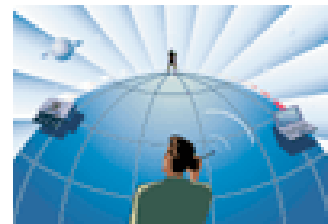


# ITLA Wi-Fi DESIGN PROJECT GUIDE



Name: \_\_\_\_\_

School: \_\_\_\_\_

**Context:** Research, Design, Innovation and Invention in Information and Communication Technologies.

## Introduction:

“For all the time, effort, and money sunk into commercial computing endeavors over the past decade, many of the biggest infotech breakthroughs have occurred away from the bustle of the marketplace, in the sheltering groves of academe. Napster, the Web browser, the search engine, and, arguably, the Internet itself all began not as VC-funded startups but as the brainchildren of students and researchers unburdened by concerns about return on investment. Shawn Fanning, bored with the introductory Unix classes at Northeastern University, taught himself to program for Windows machines in order to help a roommate satisfy his need for MP3s. David Filo and Jerry Yang developed Yahoo! while students at Stanford. Same for Larry Page and Sergey Brin, cofounders of Google.” *Josh McHugh, Wired 10.10: Unplugged U.* **This is your opportunity to use your thinking and creativity skills to conceive and develop original ideas that can lead to marketable patents, products and services.**

## Goals: As you work through this project you will learn to:

1. Understand Information Communications Technologies and Careers through hands-on activities.
2. Develop analytical, design, creative thinking, and problem solving skills.
3. Use the design process to create communications devices & graphic designs.
4. Develop technical research, writing and patent development skills.
5. Prepare, evaluate and implement advertising and marketing materials.
6. Work to together as a member of a project team to complete project objectives and deliver appropriate solutions.

## Your Tasks:

As a project team member you will contribute to the design and development of a Wi-Fi communications and personal security device that is to be marketed to Middle/High school teens. Your team will form a company, develop a company identity, research Wi-Fi technologies, propose ideas, design devices, create a prototype model, a 3-D Computer model and marketing materials. You will also create a web-based portfolio for you and your company that uses digital photography, video and animation to document your activities in this school yearlong project. As a culminating activity you will present your results to a panel of IT and business professionals and compete for prizes at the IT Leadership Academy Expo on Saturday April 26<sup>th</sup>, 2003.

**The 1<sup>st</sup> Challenge:**

Companies use a number of elements to position themselves in the marketplace. These elements include trademarks, logos, and slogans that are used in advertising, signs, stationery, business cards, etc. Each of these elements is carefully designed, reviewed, and applied. In this first part of the project, you will apply the design process as it is used to develop graphic media. Working alone and in your team you should develop a company name & identity, Develop a special font letter or logo and a slogan that can be used in your company’s identity program. Prepare up to four examples of how these elements can be used by the company and than select the best ones to use in your company portfolio.

**Company Summary**

**Name of Company:**

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**Type of product or service provided:**

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**Most common products sold:**

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**Image to be conveyed:**

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**Typical Customer:**

Gender: \_\_\_\_\_

Age: \_\_\_\_\_

Income range: \_\_\_\_\_

**Other Considerations:**

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Use the Rubric below to guide and evaluate the material you are developing in Challenge #1.

WiFi Design Activity Task 1 Assessment Rubric				
Elements/Score	1	2	3	4
<b>Company summary, profile and customer information</b>	No summary or incomplete summary.	Minimal amount of information and lacking in detail.	Adequate summary includes the necessary information and some evidence of research.	Well-developed summary with extensive details and evidence of creative thinking and research.
<b>Initial Letter and Logo Design</b>	No designs or poorly developed designs.	Minimal amount of information that reflects little creativity and lacking in detail.	Average design includes the necessary information and some evidence of research.	Highly creative designs with extensive details that reflect creative thinking and research.
<b>Initial Slogans</b>	No slogan or incomplete work on slogan.	Minimal amount of information that reflects little creativity and lacking in detail.	Average design includes the necessary information and some evidence of research.	Highly creative designs with extensive details that reflect creative thinking and research.
<b>Letter or Logo Evaluations</b>	No evaluation or poorly developed evaluation included.	Minimal amount of effort applied to evaluation and lacking in detail.	Average evaluations with some evidence of critical thinking.	Insightful evaluations with extensive details that reflect critical thinking and analysis.
<b>Slogan Evaluations</b>	No evaluation or poorly developed evaluation included.	Minimal amount of effort applied to evaluation and lacking in detail.	Average evaluations with some evidence of critical thinking.	Insightful evaluations with extensive details that reflect critical thinking and analysis.
<b>Final Letter/Logo Designs</b>	No designs developed or incomplete.	Minimal amount of information that reflects little creativity and lacking in detail.	Average design includes the necessary information and some evidence of research.	Highly creative designs with extensive details that reflect creative thinking and research.
<b>Final Slogan</b>	No slogans developed or incomplete.	Minimal amount of information that reflects little creativity and lacking in detail.	Average design includes the necessary information and some evidence of research.	Highly creative designs with extensive details that reflect creative thinking and research.



**Possible Solutions: Use the space below to Draw and describe at least three or four solutions.**

## Evaluating the Solutions

Use this form to identify and evaluate the four solutions that you or your team developed.

Solution 1: \_\_\_\_\_

Advantages	Disadvantages
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

Solution 2: \_\_\_\_\_

Advantages	Disadvantages
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

Solution 3: \_\_\_\_\_

Advantages	Disadvantages
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

Solution 4: \_\_\_\_\_

Advantages	Disadvantages
1. _____	1. _____
2. _____	2. _____
3. _____	3. _____
4. _____	4. _____
5. _____	5. _____

### **The 3rd Challenge:**

Develop your product specifications: Select your best solution from the possibilities listed in challenge #2 than use the questions and spaces below to develop your product specifications. Your final portfolio should include a one page document which shows the product features on the front page and the technical specifications on the back page.

### **Information about the product**

Name of the product: \_\_\_\_\_

Model number: \_\_\_\_\_

Serial number: \_\_\_\_\_

### **Product Features and Characteristics**

Function: \_\_\_\_\_

Size: \_\_\_\_\_ Weight: \_\_\_\_\_

Color: \_\_\_\_\_ Material Composition: \_\_\_\_\_

Other Info: \_\_\_\_\_

### **Product Technical Specifications**

Electricity: Volts: \_\_\_\_\_ Amps: \_\_\_\_\_ Watts: \_\_\_\_\_

Input and Output: \_\_\_\_\_

Audio/Video: \_\_\_\_\_

Display: \_\_\_\_\_

Environmental Limitations/Requirements: \_\_\_\_\_

Custom Settings: \_\_\_\_\_

Requirements: \_\_\_\_\_

Other: \_\_\_\_\_

**Describe the procedure for unpacking and setting up the device.**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_
9. \_\_\_\_\_
10. \_\_\_\_\_

**Describe the procedure for operating or doing one or more major tasks.**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_
6. \_\_\_\_\_
7. \_\_\_\_\_
8. \_\_\_\_\_

**Describe any service or maintenance to be done by owner.**

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_
5. \_\_\_\_\_



Use the Rubric below to guide and evaluate the material you are developing in Challenge #2-3.

WiFi Design Activity Task 2-3 Assessment Rubric				
Elements/Score	1	2	3	4
<b>Product Description, Research and Patent Details Summary</b>	No description or Incomplete summary.	Minimal amount of information and description is lacking in detail.	Adequate description includes the necessary information and summary of research.	Well-developed description with extensive details, evidence of creative thinking and extensive patent research.
<b>Potential Product Solutions and Evaluation Summary</b>	No evaluation or poorly developed evaluation included.	Minimal amount of effort applied to evaluation and lacking in detail.	Adequate evaluations with some evidence of analysis.	Insightful evaluations with extensive details that reflect critical thinking and analysis.
<b>Product Features, Characteristics and Technical Specifications</b>	No information or poorly developed features and characteristics.	Minimal amount of information that reflects little creativity and lacking in detail.	Product features include the necessary information and some evidence of creativity.	Highly creative features with extensive details that reflect creative thinking and research.
<b>Product Set-up and Operating Information</b>	No set-up or operating information or incomplete work.	Minimal amount of information that reflects little research and lacking in detail.	Set-up and Operating information includes the necessary details and some evidence of creativity.	Highly creative explanation with extensive details that reflect creative thinking and research.
<b>Product Maintenance, Repair and Service Information</b>	No maintenance information provided or incomplete details.	Minimal amount of information that reflects little creativity and lacking in detail.	Maintenance information includes the necessary details and some evidence of creativity.	Highly creative explanation with extensive details that reflect creative thinking and research.
<b>Product Consumer Guarantee and Warranty Information</b>	No consumer information provided or incomplete details.	Minimal amount of information that reflects little creativity and lacking in detail.	Consumer information includes the necessary details and some evidence of creativity.	Highly creative explanation with extensive details that reflect creative thinking and research.

# ITLA Final R & D Project Evaluation 2003

**Design Challenge:** Research, Design, Develop, Model and Market Test a Wi-Fi enabled device that can connect to a Wi-Fi base-station and be used for communications and personal security by Middle and High school students. You must develop the device to prototype stage and in a White Paper describe the device and the services that will be available for users of the device.

Please rate each of the following elements on a scale of 1 to 5 as defined below.

1. Incomplete 2. Needs Improvement 3. Satisfactory 4. Above Average 5. Extraordinary

Score:	Elements:
	<p><b>Company Identity: Value 5 Pts.</b> Company Name &amp; Profile are appropriate for a Communications Technology Company including the Slogan, Logo and/or Letter Type, and any additional promotional materials such as resumes, business cards and T-Shirts.</p>
	<p><b>Device Specifications: Value 5 Pts.</b> Device Specifications include: Description, Research &amp; Development, Solutions &amp; Evaluations, White Papers, Product Features, Characteristics, Services, Technical Specifications, Procedures, and Owners Manual.</p>
	<p><b>Prototype Model &amp; Drawings: Value 5 Pts.</b> The Prototype is an accurate Model of Product and includes 3D and Multi-view Drawings of Product.</p>
	<p><b>Proposal Feasibility: Value 10 Pts.</b> The Device and Services proposed by the team addresses the Design Challenge, is technically feasible and is supported with technical evidence and research citations.</p>
	<p><b>Proposal Creativity: Value 10 Pts.</b> The Company Name, Device and Services proposed by the team is a unique and creative proposal that addresses the Design Challenge, is a significantly new application/or device and is substantially different from existing companies and products on the market.</p>
	<p><b>Marketing Materials: Value 10 Pts.</b> The Company Web Site includes the Product Specifications Page, White Paper, Market Survey, Device Animation, Device Video, team member resumes, portfolios and is visually appealing, well designed and easy to navigate.</p>
	<p><b>Overall Project Table Display: Value 10 Pts.</b> Please rate the overall quality of the table display considering all aspects including team involvement, display graphics, organization and presentation.</p>
	<p><b>Overall Oral Presentation: Value 15 Pts.</b> Please rate the overall quality of the Oral presentation considering all aspects including presenters speaking skills, team involvement, clarity, organization and flow of presentation.</p>
	<p><b>Total Points Awarded: Total Possible 70</b></p>