

# **HF710: Managing the Development of Information Products**

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## **Work Breakdown Structure Document for the Concord Communications, Inc. Web Site Evaluation Project**

**Version 1.0**

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## 1.0 Document Information

This section provides general information about this Work Breakdown Structure (WBS) document.

### 1.1 Revision History

The revision history will be one method used by the project team to keep track of WBS document modifications.

Document Version	Revision Date	Author	Description of Changes
0.1	02/14/01	Jennifer M. Hocko	Initial WBS template; incorporation of section drafts from team members.
0.2	02/18/01	Jennifer M. Hocko	Incorporation of new risks section, project tasks section, project cost outline, references for Jen's strategic research. Cleaned up Reporting section. Modified section order. Generated table of contents, inserted appropriate footer. Drafted outline of Project Costs section. Improved Data Collection section. Several formatting modifications.
0.3	2/20/01	Bob Lim	Incorporation of new section 2, Web site evaluation criteria (4.2), project schedule, project cost estimates, and references.

### 1.2 Purpose

The purpose of this Work Breakdown Structure (WBS) document is to identify, organize and otherwise plan for successful completion of the Concord Communications Web Site Project. Upon project completion, it may also be used for evaluation purposes.

### 1.3 Scope

This WBS document is intended to help define the scope of the Concord Communications Web Site Evaluation Project. Version 1.0 of this document will be used as a baseline for project activities, but may be modified as necessary using an accepted change management process.

## 2.0 Project Definition

This section provides a detailed description of the project definition arrived at by the Concord Communications Web Site Evaluation Project team. The information in this section will be periodically accessed to ensure that the team remains on task.

### 2.1 User Scenario

The assumed user for this project is a job candidate that will be interviewing for a Principal Software Engineering position (Ref#ENG1139) at Concord Communications. Our job candidate is male, 43 years old, married, lives in Chelmsford, MA, has a four-year-old son, and has another baby on the way. He is looking for a solid, family-friendly company that will offer him good benefits, a relatively short commute, and interesting software engineering work.

Our job candidate is using the Concord Communications Web site to prepare for his interview and to research the company.

### 2.2 Business Issues

The job candidate researches the Concord Communications Web site to determine if the company:

- Is a solid company to work for
- Has work and technology that will interest him on a long-term basis
- Has a company culture in which he would be happy working

To determine whether or not the company is solid, our candidate wants to:

- Determine the financial health of the company
- Understand the market the company is in
- Learn about the technology products being developed and sold to support this market
- Understand the future direction of the company

To determine if the job and the company are a good fit for him, our candidate wants to:

- Determine the tools and technology that he will be expected to use and learn
- Find out about the benefits the company offers its employees
- Get a sense if there is room for growth in a position as a Principal Software Engineer at Concord Communications

## 2.3 Web Site User Tasks

Our job candidate has divided his research into two information-gathering tasks. The two needs are job and company information. Below is a table containing specific information that our job candidate wishes to collect. Section 4.0 contains our preliminary Web site evaluation criteria, as these tasks will be accomplished.

Task	Specific Goal
Job Position	Task
	Technology Skills Needed
	Benefits
	Future Growth Potential
Company	Financial Health
	Market
	Market Position
	Technology Direction
	Future Growth Potential

## 3.0 Data Collection

There are two main data collection prerequisites prior to conducting the Concord Communications Web Site Evaluation Project. These are described in more detail in the following sections.

### 3.1 Establishing Concord Communications Business Context

Of the strategic research bullet items provided in the project assignment, the project team has divided the data collection activities involved in company/financial research as follows:

- Judy: 2, 4, 5, and 6.
- Bob: 1, 3, and 7.
- Jen: 8, 9, and 10.

The division of data collection tasks does not preclude individual team members from locating information for another team member's area. It is simply a way to focus on a particular area, allowing us to efficiently cover a wide variety of topics.

Each team member has already completed their independent research, and the team has come together in a virtual meeting to discuss their findings. Moving forward, this information will be synthesized and possibly new questions/issues raised.

### **3.2 Designing Web Site Evaluation Criteria**

Designing Web site evaluation criteria includes defining the criteria the project team will use based on the business context, conducting research into various aspects of the human factors/usability field, and creating a standard scale for measurement. It is expected that the project team will each evaluate the site based on some number of criteria (again, equal division of project effort) and then come together to discuss their findings. An initial pass at the Web site evaluation criteria is shown in the next section of this WBS.

## **4.0 Preliminary Web Site Evaluation Criteria**

Drawing upon traditional interface design guides and more recent literature on Web usability, the Project Team has decided to evaluate the user experience on the Concord Communications Web site. Resources consulted can be found in Section 11.1 in the references section. Our hypothetical user is defined in Section 2 with their tasks. A table with our preliminary evaluation criteria is found below in Section 4.2.

### **4.1 User Profile and Evaluation Scenario**

The assumed user for the evaluation of the Concord Communications Web site is described in Section 2.1. Section 2.1 provides our user profile and identifies his two tasks and the specific information collection goals.

Job candidate visiting Web site from home where he has 56K modem. He is assumed to possess over 20 years of contact with computers. On the Internet, he is used to casually browsing around Web sites. His primary concerns are content and overall architecture of a site. To complete his tasks, we are assuming that he will be hierarchically browsing for his first task, job description, and contextually browsing for the company information.

Contextual browsing is defined as the process of users accessing other relevant content objects and tasks that are related to the content object being viewed. Contextual browsing is also known as see-also navigation or prospective navigation. For example, a user can contextually browse Amazon.com's site by choosing one of the "Quick Picks" from the main page.

Hierarchical browsing is defined as the process of users following the primary path through a site to access content objects. The primary path is generally called the site hierarchy, but can also be known as a classification, a directory, an ontology or a taxonomy. The site hierarchy reflects the site's information ecology and an appropriate grouping method.

## 4.2 User Experience Evaluation

Task	Questions	Answer	Comment
General	From home page, are subsections clearly labeled to get identify section for first goal in job description?		
	Did you understand the metaphor of sliding doors to check out submenus?		
	What section is most striking on home page?		
	Were page titles clearly labeled?		
	Did you know where you were at all times on the Web site?		
	Were previously visited links noticeable after returning to a page?		
	Are pages consistent in design?		
	Did pages load relatively quickly?		
Job Description	From Home page, how many clicks to get to position desired?		
	Is it easier to use site index?		
	Were you able to get technology skills needed from job description? Or did you have to find technology skills elsewhere?		
	Were you able to determine if there were growth opportunities in the company?		
	Was information easy to read?		
	How many steps to get to benefits information?		
	Was benefits information page clearly labeled?		

Task	Questions	Answer	Comment
Company Information	From job description, what section did you go to for company information?		
	Which of the four did you seek to answer? Technology Direction? Market Position? Financial Health? Market?		
	Which submenu did you use? Was it intuitive or familiar?		
	How were you able to find out the company's financial health?		
	Were Web site figures and diagrams helpful in illustrating the company's technology?		
	Was information easy to read?		
	Were you able to find answers to the four points?		

Upon completion, the Concord Communications Web Site Evaluation Team will evaluate if company information on the Web site is consistent with information found from non-Concord Communications sources. For company information, we assume that certain company information can be up to two years old, however job information must be current.

## 5.0 Project Deliverables

The final deliverables for the Concord Communications Web Site Evaluation Project are as follows:

- A detailed hardcopy document that contains an assessment of the Concord Communications Web Site according to the predefined project criteria, research, and consultation of outside resources. This document will contain an executive summary, discussion of findings, recommendations for interface improvement, and a conclusion and will be approximately 14 pages in length. Where appropriate, charts, graphs, and screen captures may be included for illustration purposes.
- A short presentation of the project team's findings. Details of the presentation format are unknown at this time.

## 6.0 Project Quality

The team agreed on the following guidelines and standards to ensure project quality:

- The team selected our first dedicated project manager in adherence to the suggested rotation policy. We nominated Jen Hocko to this position.
- The team will participate in a weekly meeting scheduled every Sunday from 11AM to Noon by telephone conference call. The company Jen Hocko works for graciously donated telephone service. Other meeting times will be decided on an as-needed basis. Other possible methods of communication include the use of Yahoo Instant Messenger and other Web-based conference software.
- Agenda items for the weekly meeting will be mailed to Jen by end-of-day on Saturday. Jen, as project manager, will compile an agenda and email the team by 10AM on Sunday.
- Teamwork is our standard for all projects, and tasks for this project will be divided amongst members in an equitable fashion.
- Division of work will be based on expertise and interest. For example:
  - Bob volunteered his expertise in creating project plans and the use of Microsoft Excel, Microsoft Project, tables, and charts.
  - Jen and Judy volunteered their expertise in technical writing/editing as necessary.
  - Judy volunteered to compile the final reference section though each member of the team will maintain his or her own reference lists following the team's approved style.
- The focus of our research, to analyze the Concord Communications site from the perspective of a candidate for employment as described in Section 2.0, Project Definition, will be periodically revisited to ensure the project is on course.
- The team will use the MLA style for our bibliography.
- Project tracking will be done in Microsoft Excel, and then possibly exported to Microsoft Project for graphing capabilities.
- The team will track time spent on project activities in a journal.
- Specific metrics to decide component quality will be defined in a later stage of the project.
- Each team member will install (or have already have installed) a virus protection software on the machines used for the project, and scan all transferred files.
- Each team member will utilize Microsoft Word's tracking feature to help manage document change control. Major revisions will be saved under new filenames.
- The team has not yet discussed a formal peer review process. However, we email each other with drafts of our work and provide comments as necessary.

## 7.0 Project Assumptions and Constraints

This section describes the assumptions and constraints that have been identified by the project team for the Concord Communications Web Site Evaluation Project.

### 7.1 Assumptions

Assumptions for the Concord Communications Web Site Evaluation Project are broken down into a number of areas.

#### 7.1.1 Management

- Questions will be answered and clarification provided in a timely fashion by management.
- Management will accept the team's project definition.

#### 7.1.2 Resources/Team Members

- The members that currently comprise the project team will be available for the duration of the project.
- All team members have access to computers with connections to the Internet.
- All team members are available for (at least) weekly team meetings via conference call.
- All team members will meet deadlines for intermediate deliverables.
- Team members have responsibilities outside of class.
- No one from team is a practicing usability engineer and/or interface designer.
- No one from team is experienced in financial analysis of companies.

### 7.2 Constraints

Constraints for the Concord Communications Web Site Evaluation Project are also broken down into a number of areas.

#### 7.2.1 Assessment Memorandum

- Project duration is 24 days.
- Paper length and format is based on project assignment statement.
- Some memorandum analysis and/or conclusions may become outdated after submission.

### **7.2.2 Technology**

- Communication lag time when using email and Yahoo instant messenger software.
- Access to trading room and/or availability of other online sources of financial information.
- Access to the Concord Communications, Inc. Web site.

## **8.0 Project Risks**

This section describes the risks identified by the project team for the Concord Communications Web Site Evaluation Project, and provides information on the steps that will be taken to minimize these risks.

### **8.1 Staff**

- Project team members may not always be available for meetings and/or project work, due to other work-related, school-related, and/or personal priorities that are unforeseen (sickness, death in family, and so on).
- Project team members might not have the experience necessary to complete both individual or collaborative project tasks.

### **8.2 Equipment/Materials**

- It is possible that a project team member may misplace project materials and require additional assistance from other individuals.
- During the collaborative writing portion of the project, it is possible that multiple versions of the document may exist, potentially resulting in confusion, loss of data, and or requiring additional rework by the project team.

### **8.3 Client**

This project may be negatively impacted if the client:

- Makes changes to the project requirements or otherwise modifies the assignment.
- Assigns other work during the course of the project duration.
- Adds or removes team members from the project.
- Fails to promptly provide answers to questions or clarifications.
- Does not provide timely reviews and feedback on interim project materials.
- Cancels class, thus decreasing amount of time team has to work in a face-to-face collaborative environment.

#### **8.4 Scope**

- If the project team does not adequately define the project, there is a risk that there will not be enough time or resources available to complete it.
- If individual project team members stray from the project definition, there is a chance for scope creep to occur.

#### **8.5 Technology**

- It is possible that at any time, access to required electronic materials may be temporarily lost. This applies in particular to Internet access for research, Web site evaluation, and/or communication tools such as email, instant messengers, and so on.
- Individual workstations housing project materials could potentially fail or become infected with a virus, resulting in loss of data.
- Final production of the report may be delayed due to printer or other hardware-related issues.

#### **8.6 Delivery**

- The team member who owns the final, hardcopy report may have difficulty getting to class on the due date or otherwise be unavailable to turn in the project.
- Due to unforeseen circumstances, it is possible that one or more project team members may be unavailable to deliver a presentation of the final project report.
- The criteria for the final presentation of the Concord Communications Web Site Evaluation project report are currently unknown.

#### **8.7 Avoidance Measures**

- If for some reason one member of the project team is unavailable to attend meetings or complete project work due to professional or personal circumstances, other team members will temporarily accept an increase in workload to help adhere to the project schedule, or else the schedule will be adjusted appropriately.
- Where project team members lack the experience necessary to complete a task, they will seek the assistance of a subject matter expert.
- Project team members will attempt to be responsible with materials that are in their possession. However, if one team member is lacking materials that negatively impact their ability to complete assigned tasks, s/he will immediately inform others on the team, who will photocopy or otherwise distribute the missing materials to the team member as soon as possible.

- The project team will always use Microsoft Word's change tracking feature to mark any revisions they make in a document that will become the final deliverable. Each major revision of the document (determined by the project team) will be saved under a new filename in the following format:

draft\_report\_MM\_DD\_YY

- The project team will regularly question the client regarding changes that may impact the project assignment. If changes are made, the project team will re-evaluate the project and promptly inform the client of impacts to the project schedule and cost.
- The project team will work diligently to arrive at an acceptable, specific, and qualified definition of the project, and each member will adhere to the definition agreed upon by the group. If at any time a team member encounters an issue based on the project definition/scope, s/he will immediately bring it to the attention of the team, who will evaluate it and if necessary, make modifications. This arrangement constitutes the team's change management process.
- Throughout the course of the project, team members will be required to complete individual assignments and bring their findings to the table for group discussion. In these situations, each team member must be responsible for allocating the necessary time to complete these tasks. This time should include some padding for technical issues. If there is any reason why individual tasks cannot be completed due to technical or other reasons, the team must be informed immediately.
- Each team member will install and utilize a virus protection software for project-related materials. If at any time a virus is detected, the infected files and the offending machine should be cleaned; if necessary, the project team may revert to an older but safer version of the file.
- Each team member will print a final version of the report from their personal workstation and bring it to class on the due date. This will help ensure that printer or other hardware-related problems do not affect the team's ability to deliver a completed and professional report to the client.
- Each team member will be prepared to deliver a brief presentation of the team's findings to the class on the due date.
- Frequent communication between project team members is a critical component to risk avoidance. Communication will occur via weekly conference calls, regular email exchanges, in-class group time, instant messaging sessions, the course Web site (Blackboard), and any other means devised by the project team.
- Where project team members are inexperienced, outside resources will be consulted. For example, Jen used to work for an online financial services company and therefore has access to experts who may be able to provide opinions about the company's financial outlook.

- The project will be divided into a series of major tasks, and the main tasks further subdivided into subtasks. Each subtask will be manageable by and assigned to an individual project team member. Each of these individual tasks will also be associated with a risk rating according to the system shown in the following table. Adequate time will be allocated in the schedule and other special accommodations made for high-risk tasks. Critical path items will also be identified by the project team and given special attention to ensure their on-time completion.

Risk Rating	Description
1	Extremely easy for the team to complete.
2	Requires a little effort, but is easy for the team to complete.
3	Requires some effort, but team should be able to complete.
4	Requires much effort, and may be difficult for the team to complete.
5	Extremely difficult for the team to complete.

- Some time has already been allocated in the schedule for preparation for the final presentation.

## 9.0 Defined Project Activities

The project team has identified a number of main activities that must be completed as part of the Concord Communications Web Site Evaluation Project. In this section, each main activity is described and further subdivided into subtasks. Subtasks are described, assigned to specific team members, and assigned a risk rating. The project activities defined in this section are used as inputs to the project schedule, which is shown as Appendix A.

### 9.1 Project Definition

#### 9.1.1 Define User Scenario

The project team has already completed this task and all its subtasks. For detailed information about the target Web site user, see Section 2.0, Project Definition.

Subtask	Team Member(s)	Risk Rating
Define characteristics of Concord Communications Web site user.	All	3 – not difficult to do but must be specific and careful, as this will affect entire project.

Identify intent of user browsing the Web site.	All	3
Identify primary tasks and goals.	All	3

### 9.1.2 Perform Company Research

Completion of this main task is required to solidify the project definition, and may also be required to complete subsequent tasks, including designing the Web site evaluation criteria. The project team has already completed independent research and discussed the primary business issues that will be considered. For more information, see Section 2.0, Project Definition.

Subtask	Team Member(s)	Risk Rating
Conduct independent research on Concord Communications and identify primary business issues, based upon division of assignment bullets.	<u>Judy</u> : 2,4,5,6. <u>Bob</u> : 1,3,7. <u>Jen</u> : 8,9,10.	4 – not experienced in financial evaluation/research.
Meeting to discuss research and solidify relevant list of business issues that will be used for the project definition.	All	4 – requires agreement of team members.
Determine how list of business issues tie into our defined Web user’s goals and into evaluation of the Web site.	All	4 – this connection may be unclear.

### 9.1.3 Design Web Site Evaluation Criteria

As shown in Section 4.0, Preliminary Web Site Evaluation Criteria, the project team has already established some preliminary criteria for the Web site evaluation.

Subtask	Team Member(s)	Risk Rating
Define initial list of Web site evaluation criteria, keeping business issues in mind.	Bob	3 – business issues aspect may be confusing.
Solidify list of Web site evaluation criteria and qualify each criterion with specifics.	All	3 – requires agreement of team members.
Perform independent research for human factors/usability references and resources.	All	2 – may already have from previous HF courses.

Create rating system/scale for Web site evaluation.	All	1 – use tables from assignment as starting point.
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## 9.2 Evaluation

Subtask	Team Member(s)	Risk Rating
Assign Web site evaluation	Jen	1
Independently conduct evaluation based on business issues, evaluation criteria and agreed upon division of work, noting recommendations for improvement.	All – specific areas of focus TBD.	2 – may already have experience from previous HF courses.
Discuss findings and develop recommendations.	All	4 – requires agreement of team members.
Capture and annotate screens with suggestions.	Jen and/or Judy.	2 – both writers on team are experience in this area.
Decide on existing Web pages to use as examples and/or prototypes for improvement.	All	3 – requires agreement of team members, but some pattern should emerge.

## 9.3 Reporting

The key project reporting requirements include an assessment memorandum and an oral presentation.

### 9.3.1 Assessment Memorandum

Subtask	Team Member(s)	Risk Rating
Outline main and sub report sections and create formatting for report (memorandum). First save of report document.	Judy/Jen	4 – outline will determine structure of report.

First draft of assigned sections by individual team members.	All – TBD.	3 – dependent upon division of assignments, individual writing skills, time available to commit to project.
Incorporation of individual sections into report template. Second save of report document.	Judy/Jen	1 – technical writers experienced in this area.
Peer review of first draft sections.	All – TBD.	5 – each member must critique for writing, use of sources, and adherence to project definition.
Revisions and improvements to first draft. Third save of report document.	All – TBD.	3 – dependent upon division of assignments, individual writing skills, time available to commit to project.
Peer review of second draft sections.	All – TBD.	5 – each member must critique for writing, use of sources, and adherence to project definition.
Final revisions and improvements to second draft. Fourth save of report document.	All – TBD.	3 – dependent upon division of assignments, individual writing skills, time available to commit to project.
First draft of executive summary and conclusion sections. Fifth save of report document.	Judy/Jen	2 – technical writers skilled in this area.
Editorial review.	Judy/Jen	2 – technical writers skilled in this area.

Editorial revisions made. Sixth save of report document.	Judy/Jen	2 – at this point, should require minimal changes for consistent tone, references, terminology, and so on.
Final draft of executive summary and conclusion sections. Final draft of report document.	Judy/Jen	4 – requires all previous subtasks be completed to the best ability of each team member.
Report document printed and bound for delivery to client.	All	2 – all members of team should have access to operational printer.

### 9.3.2 Oral Presentation

Detailed presentation requirements are currently unknown. Therefore, this task table is only an estimate of the work effort the project team believes will be necessary.

Subtask	Team Member(s)	Risk Rating
Determine topics to be used in presentation.	All	4 – depending on time allotted for presentation; may need to prioritize, summarize.
Preparation of PowerPoint slides that highlight these topics.	Bob	2 – assume all materials can be taken from completed report; all have used PowerPoint.
Preparation for presentation itself (that is, identification of spokesperson, division of topics for discussion, and so on).	All	3 – requires agreement of team members.

## 10.0 Project Costs

Based on the information described in this Work Breakdown Structure, the Concord Communications Web Site Project team has arrived at the following time estimates.

Team Member	T A S K S				
	Project Definition	Evaluation	Reporting		General Administration
			Assessment Memorandum	Oral Presentation	
Judy Blostein	7	4	10	2	10
Jen Hocko	9	4	10	2	10
Bob Lim	28	4	10	4	10
Totals	44	12	30	8	30

The consulting rate of the Concord Communications Web Site Evaluation Project team is \$100 per person-hour. This rate includes salary, benefits, taxes, and other indirect costs (i.e., computer equipment, telephone charges, and travel expenses). General administration includes weekly conference calls, discussions during working portion of weekly lectures at school, and processing of emails between team members.

The total estimated project hours is 124 hours and total project cost is \$12,400.

## 11.0 Reference List

The following resources have already been consulted in preparation of this Work Breakdown Structure document:

### 11.1 User Experience Web Site Evaluation Criteria

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