servers, custom applications, real time data, etc. It is estimated that the Mucho.com portal will contain about 70% of dynamic content.

### Template Development

An efficient means of creating a web site infrastructure is instead of creating each individual page front-end designers try to find common views of web pages that can be saved as templates. Then by using these templates as a baseline HTML file manipulations can occur to convey the appropriate information for each page. Mucho.com will have many templates for static, dynamic, and customizable content.

### File Naming Structures

Common naming structures for all files in the Mucho.com web site will provide a baseline understanding between the design team members. For example a three letter prefix for each file in the services section could begin with srv… so a file in that section would be named srvfacts.htm. Please see attached recommended naming structure.

### Directory Structures

Defined directory structures for all files in the Mucho.com web site will provide a baseline understanding of where files belong between the design team members. For example all files and images required for the services section could be placed in a services directory. Please see attached recommended directory structure.

**Linkage**

Mucho.com will have four major levels of linkages to be addressed in the information design phase of developing the portal.

1) Internal Linkage / Relative Linkage – the linking of various files in the Mucho.com site architecture. All linkages will remain in the design format established by Mucho.com team.
2) Information Linkage – the linking of various online information resources that will be imported into the Mucho.com site architecture. All linkages will remain in the design shell format but content structure could appear differently.
3) Absolute Linkage – the direct linking of other online information resources for our community member. All linkages will take the end user directly to homepage of the information resource. Mucho.com will have no control over design.
4) Premier Member Linkage – All linkages will lead to a subset of the Mucho.com portal site. This is intended to provide a clear and concise design format for premier services. All linkages will remain in the design format established by Mucho.com team.

**File Version Control**

Mucho.com development team will incorporate a staging server that will host all the files, applications, animations, databases, etc. This staging server will have check in/ check out capabilities for all files being worked on in the team environment. For example if a team member wanted to work on index.html they would have to check out the file from the staging server which would make the index.html file a read only version for all other team members until that file was checked back in. *Implementing version control on the Mucho.com server is essential to minimizing redundant effort by team members.*

**Quality Assurance**

Quality of services and functionality of our portal is the key to our success in the business to business market. In order to assure high standards on our portal each file, application, animation, etc. should be tested and retested in all versions of competing browsers on all operating systems to identify all rendering and functionality bugs *before they hit our end user.*

## IX. Recommendations

**What to build?**

Based on the researched conducted for this analysis and our goal of generating community members that find a valuable experience on the Mucho.com business to business e-commerce portal. I recommend the following front-end design

- We build two versions of the Mucho.com portal site 1)a version that caters to end-users with 3.0 browsers… why? Simple, an estimated 30% of our potential community members are using these browsers, lets not isolate their potential revenue by forcing them to have to download newer versions of their favorite browser. 2) a version that caters to end users with 4.0 and newer browsers…why? Strategic Positioning, Advanced Functionality, Simple Navigation Design, Interaction, and Value Added to our

community members.

- The 3.0 version of the Mucho.com portal site will be standardized to the HTML 3.2 standards and the JavaScript 1.1 standards.

- The 4.0 version of the Mucho.com portal site will be standardized to the HTML 4.0 standards and the JavaScript 1.1 standards. This version of the site will make full use of DHTML and Cascading Style Sheets

- Mucho.com portal site will be developed with templates, scalability and customization in mind. All design options will address these aspect in their layouts.

- Mucho.com portal site is optimized for the 640 x 480 screen resolution with file sizes that can download efficiently with a 28.8K dial up connection. The main color palette of the site will consist of three to four major colors selected for the 216 web safe color palette.

**Steps to build the Front End**

Mucho.com Portal

Corporate Identity
- Logo/Business Cards/Letterhead Development
- Initial Design
- Design Review
- Design Modifications
- Design Review
- Final Draft

Staging Environment-
- Deployment
- Training

Information Design
- Version 3.0
- Document Revisions
- Version 4.0
- Document Revisions
- Information Design Review

Navigation Design
- Version 3.0
- Document Revisions
- Version 4.0
- Document Revisions
- Navigation Design Review

Site Architecture
- Version 3.0
- Document Revisions
- Version 4.0

- Document Revisions
- Site Architecture Review

Home Page Design Mockups
- Initial Designs
- Design Review
- Design Modifications
- Design Review
- Final Design

Internal Page Designs
- Initial Designs
- Design Review
- Design Modifications
- Design Review
- Final Design

Template Development
- Dynamic Templates
- Testing/ QA
- Static Templates
- Testing/ QA
- Content Templates
- Testing/ QA
- Template Revisions

Template Programming
- HTML
- Testing/ QA
- DHTML
- Testing/ QA
- Cascading Style Sheets
- Testing/ QA
- JavaScript
- Testing/ QA
- Programming Revisions

Template Population
- Graphic Design
- Content
- Dynamic Integration

Front Testing/ Q&A

**Estimated Resources to build**

**Senior Web Designer**
**HTML Programmer**
**Graphic Design Artist**