eProject Guide - HTML5

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APTECH LIMITED
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Edition 2 - 2013

Dear Learner,

We congratulate you on your decision to pursue an Aptech Worldwide course.

Aptech Ltd. designs its courses using a sound instructional design model – from conceptualization to execution-incorporating the following key aspects: –

- Scanning the user system and needs assessment

Needs assessment is carried out to find the educational and training needs of the learner.

Technology trends are regularly scanned and tracked by core teams at Aptech Ltd. TAG* analyzes these on a monthly basis to understand the emerging technology training needs for the Industry.

An annual Industry Recruitment Profile Survey# is conducted during August - October to understand the technologies that Industries would be adapting in the next 2 to 3 years. An analysis of these trends and recruitment needs is then carried out to understand the skill requirements for different roles and career opportunities.

The skill requirements are then mapped with the learner profile (user system) to derive the learning objectives for the different roles.

- Needs analysis and design of curriculum

The learning objectives are then analyzed and translated into learning tasks. Each learning task or activity is analyzed in terms of knowledge, skills and attitudes that are required to perform that task. Teachers and domain experts do this jointly. These are then grouped in clusters to form the subjects to be covered by the curriculum.

In addition, the society, the teachers, and the industry expect certain knowledge and skills that are related to abilities such as learning-to-learn, thinking, adaptability, problem solving, positive attitude etc. These competencies would cover both cognitive and affective domains.

A precedence diagram for the subjects is drawn, where the prerequisites for each subject are graphically illustrated. The number of levels in this diagram is determined by the duration of the course in terms of number of semesters etc. Using the precedence diagram and the time duration for each subject, the curriculum is organized.

- Design and development of instructional materials

The content outlines are developed by including additional topics that are required for the completion of the domain and for the logical development of the competencies identified. evaluation strategy and scheme is developed for the subject. The topics are arranged/organized in a meaningful sequence.

The detailed instructional material – Training aids, Learner material, reference material, project guidelines, etc. are then developed. Rigorous quality checks are conducted at every stage.

- Strategies for delivery of instruction

  Careful consideration is given for the integral development of abilities like thinking, problem solving, learning-to-learn etc. by selecting appropriate instructional strategies (training methodology), instructional activities and instructional materials.

  The area of IT is fast changing and nebulous. Hence considerable flexibility is provided in the instructional process by specially including creative activities with group interaction between the students and the trainer. The positive aspects of web based learning –acquiring information, organizing information and acting on the basis of insufficient information are some of the aspects which are incorporated in the instructional process.

- Assessment of learning

  The learning is assessed through different modes – tests, assignments and projects. The assessment system is designed to evaluate the level of knowledge and skills as defined by the learning objectives.

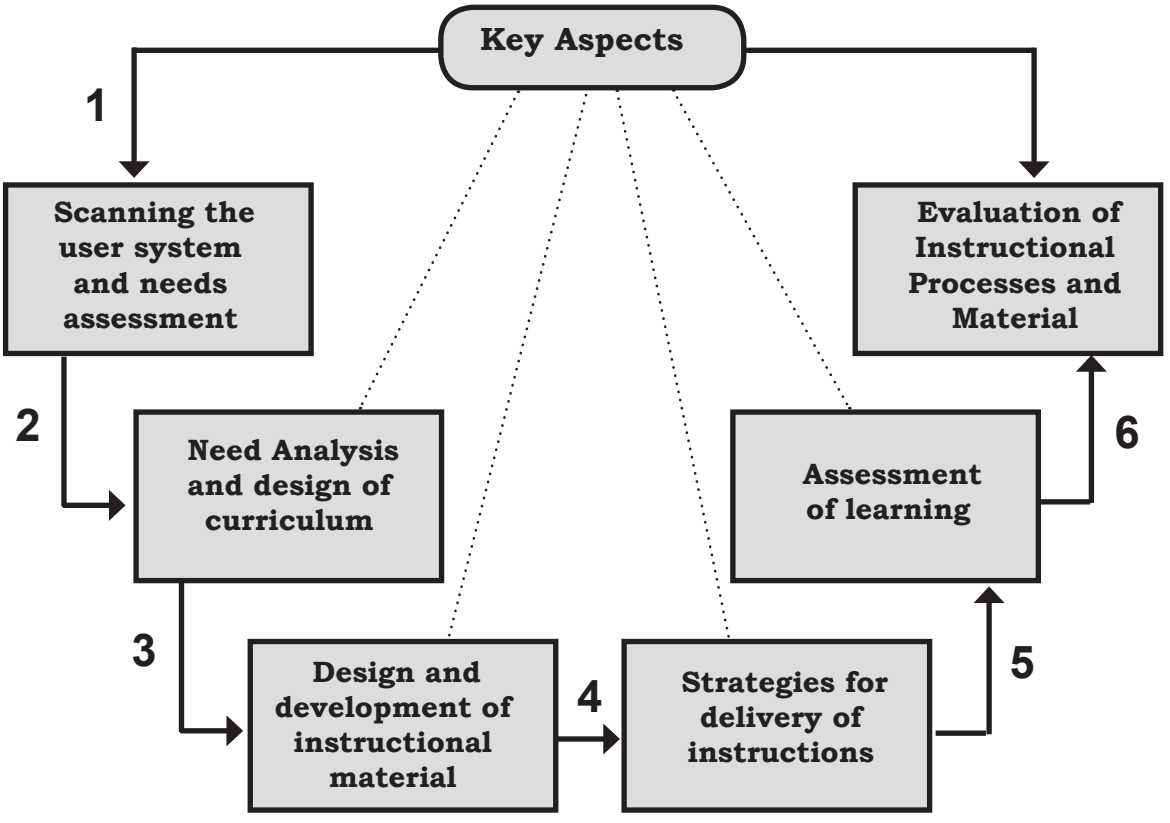
- Evaluation of instructional process and instructional materials

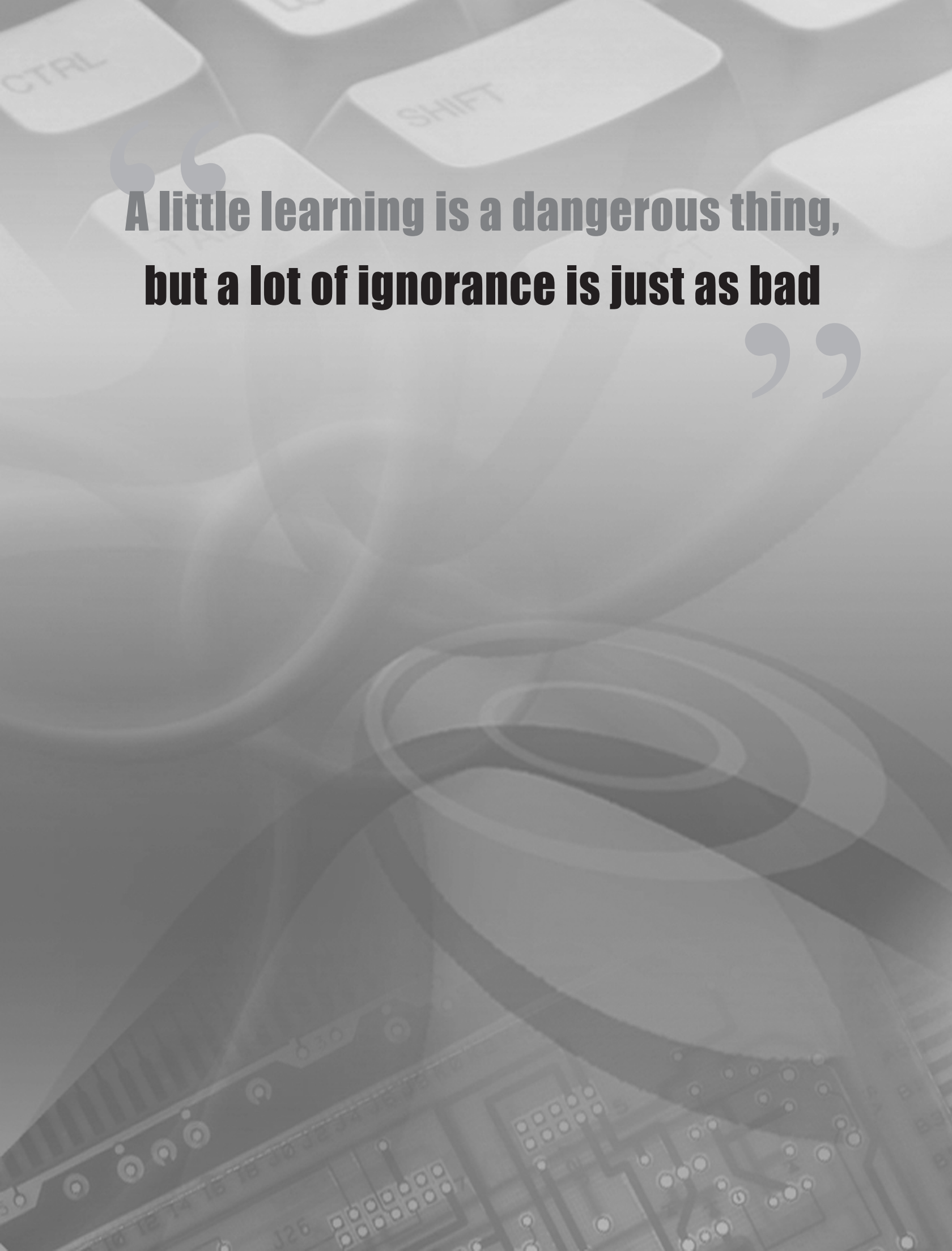
  The instructional process is backed by an elaborate monitoring system to evaluate - on-time delivery, understanding of a subject module, ability of the instructor to impart learning. As an integral part of this process, we request you to kindly send us your feedback in the reply pre-paid form appended at the end of each module.

*TAG – Technology and Academics Group comprises members from Aptech Ltd., professors from reputed academic institutions, senior managers from industry, technical gurus from software majors and representatives from regulatory organizations/forums.

Technology heads of Aptech Ltd. meet on a monthly basis to share and evaluate the technology trends. The group interfaces with the representatives of the TAG thrice a year to review and validate the technology and academic directions and endeavors of Aptech Ltd.

Aptech New Products Design Model





“A little learning is a dangerous thing,
but a lot of ignorance is just as bad”

Preface

The eProject guide provides all the necessary information to students in developing a solution for the work process. Important functionalities required in the application are explained. Students have to understand the workflow and design the project accordingly.

The project specification is organized in the following order:

Introduction provides information related to the software industry. Process flow, suggested modules of the application and their description are also dealt with in the introduction.

Documentation describes different formats for collecting and maintaining the information. These can be used as guidelines.

Case Study provides source of information that can be used by the students while developing the project.

Sample eProject is for understanding the different aspects covered in project and the way of presenting them.


Nothing is a waste of time if you
use the experience wisely

Introduction to the Book

The best way to learn something is to apply its principles and then to test them. Similarly, the best way to evaluate the knowledge of the students is to test its application through project work. The degree of success of the project depends on the quality of the Guide. Hence, this eProject Guide, which has been prepared following the best practices in the industry, will help the students to have the experience of going through a live project and will teach them the essentials of successful development of IT projects.

The eProject Guide will help you to:

- Analyze a project
- Design the specifications of the project
- Develop the solution
- Maintain disciplined documentation for the work done
- Work in groups

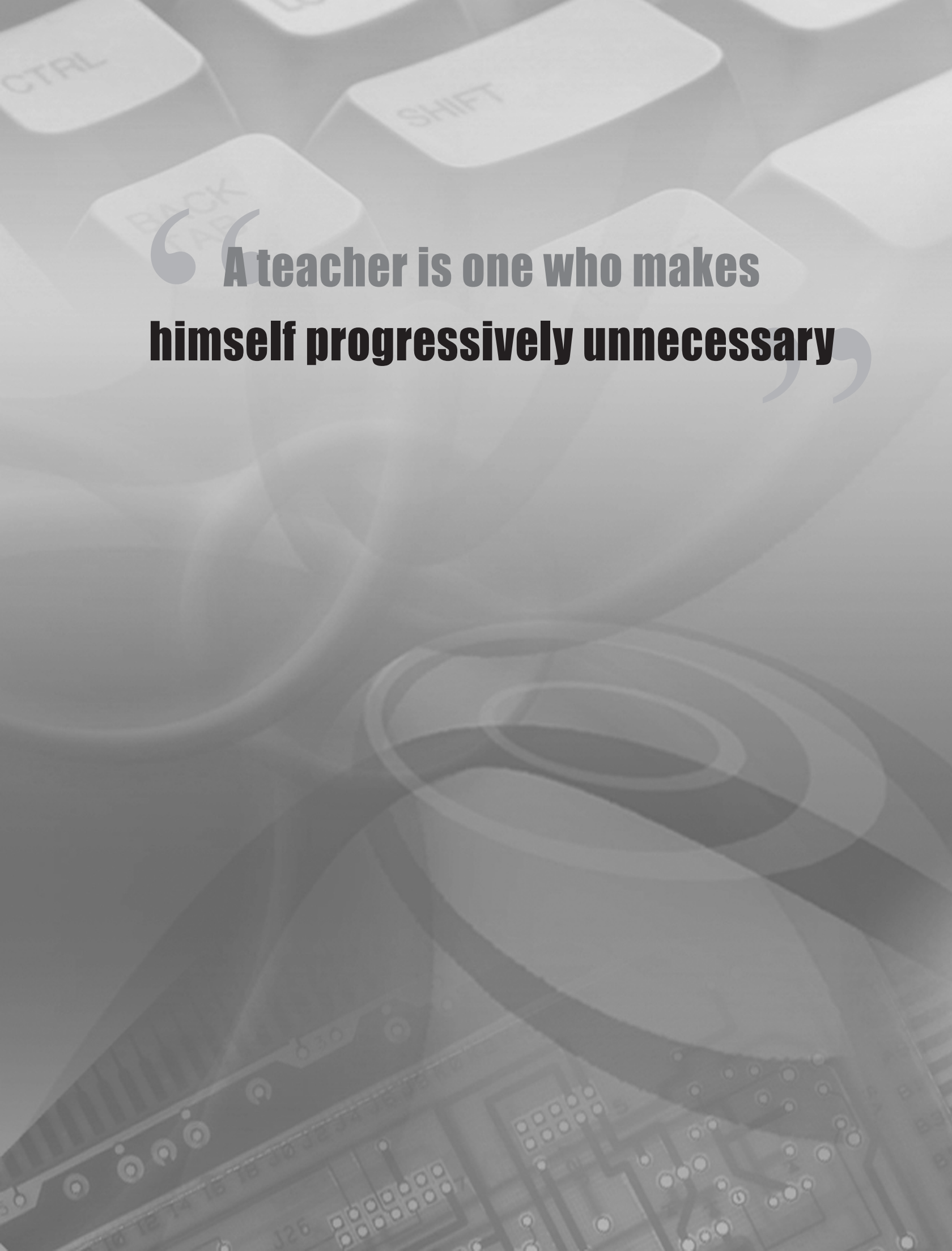
The ability to work in a group is a very vital quality for anybody desiring to join the software industry. Your project group will consist of 3-4 members. The Faculty will assign you to a project group and select the Leader for the Group (Group Leader).

This eProject Guide reiterates the commitment of eProjects Team in keeping up its tradition of providing innovative, career oriented professional education.

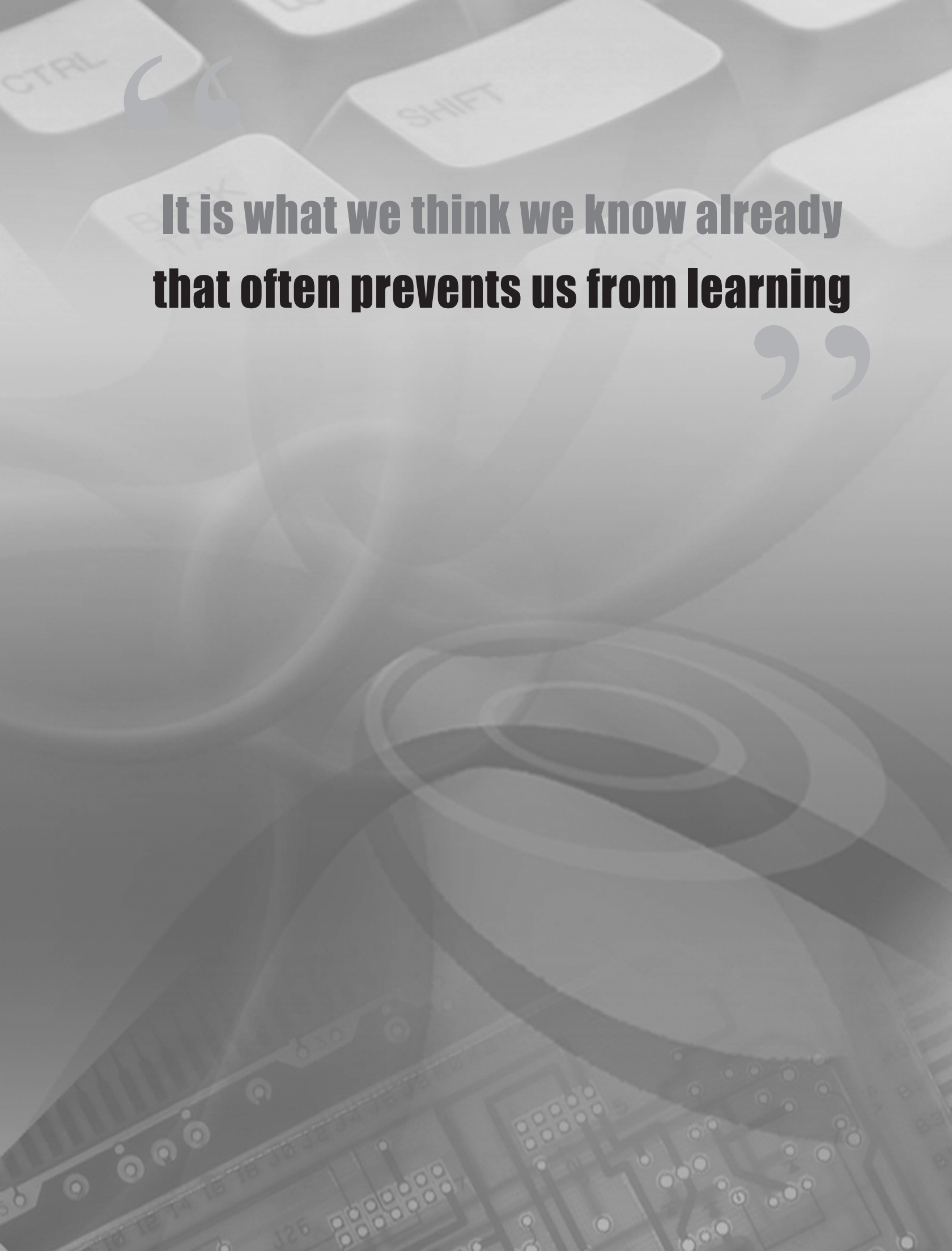
Religiously following the given systematic approaches in this book would prepare the students to get the real life experience of handling projects, as the practices listed here have been extracted from the current industry norms. Thus, such an exercise would prepare you for joining the software development industry.

Wishing you the very best.

eProjects Team


“A teacher is one who makes
himself progressively unnecessary”

Contents



“It is what we think we know already
that often prevents us from learning”

eProject Guide - HTML5

1. Introduction

1.1 Team

Implementation of any new computerized system involves a team of people. An ideal team consists of the following members:

- Project Manager: The Project Manager coordinates the project. Apart from being knowledgeable about software, the person chosen as the Project Manager must have good writing skills. He must have enough experience in this field so that he can be successful in the implementation. He is involved not only in team management, but also in activities such as resource allocation, project planning, reporting and so forth; all of which form a part of his responsibilities.

- Project Leader: The Project Leader leads the project team. A Project Leader essentially decides which tasks are to be performed by each team member and how much time should be allotted to each project development phase.

- Analyst: The analyst studies the requirements of the system and defines the problem. The analyst determines the inputs, outputs, and processes involved in transforming those inputs into outputs. The analyst acts as the “Technical Expert” and studies the technologies that are to be implemented to develop the project.

- Developer/Programmer: The developer builds the user interface according to the specifications prepared by the analyst. Next, the developer builds a prototype of the system. After receiving client approval on the prototype, the developer adds the necessary code to make the prototype a full-fledged system.

- Tester: The tester tests the functionality of the application. Test data is used to check if the program is able to execute without causing any errors. Test data may be live data extracted from existing records in the system or dummy data. The tester also verifies the integrated application’s functionality with test data.

- Implementation Engineer: The Implementation Engineer ports the final product to the Client’s computers. The Implementation Engineer will ensure that the installation process has been carried out accurately, and hands over the system to the client.

- Maintenance Engineer: The maintenance engineer is responsible for taking care of or maintaining the system that has been built. Maintenance includes extending troubleshooting support, and performing software upgrades in case of changes in the external system.

1.2 Tips for a Good Application

The seven basic steps for creating an effective application are:

1. Define your target audience
2. Organize your concepts, information, and material
3. Create a directory structure
4. Implement storyboarding – prepare a sketch of contents, sequence, and layout of the forms you intend to create
5. Build a prototype of your application
6. Test the prototype and implement the required changes
7. Deploy the application on the server

Before designing a desktop application, you must first conceptualize the application. The goals and the objectives must be clearly defined. Think about what the application goals and missions may be – to inform, promote, educate, research and report, or to simply entertain. These goals must be defined and should be in line with the company's values and mission.

Annexure A shows a case study of a project.

1.3 Project Objectives

1. Develop a desktop application based on the problem specifications given
2. Design a professional-looking GUI for the application
3. Integrate all the modules to form a complete solution

1.4 Project Deliverables

Following are the deliverables that have to be submitted on the completion of the project:

1. Complete Application
2. User Manual
3. Installation Guide

1.5 Project Conduct

During project development, three meetings would be held within the team.

➢ **First Meeting**

In this meeting, students need to discuss the eProject Specification. They need to work upon:

- Problem Statement
- Table/File Structure
- Program/Code Specifications
- Reports to be generated

➢ **Review of First Meeting**

After the first meeting, students will review and discuss the details of the meeting. They will check if the structure is correct and the forms are designed as per the design specifications.

- **Second Meeting**

In this meeting, students will discuss the design. They need to consider the following:

- Understanding of the problem
- Design of the forms
- Validations required

- **Review of Second Meeting**

After the second meeting, students will review and discuss the details of the meeting. They will check whether the design of forms are correct and proper verification and validation rules are being implemented.

- **Third Meeting**

In this meeting, students will discuss and present the final application. They will consider the following:

- Implementing all the specifications mentioned in the previous meetings
- Form Design
- All the required validations

- Integrating all the project modules like the forms and reports and so forth
- User Manual and Installation Guide

2. Steps for a Great Project

- Analyze and understand the user requirements
- Do the detailed analysis for the project
- Identify the resources available
- Plan and maintain a schedule for the various activities to be done in the project
- Check and test all modules
- Document each and every detail

Documentation Section

In this section, we will look into various formats used for documenting the project.

This section contains different formats, which can also be referred to, in Annexure A, in the case study.

Students can use their own additional formats in the project documentation.

3. Documentation Section

This format can be used as the first page of your project report, duly signed by the Center Academics Head.

This is to certify that

Mr./ Ms _____

Has successfully Designed & Developed

_____

Submitted by:

_____

Date of Issue:_____

Authorized Signature:_____

3.1 Problem Definition

Problem Definition:

In this form, you can define the problem statement. You can design a pointwise list of the requirements as mentioned in the eProject Specification.

Form No.1/eProjects/PS/Ver1.0

3.2 Customer Requirement Specification (CRS)

Client:

Business/Project Objective:

(can address organization/business overview, products, concerns, and expectations from the system)

Inputs provided by the Client:

- Inputs to the System
- Outputs from the System
- Process Involved in the System
- Expected Delivery Dates
- List of Deliverables

Hardware Requirements:

Software Requirements:

Scope of the Work (in brief):

Form No.2/eProjects/CRS/Ver1.0/1 of 1

3.3 Architecture and Design of the Project

You can provide the Architecture and Design for your eProject in this format.
You can refer to Annexure A “Case Study” to understand the use of Architecture and Design of the Project.

Form No. 3/eProjects/Design/Ver1.0/1 of 1

3.4 Site Map

A site map is a graphic representation of a Web site.

You can provide the site map for your eProject in this format.
You can refer to Annexure A “Case Study” to understand the use of site map.

Form No. 4/eProjects/FC/Ver1.0/1 of 1

3.5 Task Sheet

Project Ref. No.:		Project Title:	Activity Plan Prepared By:	Date of Preparation of Activity Plan:			
Sr.No.	Task			Actual Start Date	Actual Days	Team Mate Names	Status

Form No.5/eProjects/TS/Ver1.0/1 of 1

3.6 Checklist of Validations

Option	Validated
Do all numeric variables have a default value of zero?	
Does the administrator have all the rights to create and delete the records?	
Are all the records properly fed into the appropriate database?	
Have all the modules been properly integrated and are completely functional?	
Have all the Design and Coding Standards been followed and implemented?	
Is the GUI design consistent all over?	
Is the navigation sequence correct through all the forms/ screens in the application?	
Is exception handling mechanism implemented in all the screens?	
Are all the program codes working?	

Form No. 6/eProjects/VAL/Ver1.0/1 of 1

3.7 Submission Checklist

Sr. No.	Particulars	Yes	No	NA	Comments
1.	Are all the users able to search for a particular record?	Yes			
2.	Are all the old records properly saved and retrieved when required?	Yes			
3.	Have all the modules been properly integrated and are completely functional?	Yes			
4.	Are the GUI contents devoid of spelling mistakes?	Yes			
5.	Is the application user-friendly?	Yes			
6.	Is the project published properly into a setup file?	Yes			

Form No. 7/eProjects/CKL/Ver1.0/1 of 1

Annexure A

CASE STUDY: Go Global Ad System (GoGAS)

Go Global is a public relations, international advertising, and marketing agency headquartered at New York since 1948. This firm operates in more than 120 countries across the world. The creative team of Go Global lies behind the promotion of the most successful and renowned brands such as McDonald's, Heinz, Vodafone, Cadbury, and Henkel. Over the years, the company has offered its consumers powerful brand experiences using creative ads for its clients. The Go Global network offers its services to numerous Fortune Global 500 companies across the world. Go Global advertising continues to remain world's number one advertising agency.

Also, since its inception the company has skillfully delivered successful results to several other high-profile clienteles such as Domino's Pizza, Cathay Pacific, and American Tourister. Go Global is well known for its one-of-a-kind specialty divisions such as Design Mania, eContract, and Global Consulting providing complete advertising solutions.

With growth in so many countries across the world due to good services, the number of clientele is increasing day by day. Also, the need to better promote its clients with rising competition has become a concern for the management. So far, the company has been using hoardings, television advertisements, broadcasting, and banners to promote and advertise its clients. However, with the clients fame also reaching a global scale, it has become a necessity to promote the clients in such a way that a user can know about them anytime and from anywhere. Also, considering the fact that creating television ads and banners is very time consuming and expensive for several clients that are mid-size companies, a cheaper solution needs to be thought of.

Therefore, the management of Go Global has decided to implement an advertisement portal which will help to promote its clients globally and allow customers to view the details of the various brands at a click of the mouse from anywhere in the world. The portal will not allow client logins or any monetary transactions, but it will enable the clients to advertise themselves.

The client's ad will be displayed on the portal after paying the required advertisement amount to Go Global.

When a user visits the Web page of Go Global, he/she will be able to view the ads of all the clients of Go Global. Upon clicking the ad, the user will be directed to the Web page of the respective company. The details of the company shall be displayed in another Web page designed specifically for the company to display its products.

Assume that you are a part of the team that will design and implement the Web page for Go Global.

ACKNOWLEDGEMENT

I would like to acknowledge all those who have given moral support and helped me make the project a success.

I wish to express my gratitude to the eProjects Team at the Head Office, who guided and helped me. I would also like to express my gratitude to all the staff members of my center for not only providing me with the opportunity to work with them on this project, but also for their support and encouragement throughout the process.

I also express my sincere gratitude to the eProjects Team at the Aptech Head Office and my project guide at the organization, for his valuable guidance and support for the completion of this project.

And finally, I would like to offer many thanks to all my colleagues for their valuable suggestions and constructive feedback.

Synopsis

Go Global Ad System (GoGAS) is a Web page that allows global advertisement of important clients of Go Global.

Go Global Ad System manages the creation, updation, and removal of customer's advertisements and links based on the payment and duration decided in the contract with the client. It displays the information of clients based on specified criteria, that is, as a hyperlink, as an image link, scrolling text, static text, or image.

When a user visits the Web page of Go Global, he/she can view the ads of the various customers and click the links to further visit the company's own Web page. The site also displays some additional objects such as date/time, mini calculator, location finder, library, links to social networking sites such as facebook, twitter, and so on.

GoGAS is beneficial in the following ways:

- Allows company to advertise and promote itself
- Allows users to quickly view the details of their desired brand
- Provides some additional information and social networking site links to the users
- Allows users to find their location on the map by using the location finder

Problem Definition

After reading the project specifications, the developer states the scope of the project very briefly. This is referred to as the problem definition. Queries of various staff members can be one or all of the following:

1. How many customer ads can be displayed at a time on the portal?

2. What will be the size and quality of images that will be allowed for display?

3. What should be the duration for display of an ad on the portal?

4. Will the users be able to contact the company whose ad is displayed on the portal?

5. Will other companies be able to contact Go Global after visiting the site to display their ad on the Go Global portal?

After consulting several IT companies and considering the budget constraints, the management of Go Global has decided to launch the Web page using HTML5, CSS3, JavaScript, Geolocation API, and Web Storage. Also, the site will be tested on popular browsers and mobile emulator software. The company has also decided to create a mobile version of the ad portal by creating a separate light weight Web page for mobile devices. The Web page will be tested for its compatibility with all popular mobile browsers.

Customer Requirement Specification (CRS)

Client: Go Global

Business/Project Objective:

Globally promote the customers and their brands using attractive ads on the Web portal for their products.

Develop and deploy the Web page that helps to manage the advertisements of the clients.

Inputs provided by the client:

- Inputs to the existing system
- Outputs from the existing system
- Process involved in the application
- Expected delivery dates
- List of deliverables

Hardware Requirements:

- Intel Pentium 4 processor or higher
- 1 GB RAM or higher
- Color SVGA
- 80 GB Hard Disk space
- CD-ROM or DVD-ROM drive

Software Requirements:

- Windows 7 OS or higher
- HTML5 and JavaScript supporting browser
- HTML5 supporting mobile devices

Form No.2/eProjects/CRS/Ver1.0/1 of 2

Scope of the Work (in brief):

Depending on the decision taken by the management regarding the GoGAS application, following are the requirements based on which the software needs to be developed:

1. Displaying the ad on the portal.

2. A Web-based GUI to be created for displaying images and hyperlinks. The various options will be used depending on whether the client wants a static image, image link, hyperlink, or plain text to display the ad.

3. The user can view and visit the links of their favorite brands.

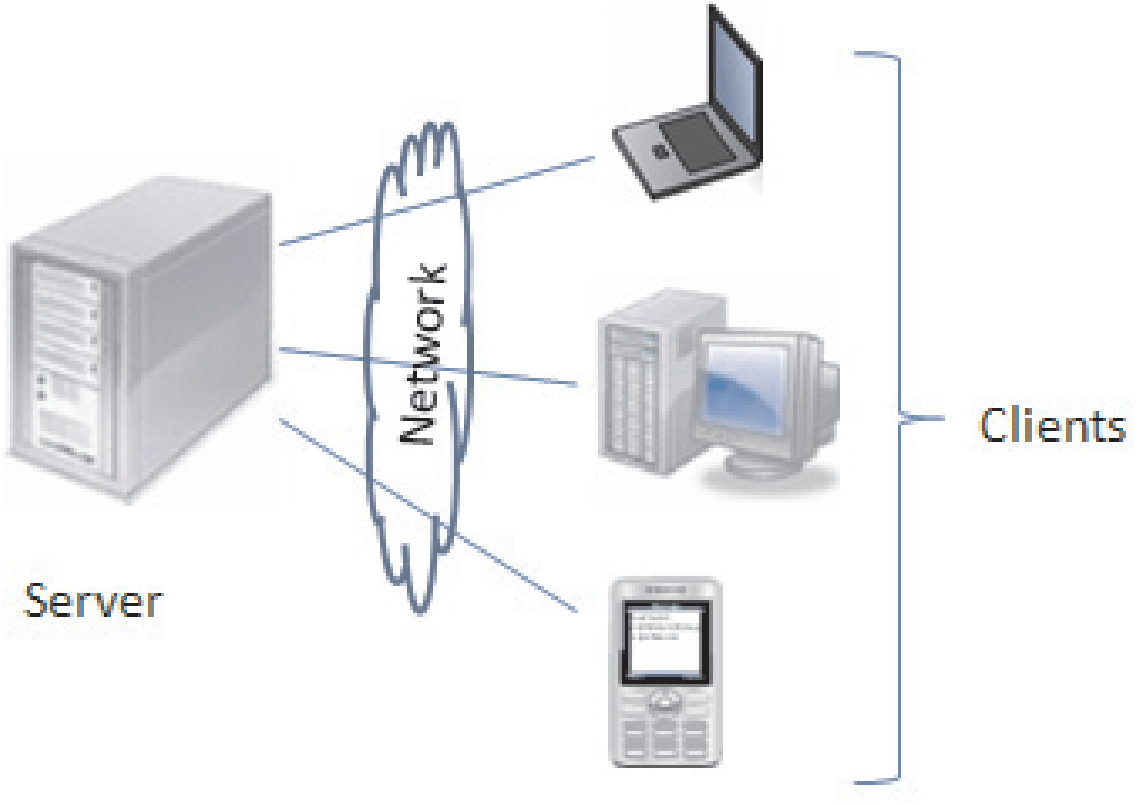
4. Clicking the text and image links redirect the user to the respective company's Web page where details of the products offered by the company are displayed.

5. The users can also visit additional sites and do some other basic tasks such as calculations and finding their location on the map using location finder.

Form No.2/eProjects/CRS/Ver1.0/2 of 2

Architecture and Design of the System

The application will have a client-server architecture.



Client-Server Architecture of the Project

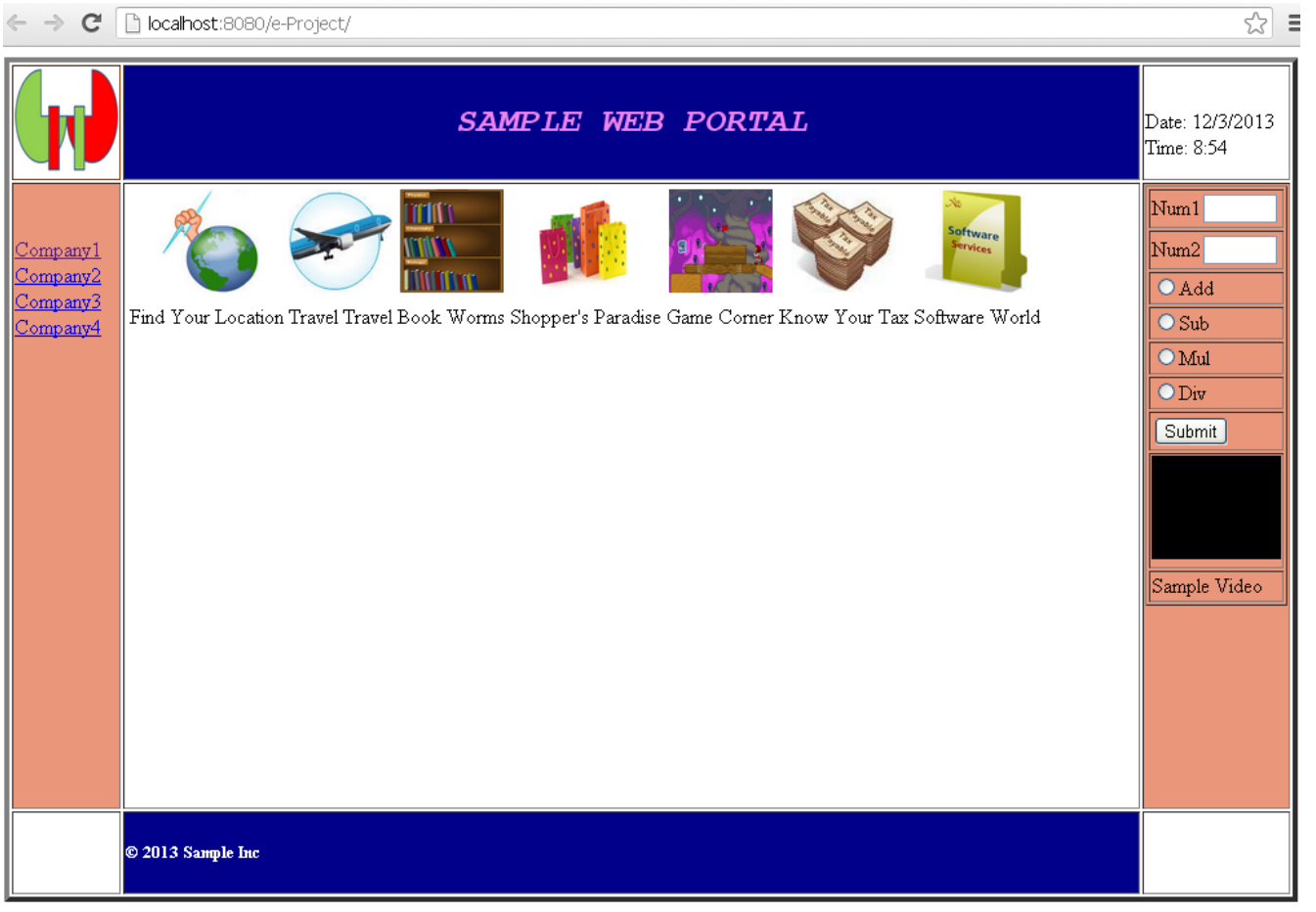
Form No.3/eProjects/Design/Ver1.0/1 of 1

Site Map

The sample site map illustrates the navigation flow of the objects on the Web portal.

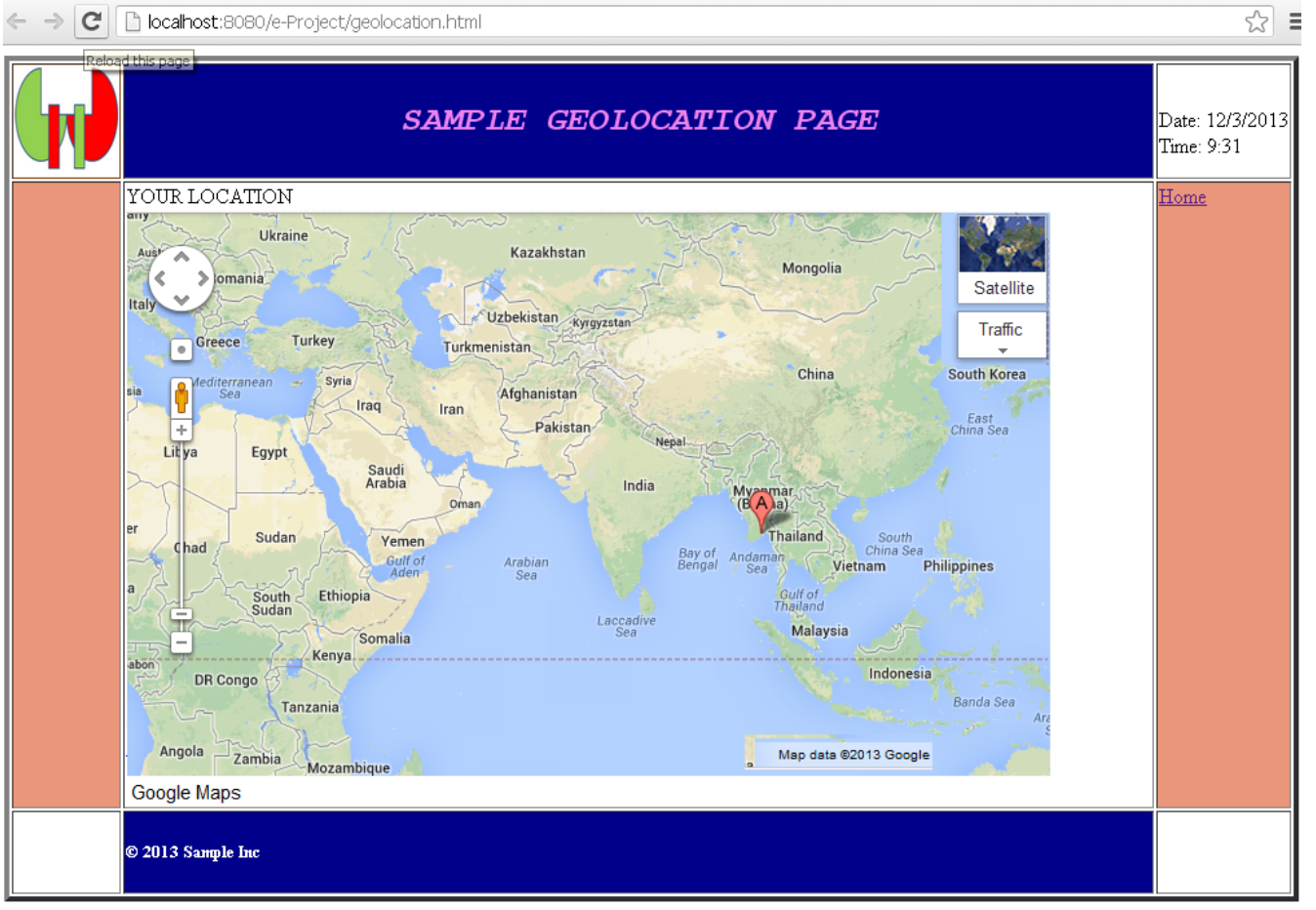
Form No. 4/eProjects/Site Map/Ver1.0/1 of 5

The following sample Web page illustrates the creation of an advertisement portal:



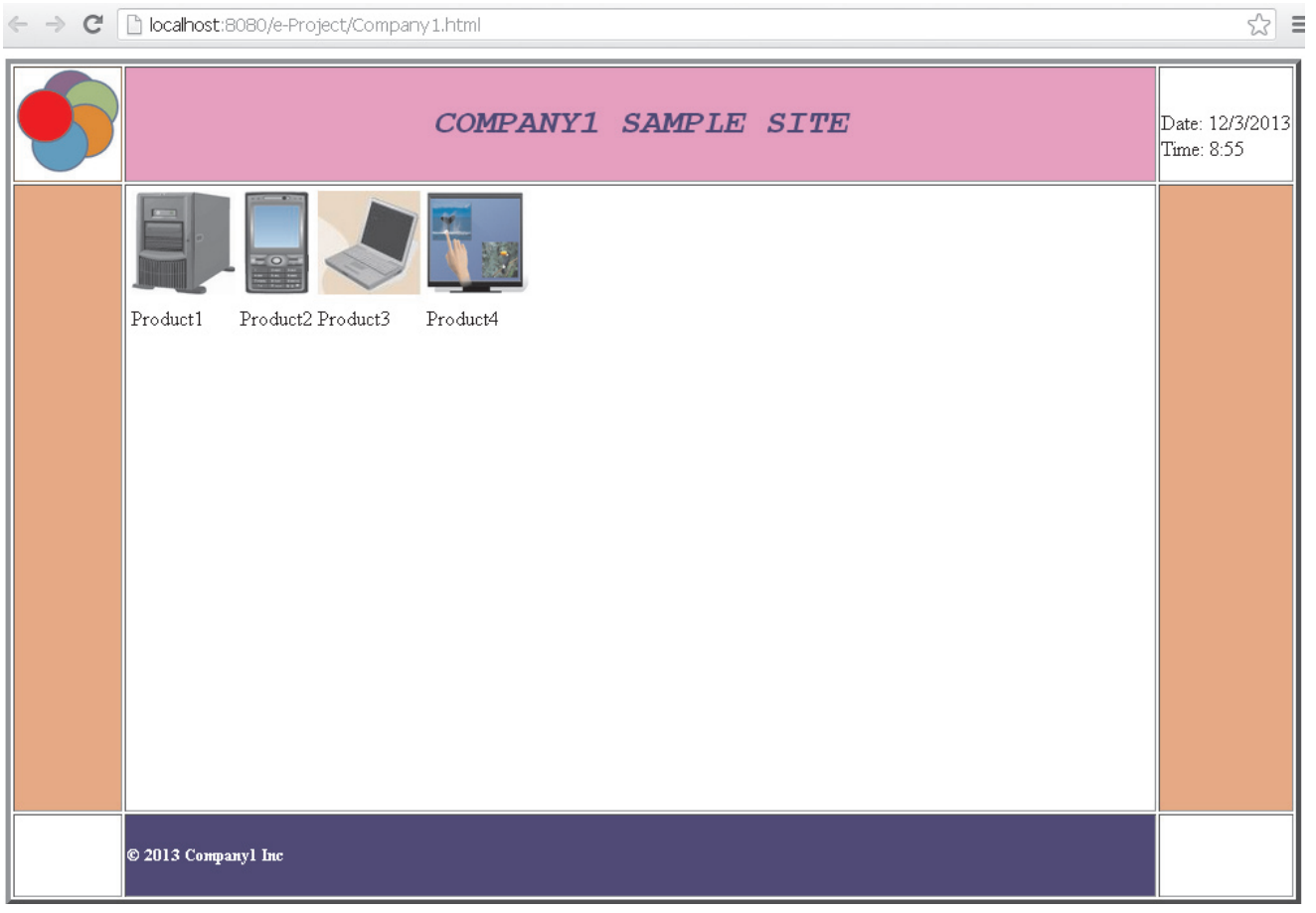
Form No. 4/eProjects/Site Map/Ver1.0/2 of 5

The following sample Web page illustrates the creation of a geolocation page:



Form No. 4/eProjects/Site Map/Ver1.0/3 of 5

The following sample Web page illustrates the creation of a company's Web page:



Form No. 4/eProjects/Site Map/Ver1.0/4 of 5

The following JavaScript illustrates the code to display date and time on the Web page:

```
<script language="javascript">

today = new Date();

document.write("Date: ",  today.getDate(),"/",today.getMonth()+1,"/",
today.getFullYear());

document.write("Time: ", today.getHours(),":", today.getMinutes());

</script>
```

Task Sheet

Project Ref. No.: **eP/Advertisement Portal Management System/01**		**Project Title:**	**Activity Plan Prepared By:**	**Date of Preparation of Activity Plan:**			
Sr.No.	**Task**			**Actual Start Date**	**Actual Days**	**Team Mate Names**	**Status**
1	Home page design and coding	Go Global Ad System	Patrick	29-Apr-2013	1	John	Completed

Form No. 5/eProjects/TS/Ver1.0/1 of 1

Checklist of Validations

Option	Validated
Do all text links lead to the appropriate Web site?	Yes
Do all the image links lead to the appropriate Web site?	Yes
Are all the images and links clearly visible on the page?	Yes
Have the images been localized based on the contract signed with the client?	Yes
Is the Web page opening properly in all the tested Web browsers?	Yes
Is the Web page taking too long to load?	Yes
Is the navigation sequence correct through all the Web pages on the site?	Yes
Is the JavaScript code working as expected in all click events?	Yes

Form No. 6/eProjects/VAL/Ver1.0/1 of 1

Submission Checklist

Sr. No.	Particulars	Yes	No	NA	Comments
1.	Are all the users able to view the images and links?	Yes			
2.	Have all the pages been properly integrated and are completely functional?	Yes			All the modules are properly tested.
3.	Are the GUI contents devoid of spelling mistakes?	Yes			
4.	Is the application user-friendly?	Yes			
5.	Is the Web site launching correctly in the browser?	Yes			

Form No. 7/eProjects/CKL/Ver1.0/1 of 1

4. User Guide

A. System Requirements:

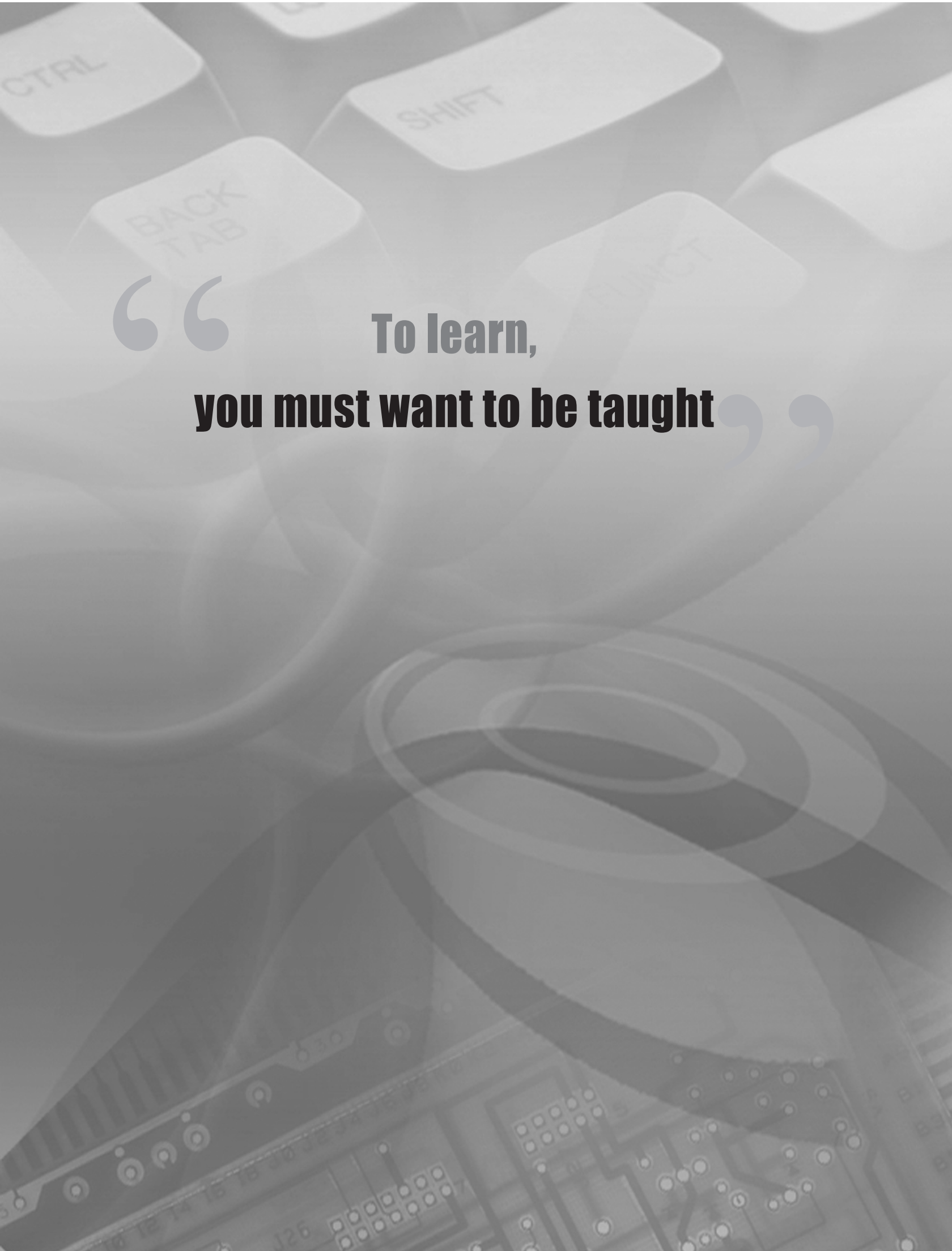
No.	Items	Description
1	Operating System	Windows 7 OS or higher
2	Software	HTML5 and JavaScript supporting browsers

B. Install and Run Application:

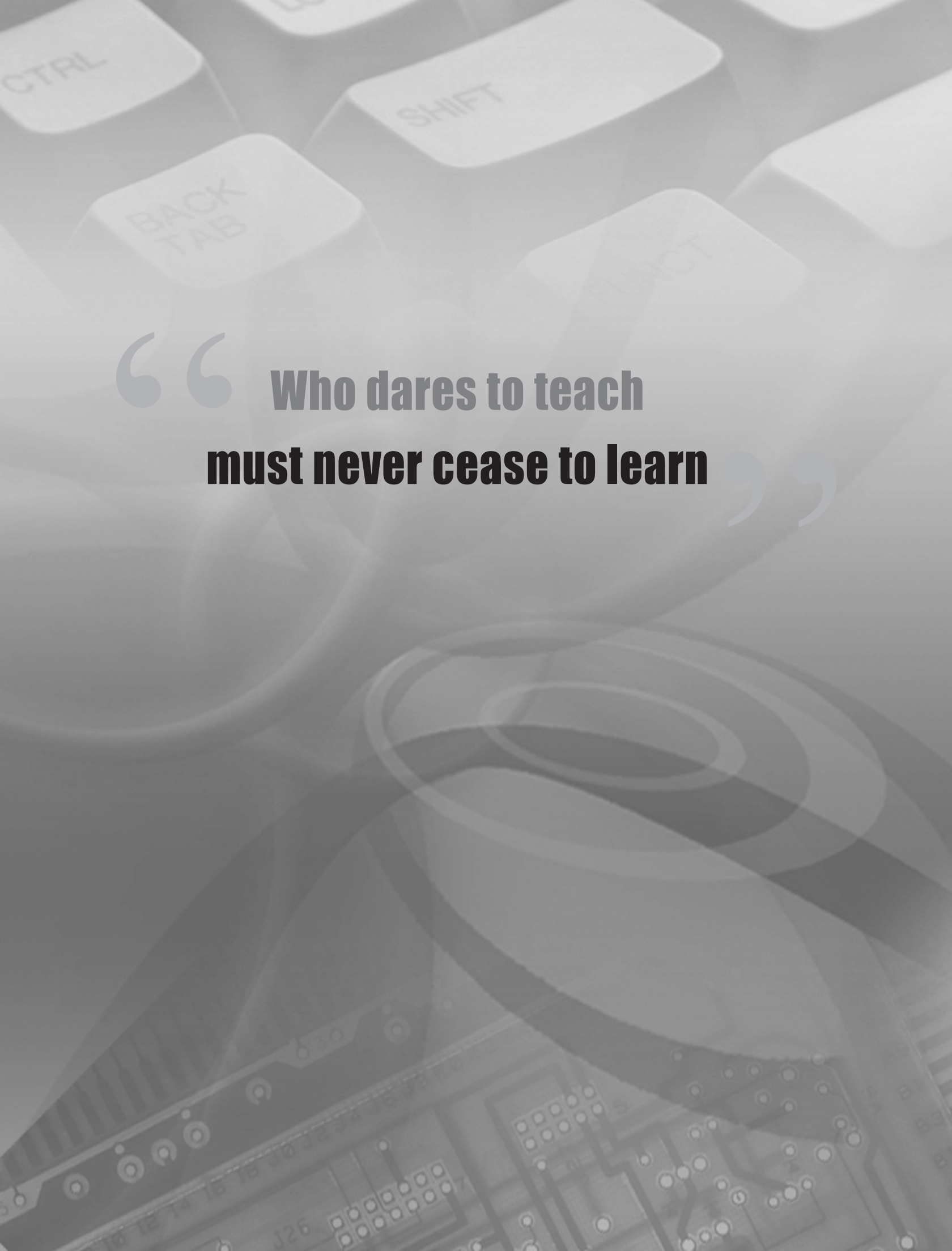
Step 1: Deploy the Web site on the server.

Step 2: Access the Web page by typing the domain name in an HTML5 and JavaScript supporting browser.

Step 3: Click the images and links to view the details of various brands.



“To learn,
you must want to be taught”



“Who dares to teach
must never cease to learn”