

Product Name	Applied Degree in Software Engineering (BDSE)
Qualification Name	Applied Degree in Software Engineering
Product Name	Information Architecture, Wireframe and Story Board
Module Name (BDSE)	Front-End Web Development

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February 20th, 2023	February 27 th , 2023	march 1st, 2023

Project Title	ABC Learning Center Website
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Learner Declaration

I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.

Student Signature

Date: 18-02-2023

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1.1 Scenario

Currently, ABC Learning Center Had approached me as a website developer to develop a company portfolio website for their institute. 'ABC Learning Center' is an IT Training institute that conducts courses like 'Programming in Java', 'Programming in .NET', 'Microsoft Office', 'HTML' etc. They want to design a website which can be used for providing information about their courses to students.

I have been required to design and develop the website using HTML, CSS, and JavaScript.

I will be required to design these following pages for the website:

1. Common Content
 - a. Header
 - b. Footer
 - c. Navigation
2. Home Page
3. About Page
4. Contact Us Page
5. Course Detail Page
6. Course Schedule Page
7. Site Map Page
8. Privacy Policy Page

1.2 Information Architecture

Definition:

Information Architecture is the process of organizing and deciding which content to include or omit from your website or app. This includes all the information on your website and helps your audience understand how to complete tasks.

Characteristics:

- **Organization Schemes and Structures**, which is a way to organize and structure information.
- **Labeling System**, which is a way to represent information
- **Organization system**, which is a way of how user browse or move through information
- **Search System**, which is a way of how user look for information¹

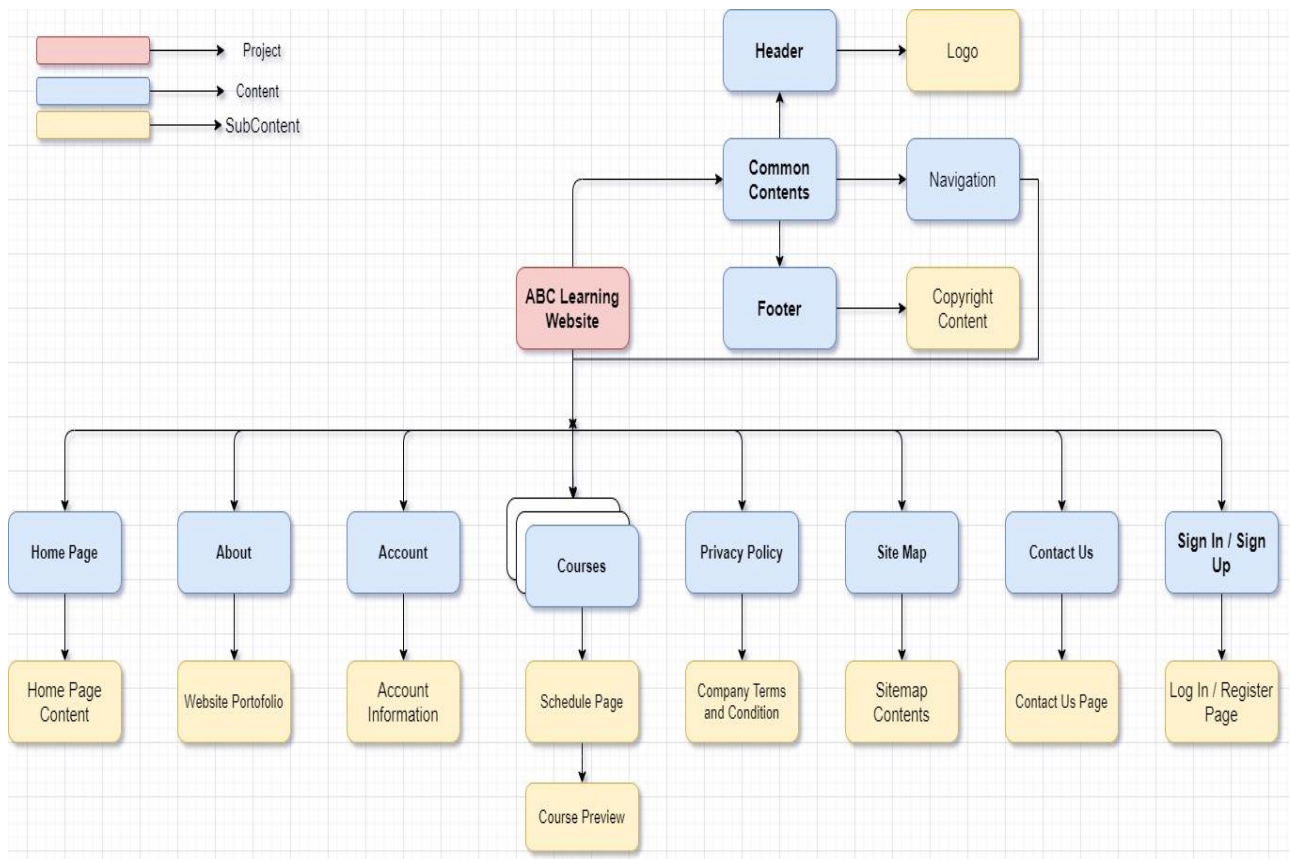
Advantages:

- **Better Project Scope**, A better understanding of the project scope enables a developer to provide more accurate estimates to project managers, product owners, clients.
- **Correct Content Gaps**, IA is all about organizing content in a logical way and the process immensely requires a developer to consider what content might be lacking and what content fits where.
- **Complete view of Product Inside & Out**, an Information Architecture is a great way to see the big picture. The big picture view provides significant help to manage and executive produced in the future. ²

Project Information Architecture:

¹ <https://www.usability.gov/what-and-why/information-architecture.html>

² <https://www.omkarsoft.com/blog/top-benefits-information-architecture-better-user-experience-ux-design/>



- Red-Colored shape: Is a project shape which define a main project or the project itself.
- Blue-Colored shape: Is a main content of a project which define what the website should have. There are 2 flows of Blue-Colored shape:
 - To the top right, which define the common content that each page should contain.
 - To the bottom, which define the interlink pages that the website should have.
- Yellow-Colored shape: Is a sub-content of the main content which define what kind of content that the main content should have.

¹ <https://webdesign.tutsplus.com/tutorials/what-is-information-architecture-ux-tips-and-examples--cms-40064>

1.3 Wireframes

Definition:

A **website wireframe**, also known as a **page schematic** or **screen blueprint**, is a visual guide that represents the skeletal framework of a website.³

Type of Wireframe:

- **Low-fidelity wireframes**, which is a basic structure of a page design which contain things requested in outline without displaying further or advanced design.
- **High-fidelity wireframes**, which is an advanced version of Low-fidelity wireframes, it contains things more specifically rather than just a basic sketch.⁴

Characteristics:

- **Content Structure**, which is a preview of a pre-build web-page.
- **Navigation**, is a process of navigating a network of information resources in the World Wide Web, organized as hypertext or hypermedia.
- **Project Outline**, which is an understanding of the page itself.

Advantages:

- **Organize Information**, using thoughtfully designed wireframes, we can quickly determine the structure, hierarchy, flow and relationships between pages and content on a website.
- **Wireframes Foster Client Involvement**, wireframes allow clients to be involve on the project development by providing feedbacks to the developer which can benefit both developer and the client to achieve the mutual goals.
- **Improve Collaboration and Efficiency**, Well-crafted wireframes allow design, content creation and development to all happen concurrently and give everyone involved a base to start from. Then, everyone can work on their pieces and influence what other team members are doing at the same time.⁵

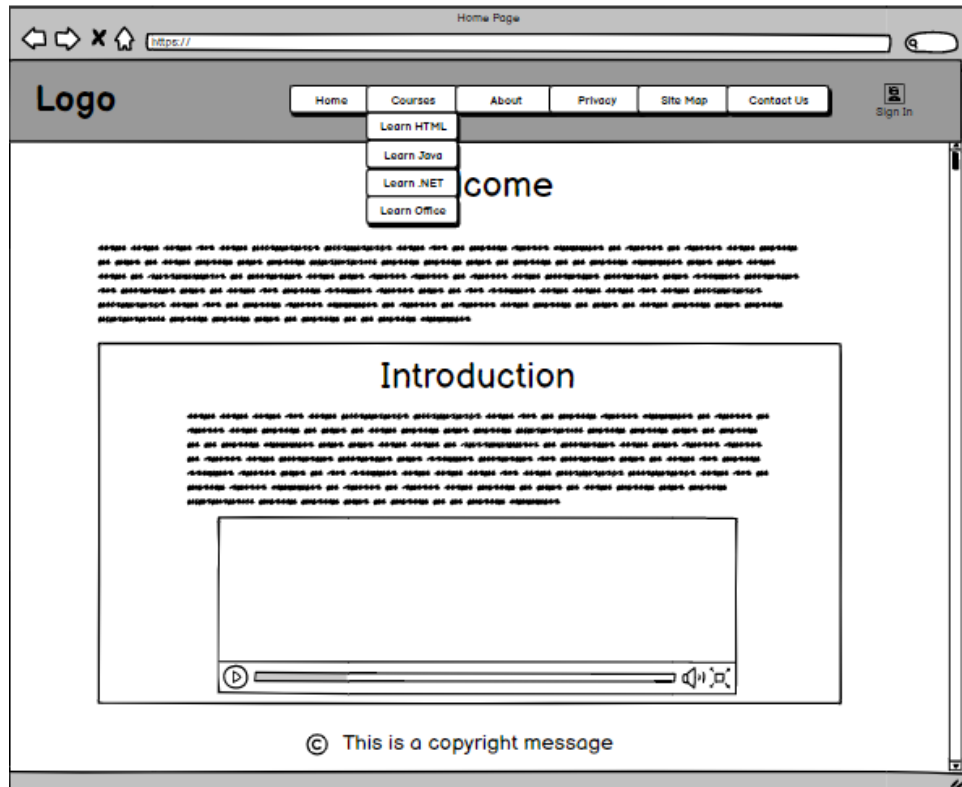
³ https://en.wikipedia.org/wiki/Website_wireframe

⁴ <https://www.edrawsoft.com/understand-wireframe.html>

⁵ <https://blueflamethinking.com/blog/benefits-of-wireframing-design/>

Project Wireframes:

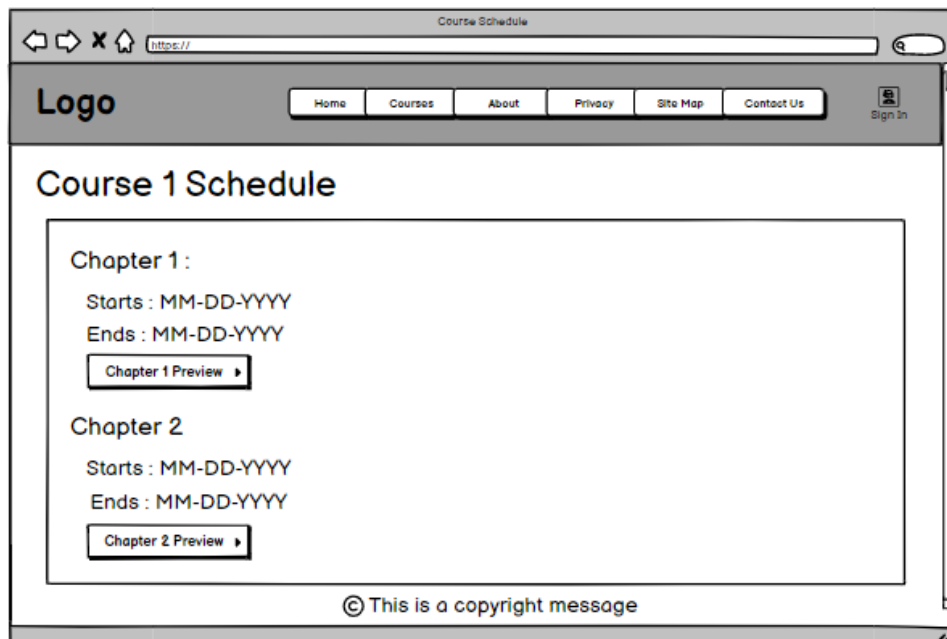
- Home Page



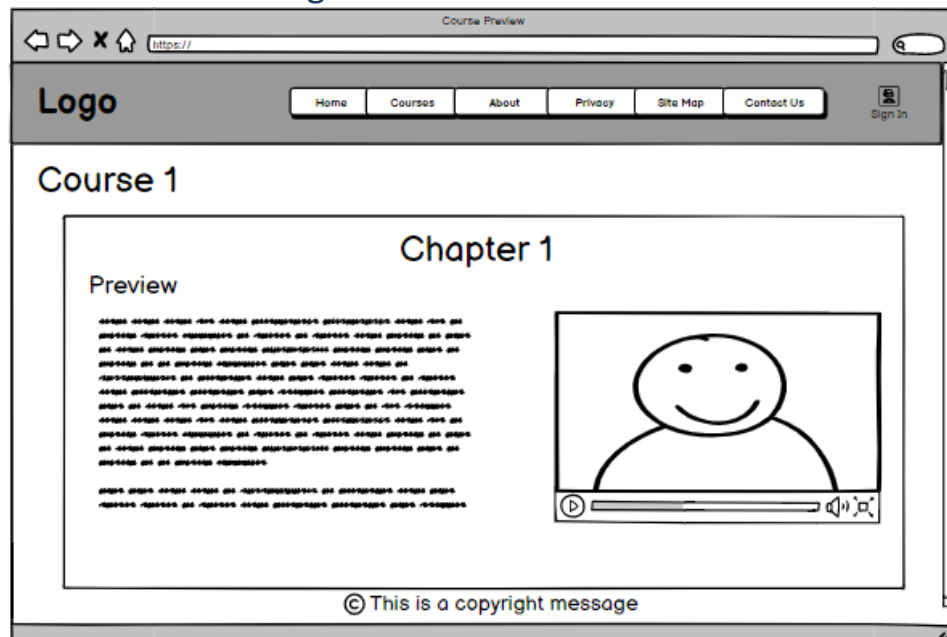
- Sign In/ Sign Up Page



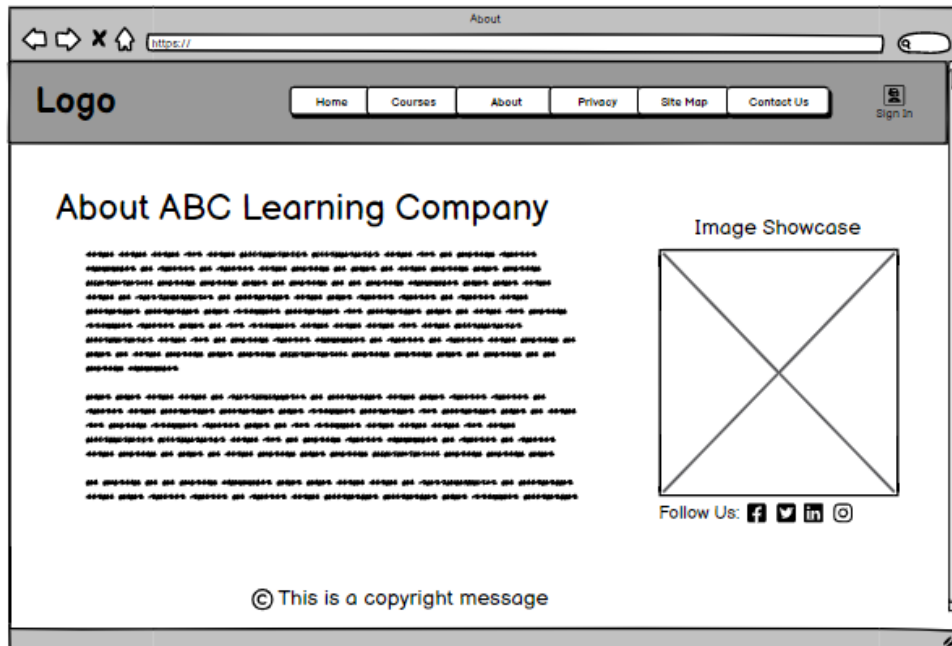
- Course Schedule Page



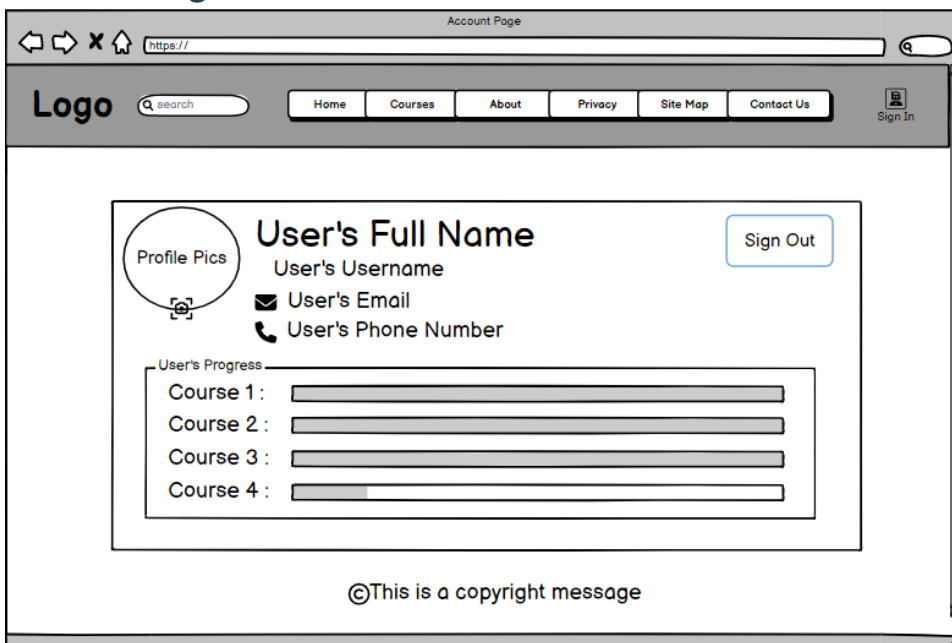
- Course Preview Page



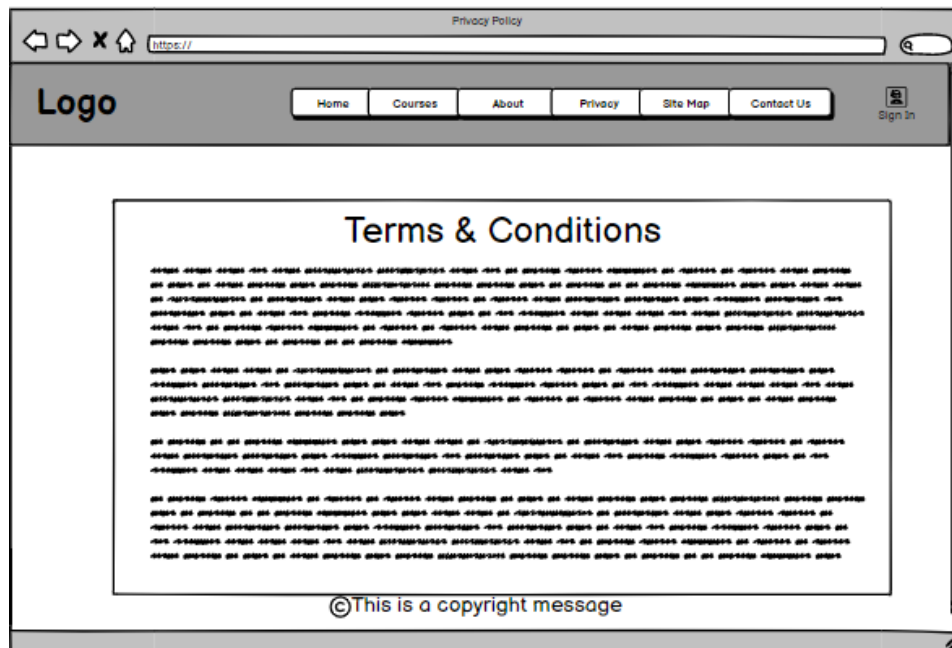
- About Page



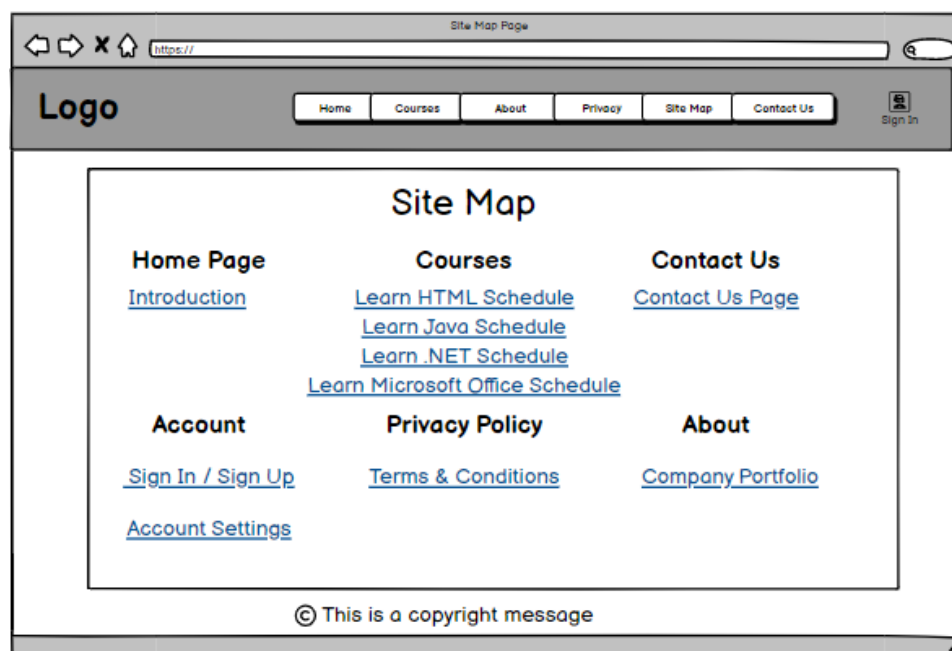
- Account Page



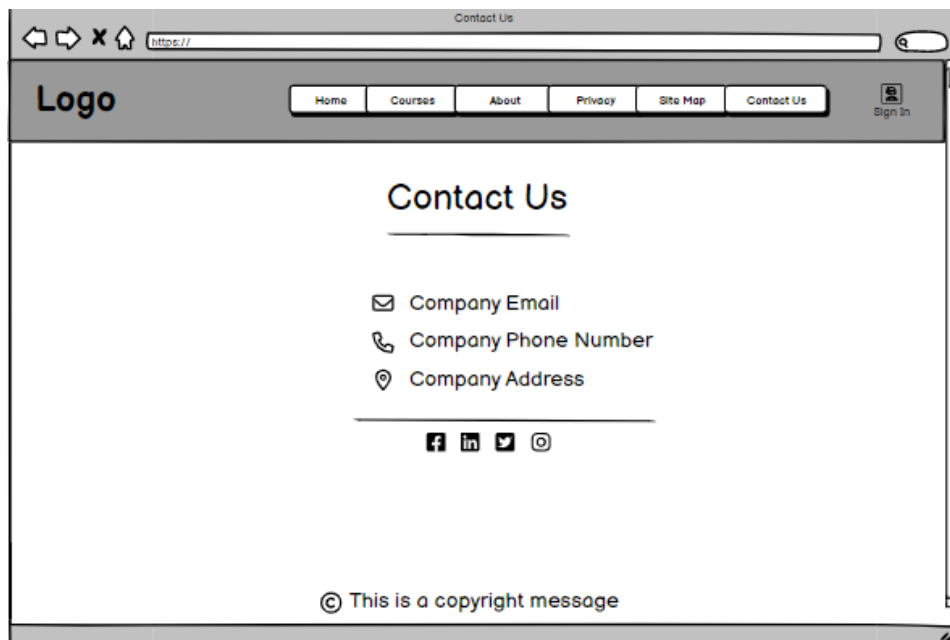
- Privacy Policy Page



- Site Map Page



- Contact Us Page



1.4 Storyboarding

Definition:

Website Storyboard is an advanced version of wireframe where it explains how the user would interact with the page.

Characteristics:

- **Page layout**, which is a grid where all the elements would be placed.
- **Content**, which are the things that would later be putted into the site.
- **Design**, which is the page styling.⁶

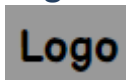
Advantages:

- Storyboarding aids team collaboration
- Storyboarding helps us visualize of how the User Experience would be.

Project Storyboarding:

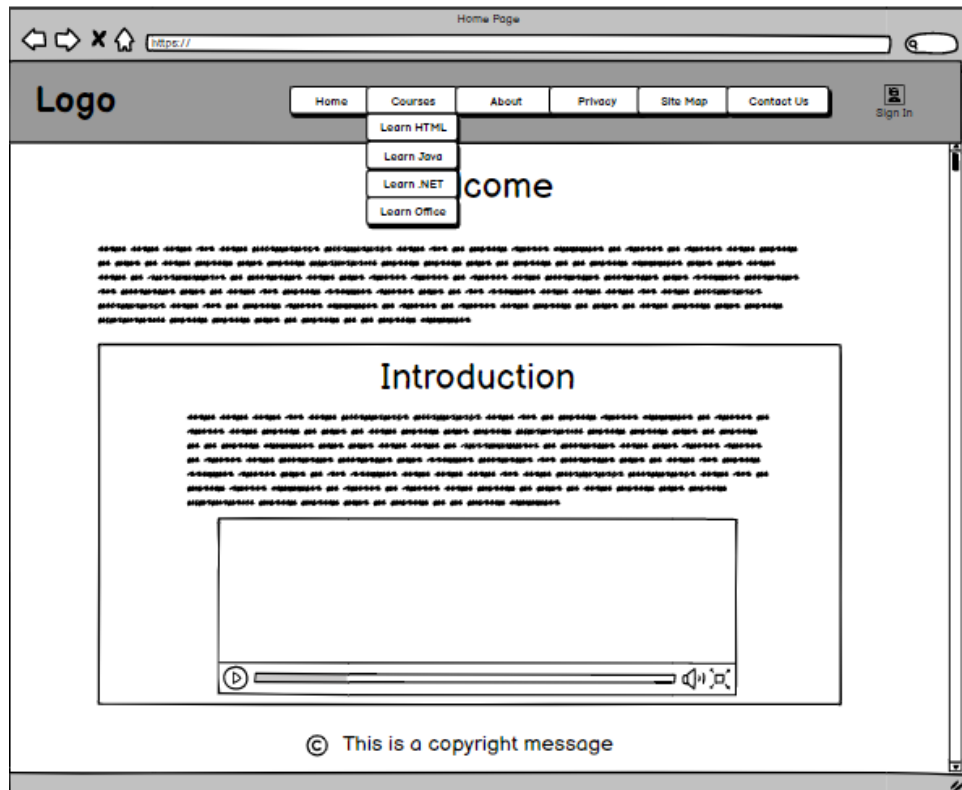
Here I am going to explaining the flow of interactive things in the wireframes so that it becomes more comprehensive.

- Logo

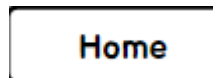


This logo is integrated with the anchor tag which would lead to the home page (will work as a refresh button if we already in the home page). The landing page:

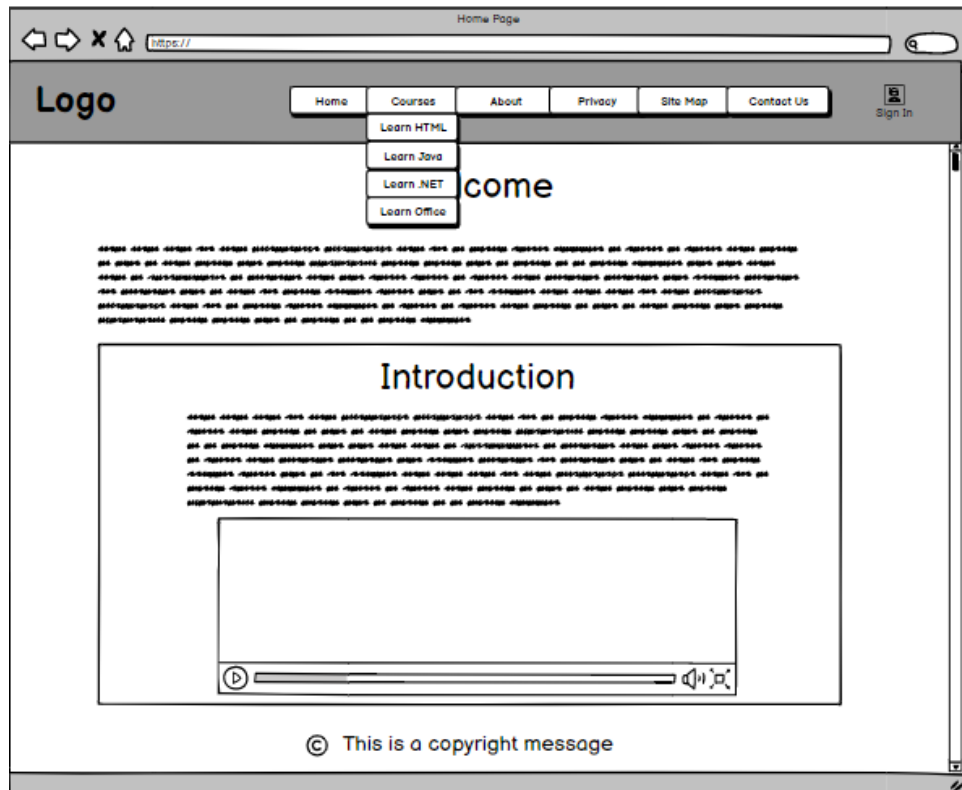
⁶ <https://filmlifestyle.com/storyboard-website-design/>



- Home Button



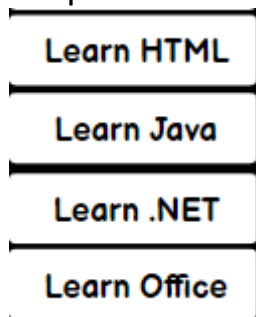
This home button is another way to go to the home page other than clicking the logo (and it would also act as a refresh button if we already in the home page). The landing page:



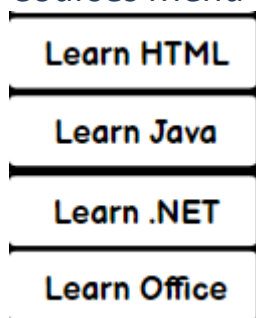
- Courses Button



This is a special button that works as a trigger to the dropdown menu, the list of the things it contained would appear as a dropdown menu. On mouse-click it would display these menus:

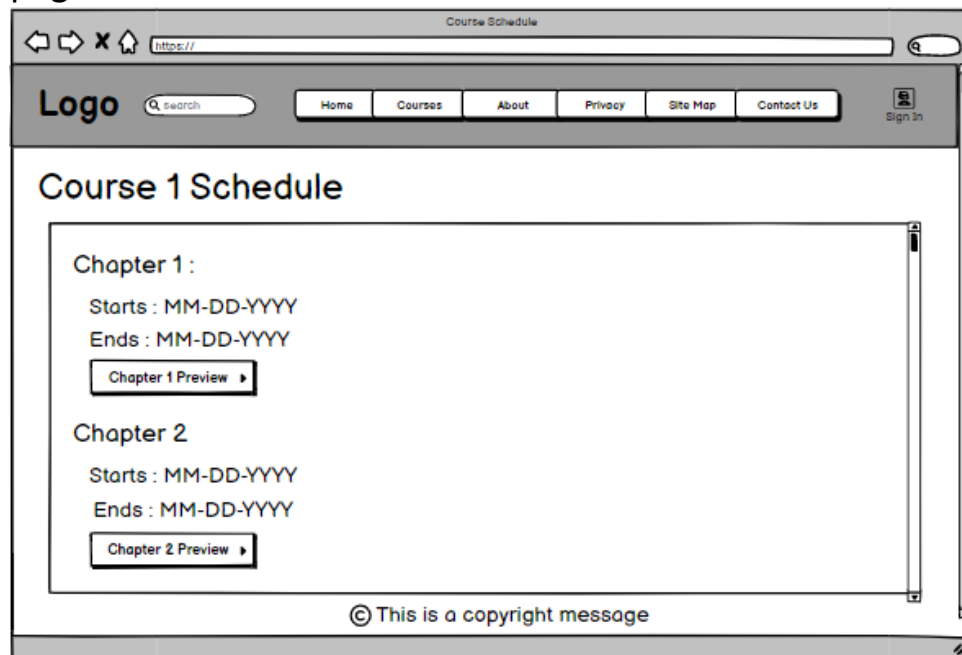


- Courses Menu

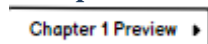


Unlike the Courses button, these menus would work as a real button rather than a trigger, where it leads to a specific page. The landing

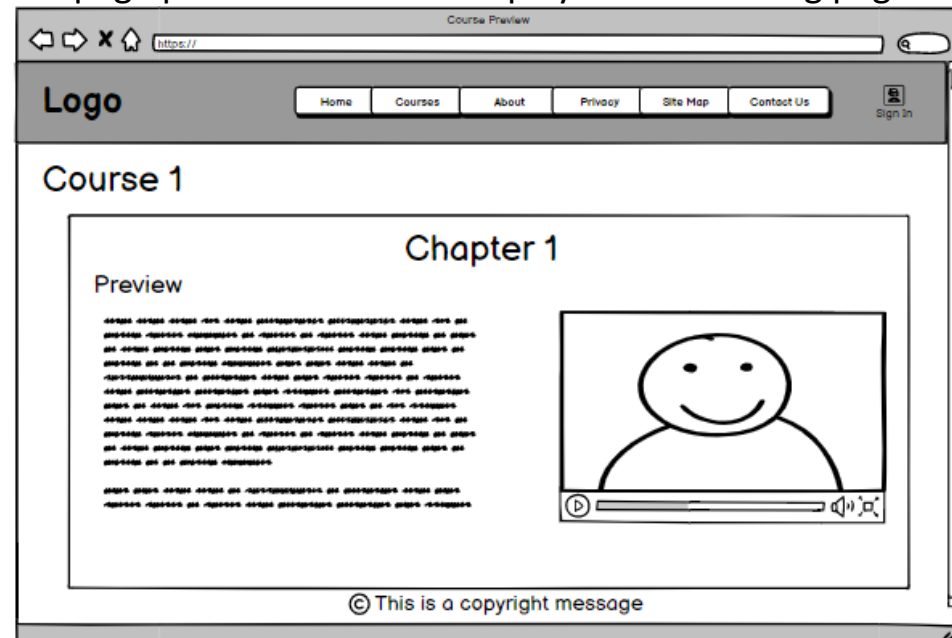
page:



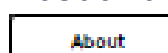
- Chapter Preview Button



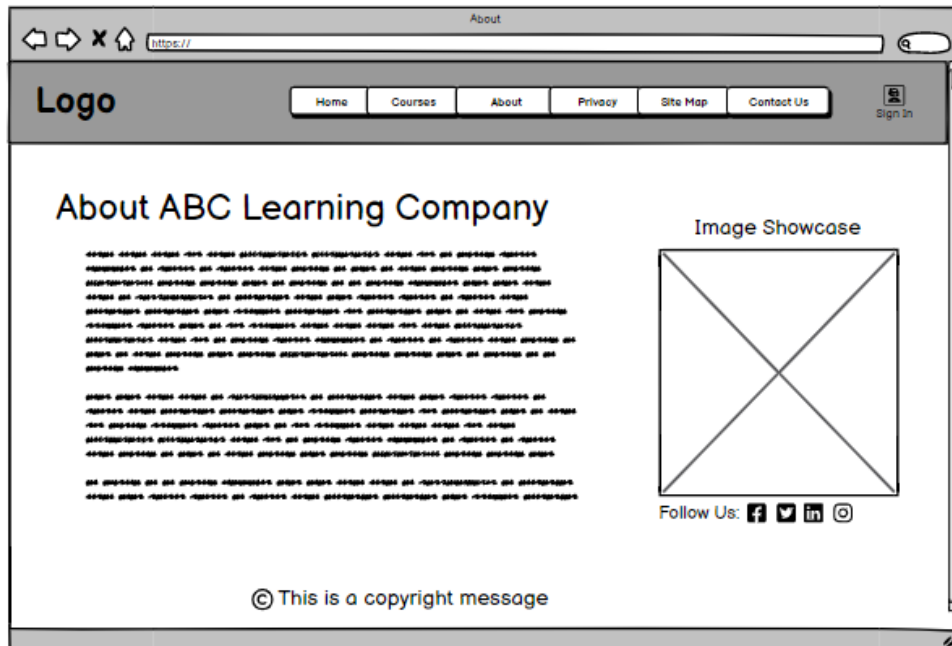
This button would lead the user to the course preview page where the page preview would be displayed. The landing page:



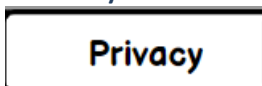
- About Button



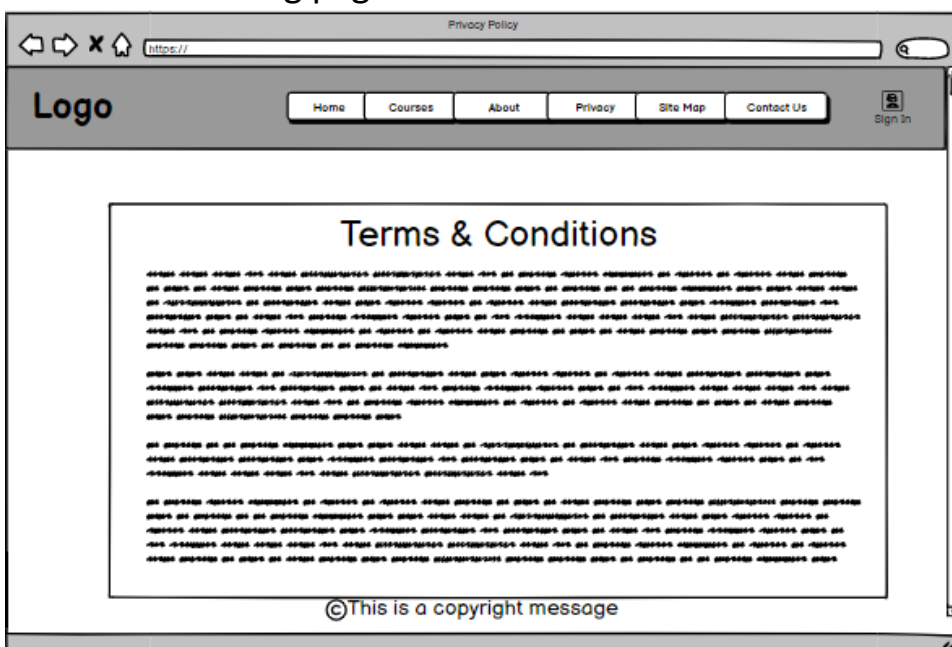
This button would lead the user to the about page where the company portfolio would be displayed there. The landing page:



- Privacy Button



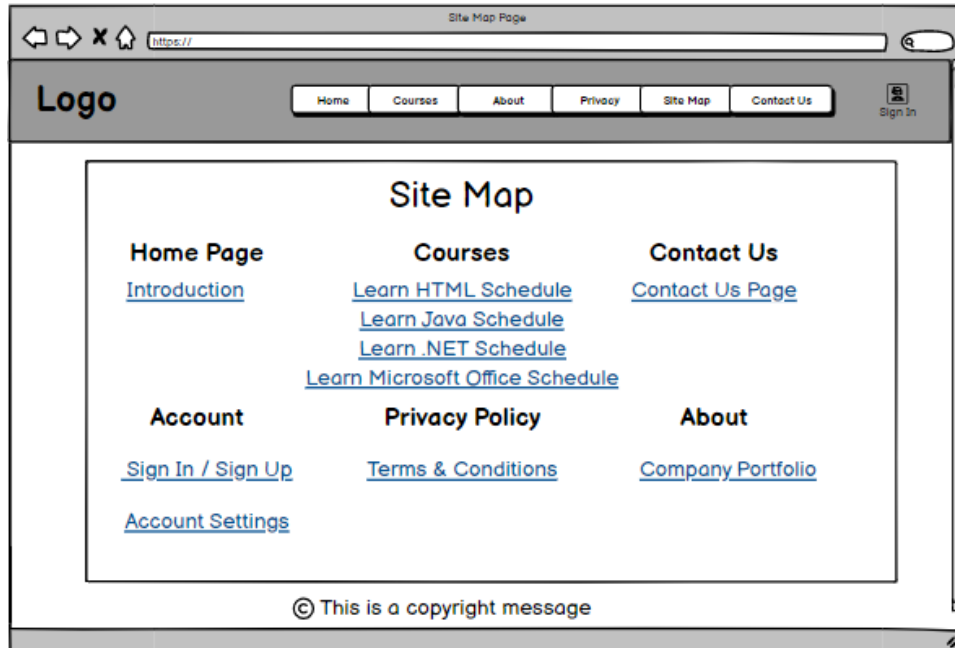
This button would lead the user to the privacy policy page where the terms and condition of the website would be declared and displayed there. The landing page:



- Site Map Button



This button would lead the user to the site map of the website, where it shows the contents of each page. The landing page:



In each section, there are links provided to the contents of each page, for example:

[Introduction](#)

This introduction link would act the same as the home button or a logo that integrated with anchor tag that leads to the home page.

[Sign In / Sign Up](#)

This Sign In / Sign Up link would lead user to the Sign In / Sign Up form, it is also having the same function as the Sign In button which would later be discussed after the Site Map Button.

[Account Settings](#)

This Account Settings link would lead the user to the account page which would also later be discussed after the Site Map Button.

[Learn HTML Schedule](#) !
[Learn Java Schedule](#)
[Learn .NET Schedule](#)
[Learn Microsoft Office Schedule](#)

This Course Schedule link has the same function as the drop-down menu Button where it leads the user to the Course Schedule Page.

[Terms & Conditions](#)

This Terms & Conditions link has the same function as the Privacy Button where it leads the user to the Privacy Policy Page.

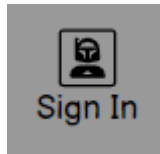
[Contact Us Page](#)

This Contact Us Page link has the same function as the Contact Us Button where it leads the user to the Contact Us Page.

[Company Portfolio](#)

This Company Portfolio link has the same function as the About button where it leads the user to the About Page.

- **Sign In Button**

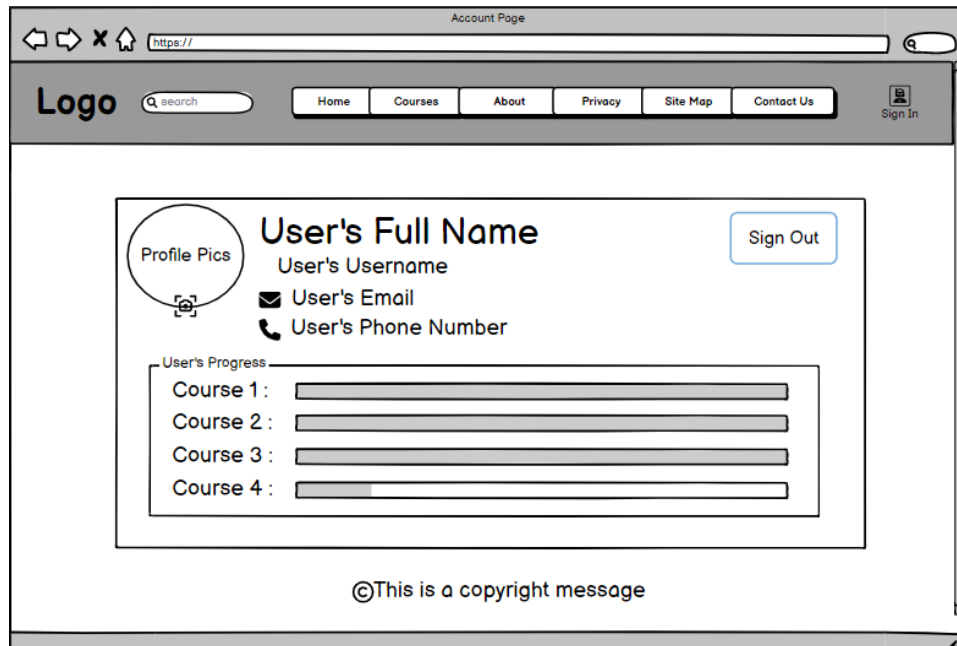


This Sign in Button has 2 functions, the first function the button would act as a Sign in Button where it leads the user to the Sign In / Sign Up Page if the user is not Signed yet, and the second function the button would act as the account settings button where it leads the user to the Account Page if the user already Signed.

The landing page of Sign in Button:

A screenshot of a web browser showing the "Sign In / Sign Up Page". The browser's address bar shows "https://". The page has a navigation bar with a "Logo", a search bar, and links for "Home", "Courses", "About", "Privacy", "Site Map", and "Contact Us". A "Sign In" button is in the top right corner. The main content area is divided into two panels. The left panel, titled "Sign In", contains fields for "E-mail Address" and "Password", a "Remember Me" checkbox, a "Forgot your Password?" link, and a "Sign In" button. Below this is an "OR" separator and a section for "Sign in using your account with" featuring buttons for Facebook, Twitter, myspace, Google, AOL, and Yahoo. The right panel, titled "Sign Up", contains fields for "Name", "Email", "Password", and "Re-type password", a checkbox for "I agree to the Terms of Use and Privacy Policy", a "Sign up" button, and a "Learn more" link. At the bottom of the page, there is a copyright notice: "© This is a copyright message".

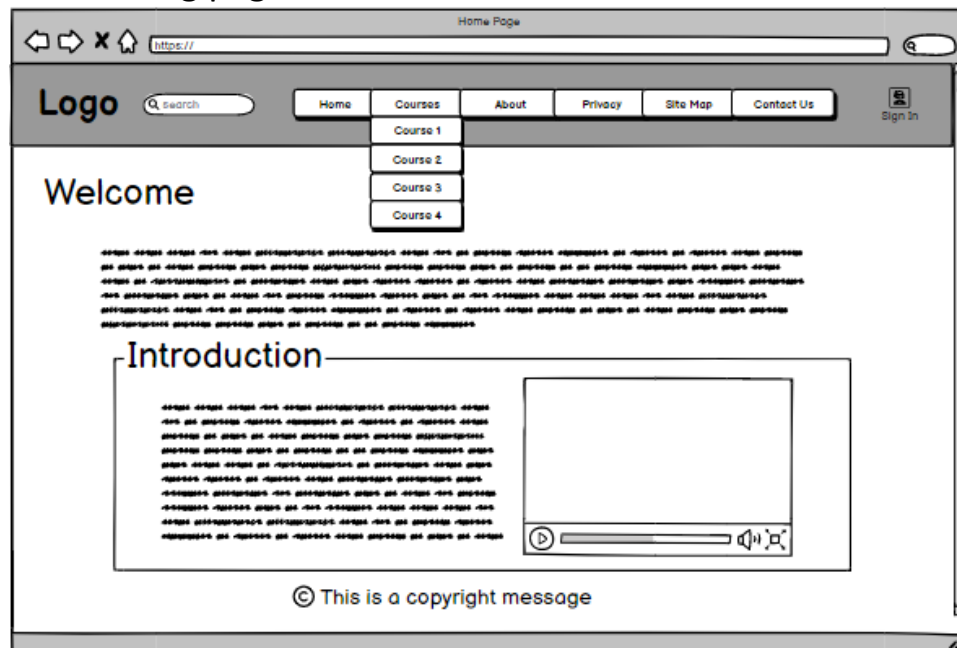
The landing page of Account Setting Button:



In the Account Page, it has Sign out Button that would automatically leads to the home page if the user prompt it.



The landing page:



2.1 Implementation

How?

To create a fully developed website, I need at least three things, which are:

- HTML
- CSS
- JavaScript

Software and Languages

- First, I used HTML as a basic language. Because it is one of the compulsories to create website or to implement the idea into real website project.
- Secondly, I used CSS & Bootstrap built-in CSS version 5.0 library to decorate the plain HTML page in order also to make the website responsive. (CSS as native, Bootstrap as framework)
- Thirdly, I used Bootstrap popper as the built-in JavaScript to create the page interactive.
- I used VSCode editor to code with those languages.
- I used Chrome Browser to preview the page that I building.

Hardware and Software requirements

Hardware	Software
Device with OS such as Windows	VSCode Editor
Mouse	HTML
Keyboard	CSS
Internet Hotspot	JavaScript
	Bootstrap Library

Expected Output

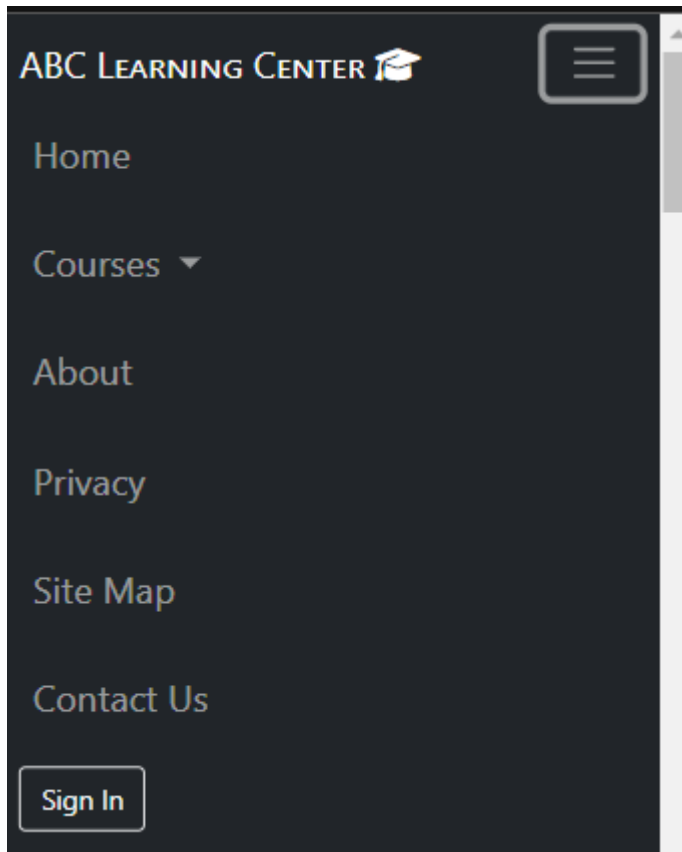
1. Common Content

A. Header

Header is the area of the web page at the top of the page. It usually consists of brand logo along with navigation bar.

Full screen:

Mobile screen:



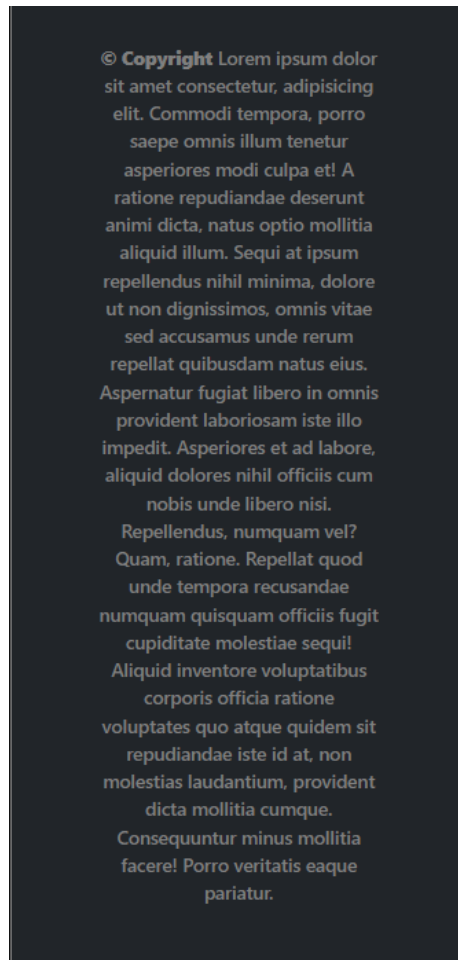
B. Footer

Footer is the web page area at the bottom of the page. It usually contains additional information such as copyright, or even contact and site map.

Full Screen:

© Copyright Lorem ipsum dolor sit amet consectetur, adipisicing elit. Commodi tempora, porro saepe omnis illum tenetur asperiores modi culpa et! A ratione repudiandae deserunt animi dicta, natus optio mollitia aliquid illum. Sequi at ipsum repellendus nihil minima, dolore ut non dignissimos, omnis vitae sed accusamus unde rerum repellat quibusdam natus eius. Aspernatur fugiat libero in omnis provident laboriosam iste illo impedit. Asperiores et ad labore, aliquid dolores nihil officis cum nobis unde libero nisi. Repellendus, numquam vel? Quam, ratione. Repellat quod unde tempora recusandae numquam quisquam officis fugit cupiditate molestiae sequi! Aliquid inventore voluptatibus corporis officia ratione voluptates quo atque quidem sit repudiandae iste id at, non molestias laudantium, provident dicta mollitia cumque. Consequuntur minus mollitia facere! Porro veritatis eaque pariatur.

Mobile Screen:

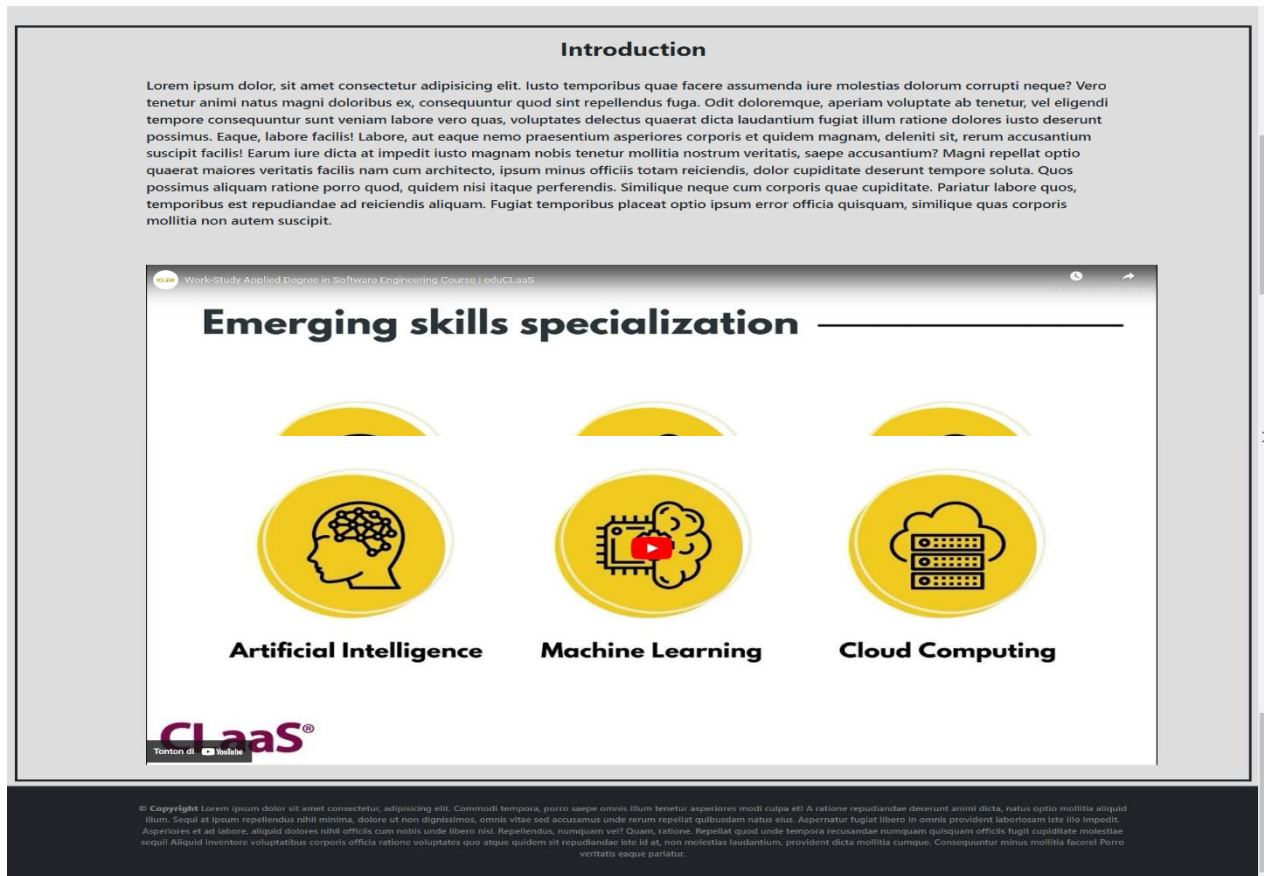


2. Home Page

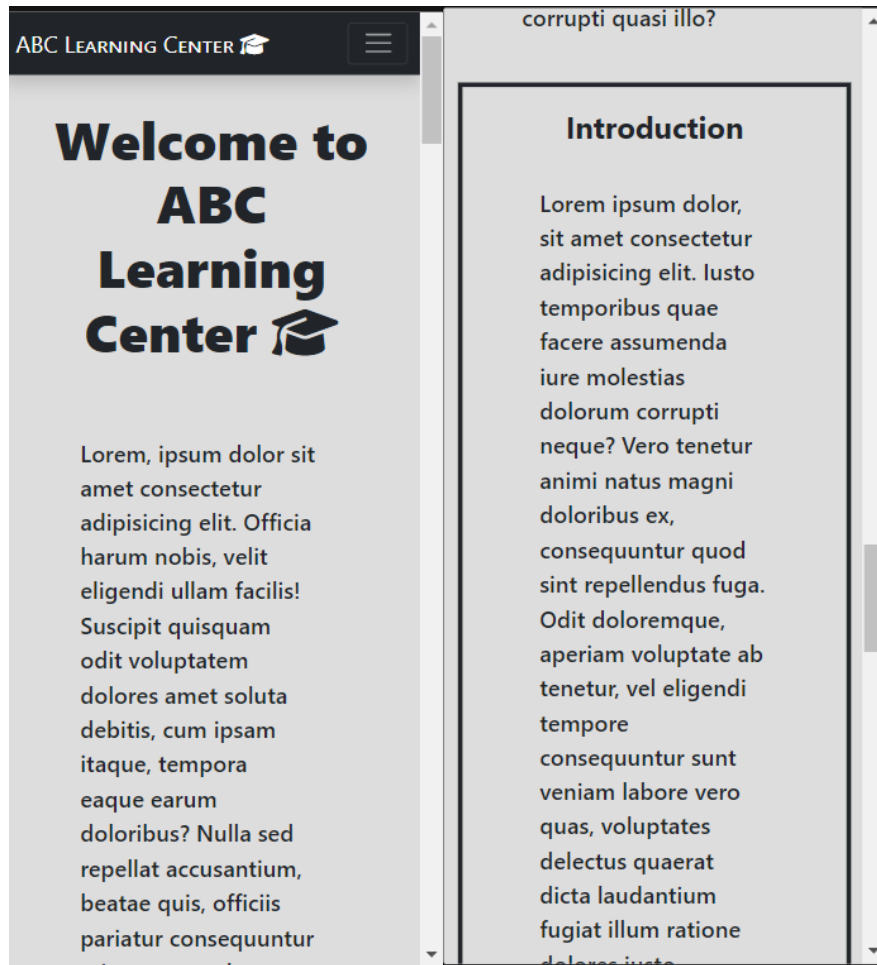
Home page is usually in the landing page or the index page of the website. It is usually be the main URL landing page.

Full Screen:





Mobile Screen:

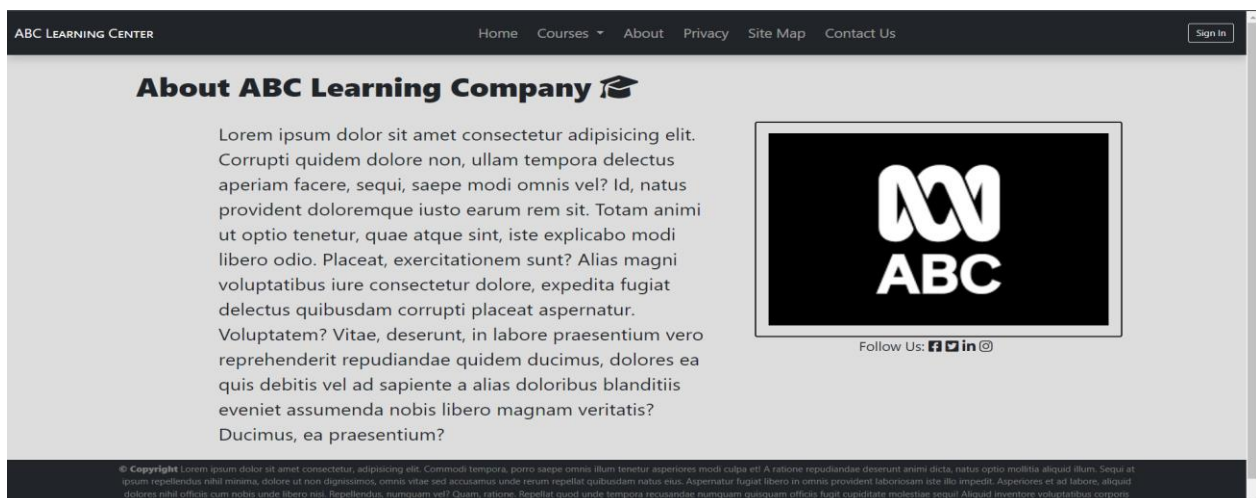




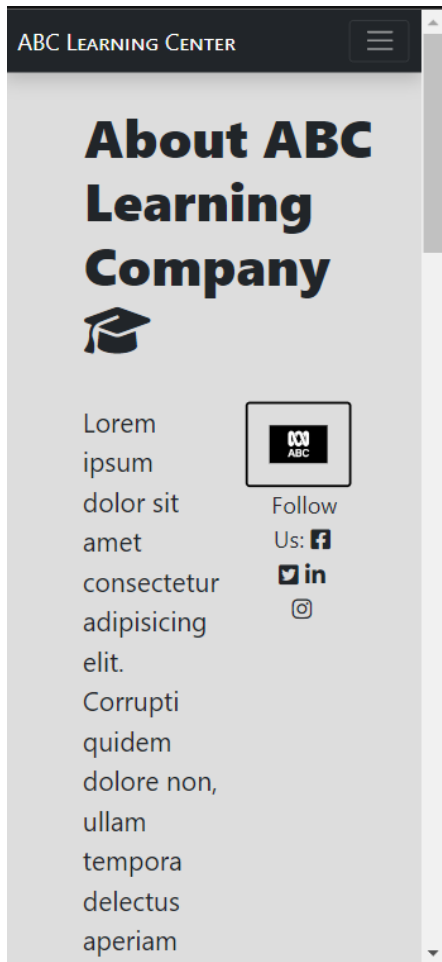
3. About Us Page

About us page is a page which contain a company or a person portfolio where the visitor gain information about the company and why should they trust the website they visited.

Full Screen:



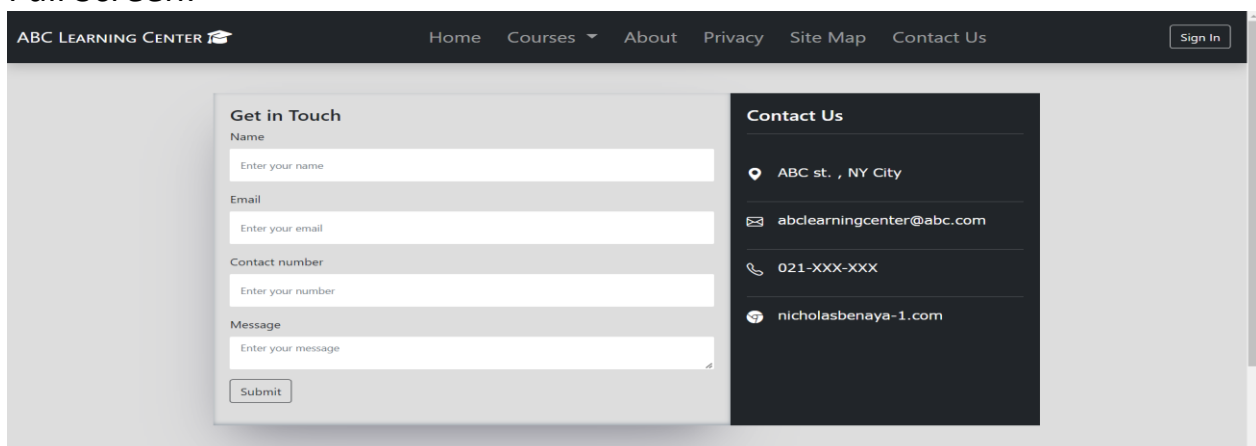
Mobile Screen:



4. Contact Us Page

Contact us page is a page that provide the information about the company contacts such as email, social media, phone number, etc.

Full Screen:



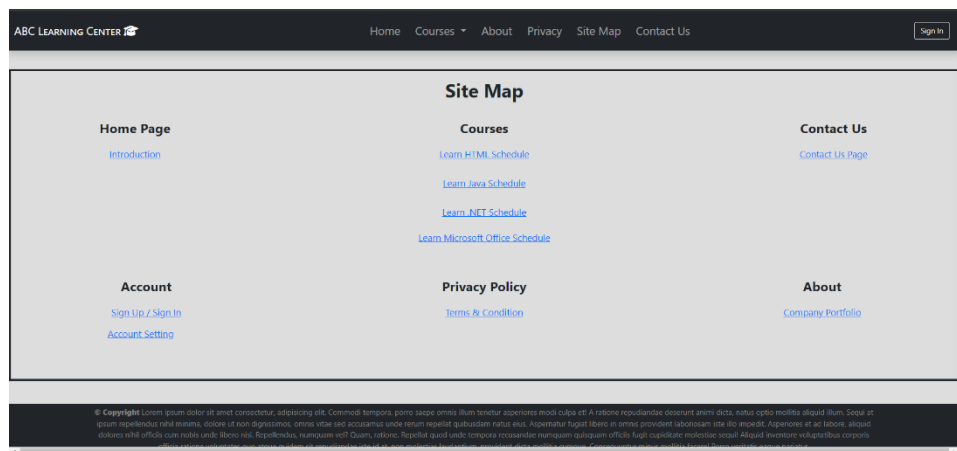
Mobile Screen:



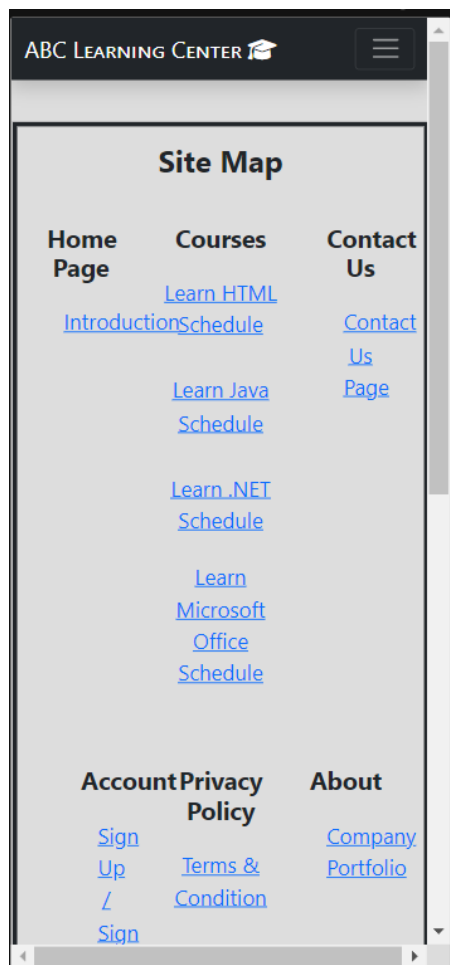
5. Site Map Page

Site Map is a page which contains list of sites contained in a domain. It usually provides the information of related pages.

Full Screen:



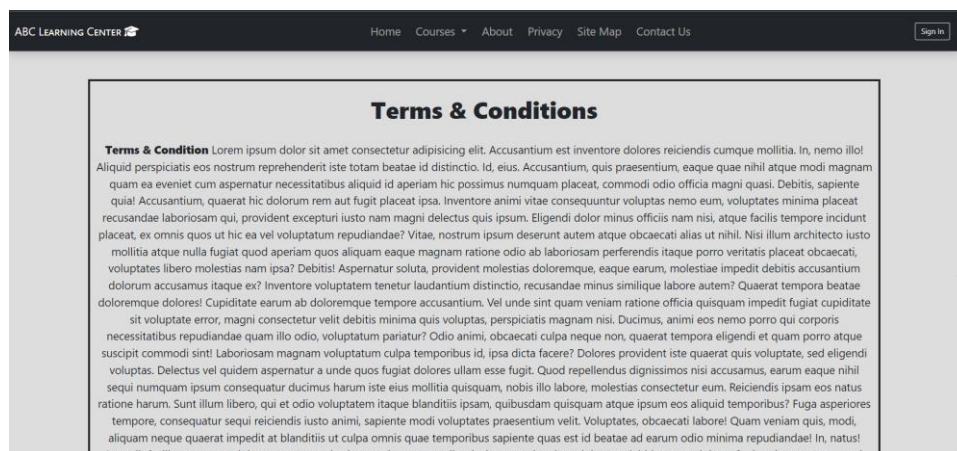
Mobile Screen:

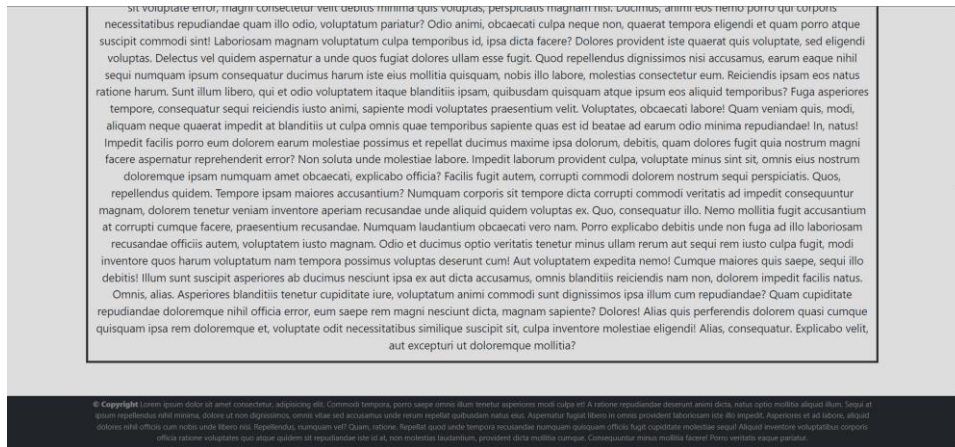


6. Privacy Policy Page

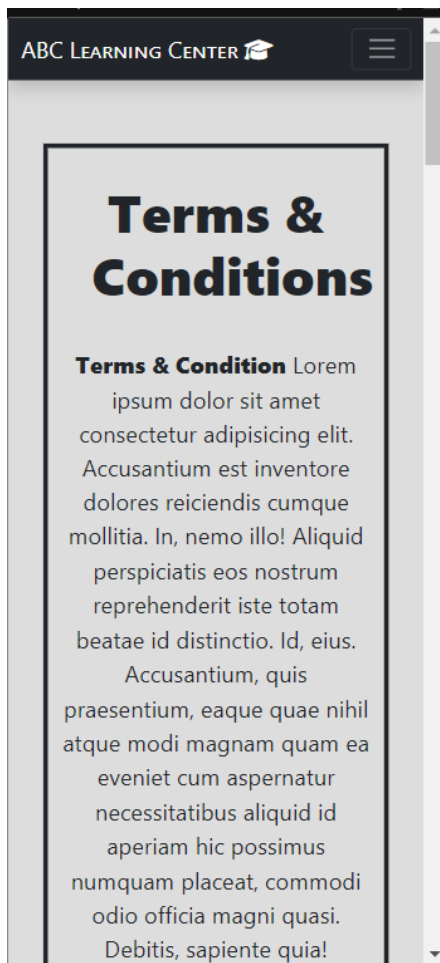
Privacy Policy Page is a page that contains statement or legal document (in privacy law) that discloses some or all the ways the party gathers, uses, discloses, and manages a customer or a client's data.

Full Screen:





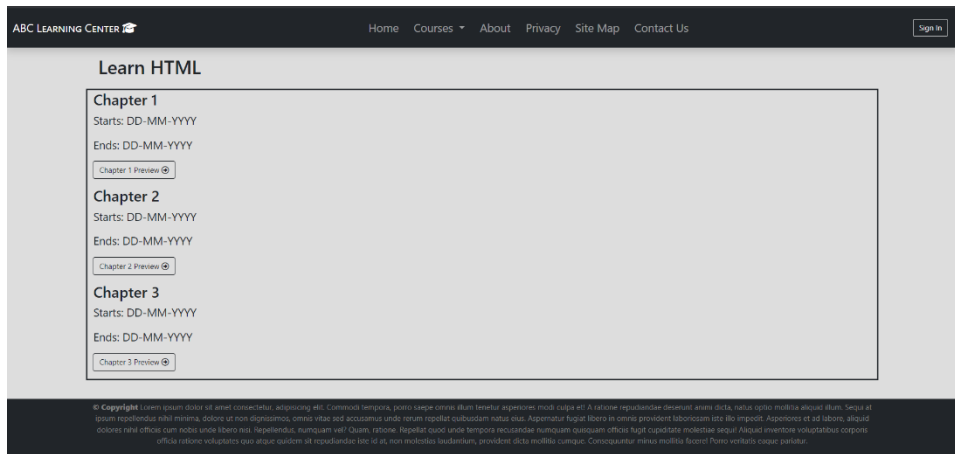
Mobile Screen:



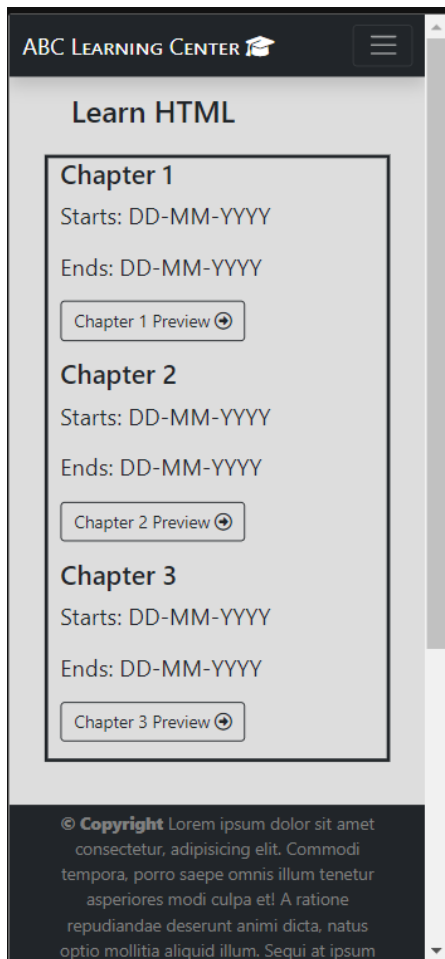
7. Course Schedule Page

Course Schedule Page contains the chosen course's schedule. It provides the starting time and the ending time along with a button that leads to the course preview per chapter.

Full Screen:



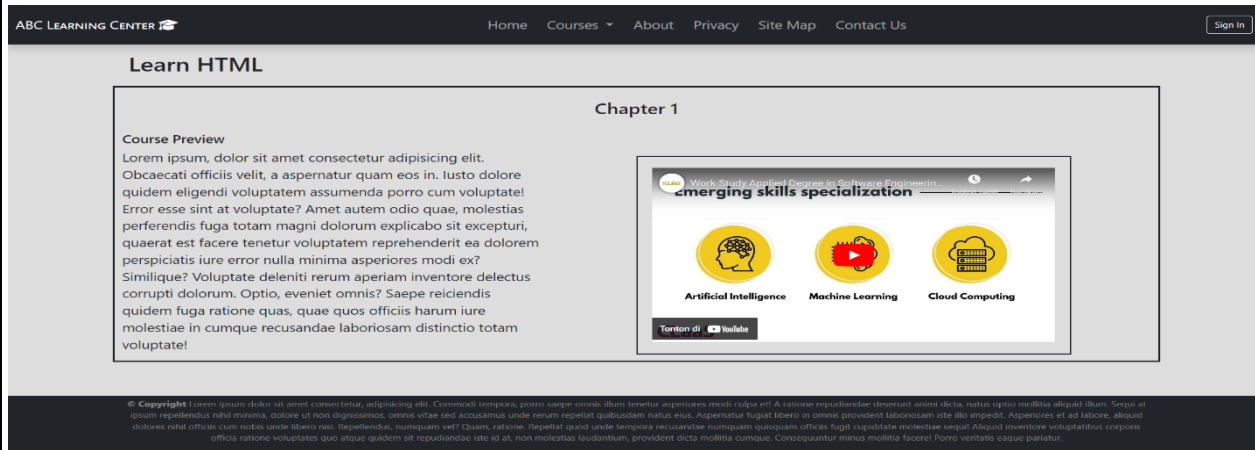
Mobile Screen:



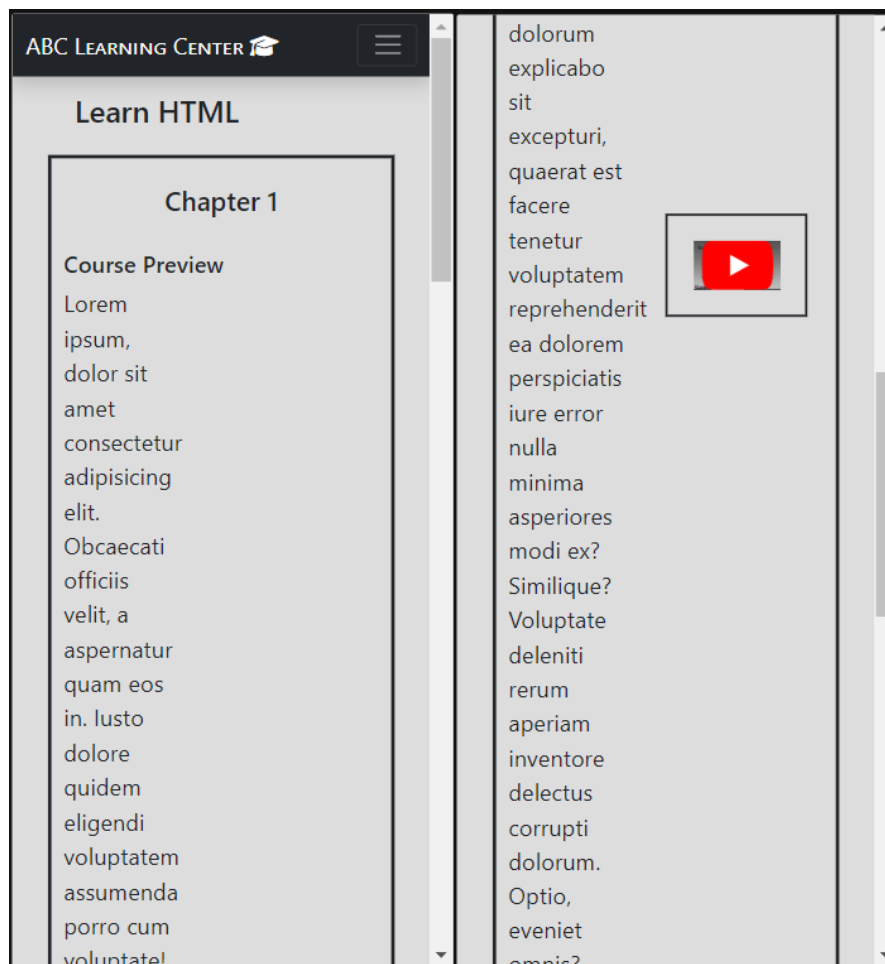
8. Course Preview Page

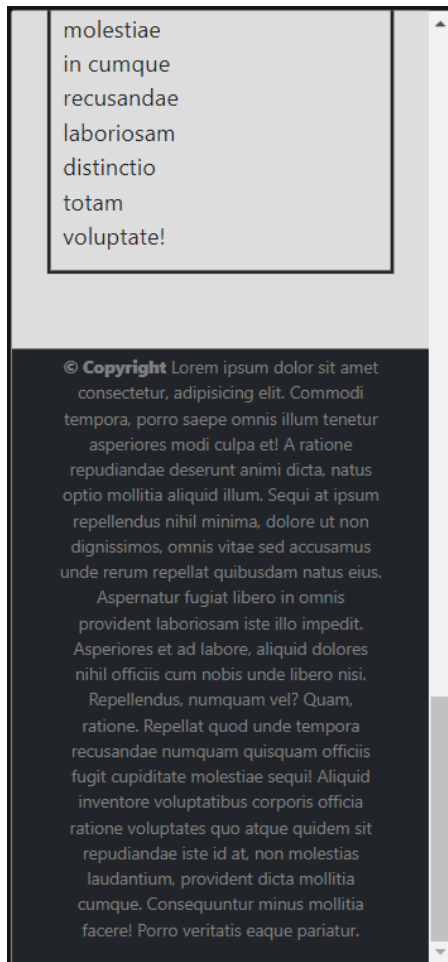
Course Preview Page contains the details of the chosen chapter of the chosen course. It consists of the course description along with the video.

Full Screen:



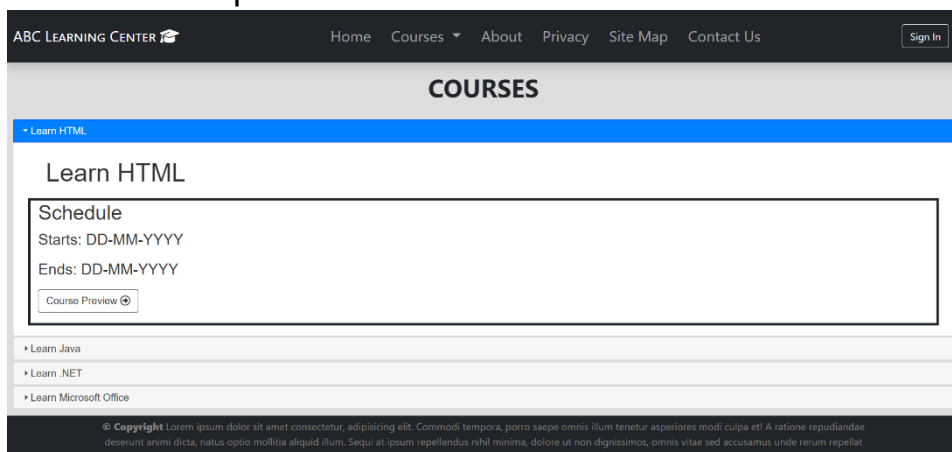
Mobile Screen:





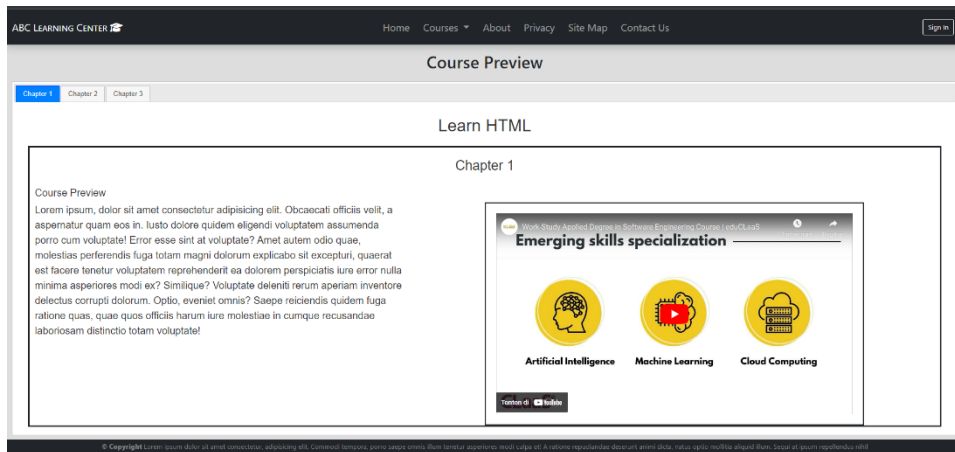
9. Course Listing Page

Course listing page contains the list of courses including its schedules and the link to the course preview details.



10. Course Preview Page

Course preview page contains the list of chapters of chosen course including its description and the video explanation.



11. Register Page

Register Page allows user in interest to enroll furtherly to the course which later would be signed as a student.

The screenshot shows the 'Registration form' page. The page has a dark header with the 'ABC Learning Center' logo and navigation links: Home, Courses, About, Privacy, Site Map, and Contact Us. A 'Sign In' button is in the top right. The main content area is titled 'Registration form'. It contains a form with four input fields: 'First Name' (placeholder: Enter First Name), 'Last Name' (placeholder: Enter Last Name), 'Username' (placeholder: Enter Username), and 'Email' (placeholder: Enter Email). Below the form is a 'Submit' button. At the bottom of the page, there is a copyright notice.

12. Thank you page

Thank you page will give a message to the user when they submit things in the contact us page or in the register page.



2.2 Implementation using JQuery & JQueryUI

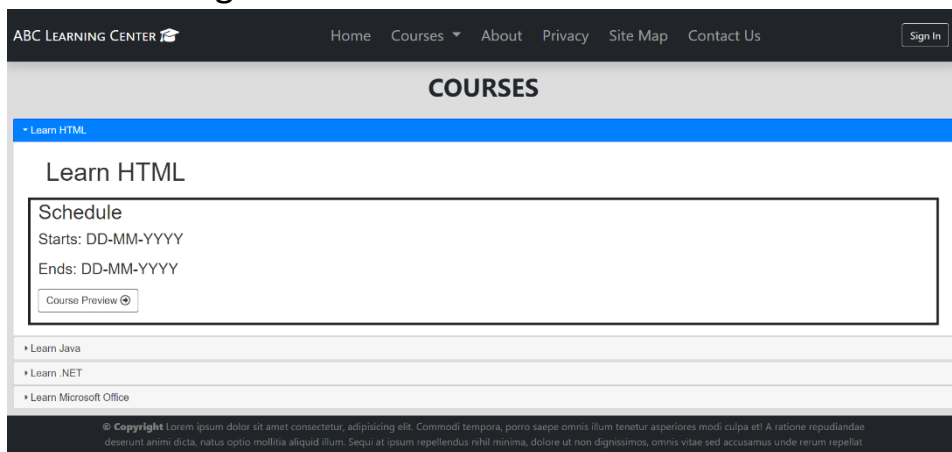
To be able to use JQuery and JQueryUI, we first need to either download the both files and link them to the page that we want to implement or we can just hard link it using the CDN link. In my case, I hard link the JQuery and JQueryUI CDN.

```
<!-- jquery -->
<link
  rel="stylesheet"
  href="//code.jquery.com/ui/1.13.2/themes/base/jquery-ui.css"
/>
<script src="https://code.jquery.com/jquery-3.6.0.js"></script>
<script src="https://code.jquery.com/ui/1.13.2/jquery-ui.js"></script>
```

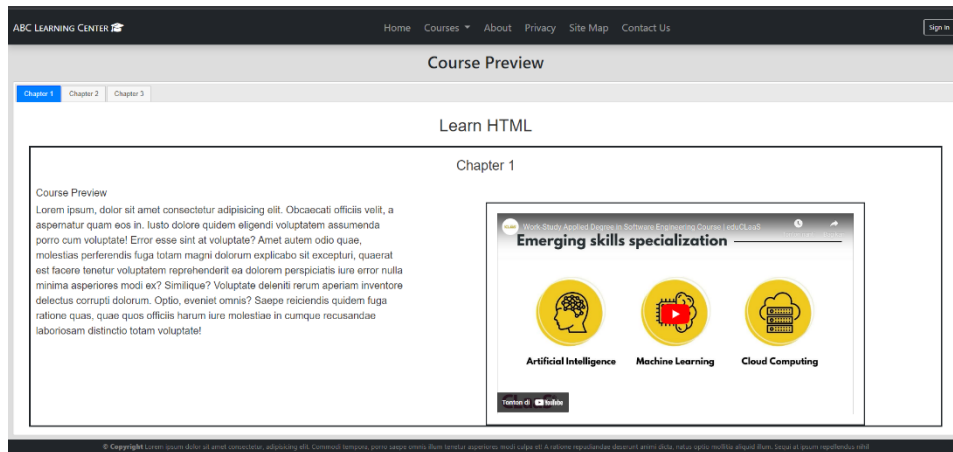
For the JQuery & JQueryUI implementation, I used accordion as the container in my course listing page. Also, I used tabs as the container of each chapter of my course preview page. To do that, we just must copy the source code from the jqueryUI documentation and then modify the code accordingly based on our project. After we copy the source code, we then copy the jquery script so that the jquery can make the accordion functional.

Page implemented:

- Course Listing



- Course Preview



2.3 Test and Validation

Testing and validation are a way to ensure the website complies with the standards accepted by most web designers. That also means that it would be accessible to more people across more browsers and operating systems.

There are 5 types of testing and validation, which are:

1. Usability, is a user-friendly test where it checks the website flows whether it is understandable to the user or not.

No	Test	Expected output	Actual output	Test Result	Test comments
1	Home Link	Should be in every page.	Appears in every page.	Pass.	[Nichol 02/19/2023 22:58]: Home link test success.
2	Title	Should be displayed in every page.	Appears in every page.	Pass	[Nichol 02/19/2023 22:58]: Title test success.
3	Broken Links	Should be none	None	Pass	[Nichol 02/19/2023 22:58]: Broken link test success.
4	Site Map	Should be provide links to each navigation	Provided	Pass	[Nichol 02/19/2023 22:58]: Site Map test success.

5	Fonts	Should be the same as per requirements		Pass	[Nichol 02/19/2023 22:58]: Font test success.
6	Scroll Bar	Should appear only when it required	Appeared only when it required	Pass	[Nichol 02/19/2023 22:58]: Scroll Bar test success.
7	Alignment	All the fields should be properly aligned	Properly aligned	Pass	[Nichol 02/19/2023 22:58]: Alignment test success.
8	Dropdown	Should not be truncated due to fields size	Not truncated	Pass	[Nichol 02/19/2023 22:58]: dropdown test success.
9	Grammar	Should not have any grammatical error.	No grammatical error.	Pass	[Nichol 02/19/2023 22:58]: Grammar test success.
10	App rendering across devices	Should have been properly rendered.	Some Rendered Properly	N/A	[Nichol 02/19/2023 22:58]: App rendering test result is on pending.

2. Functional, is test that focused solely on the output generated in response to selected inputs and execution conditions.

No	Test	Expected Output	Actual output	Test Result	Test comments
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1	Buttons	Should be lead to the specific output page.	Lead to the specific output page	Pass	[Nichol 02/19/2023 22:58]: Button test success.
2	Privacy Policy	Should be clearly defined and available for users	Clearly defined and available for users	Pass	[Nichol 02/19/2023 22:58]: Privacy Policy test success.
3	Bootstrap JavaScript	Should be properly working in different browsers	Properly working in different browsers	Pass	[Nichol 02/19/2023 22:58]: Bootstrap JavaScript test success.
4	Contacts	Should be able to be contacted	Able to be contacted	Pass	[Nichol 02/19/2023 22:58]: Contacts test success.
5	Video	Should be able to play in full screen	Able to play in full screen	Pass	[Nichol 02/19/2023 22:58]: Video test success.
6	Scroll Bar	Should be able to scroll if there are any overflow contents	Able to scroll only if there are overflow contents	Pass	[Nichol 02/19/2023 22:58]: Scroll Bar test success.
7	Site map links	Should be able to lead to a specific page	Lead to a specific page	Pass	[Nichol 02/19/2023 22:58]: Site Map Links test success.
8	Social Media links	Should be able to click on the social media logo and lead to the social media page	Able to click and lead to the social media page	Pass	[Nichol 02/19/2023 22:58]: Social Media link test success.

9	Sign In	Should be able to go to the Sign In page	Sign In Page is yet to be created.	N/A	[Nichol 02/19/2023 22:58]: Sign In test is on pending.
10	Sign up	Should be able to go to the Registration page	Sign Up page is yet to be created	N/A	[Nichol 02/19/2023 22:58]: Sign Up test is on pending.

3. Compatibility, is a test that used to determine if your software is compatible with other elements of a system with which it should operate, e.g., Browsers, Operating Systems, or hardware.

No	Test	Expected output	Actual output	Test Result	Test Comments
1	Browser	Should be display the contents properly throughout different browsers	Display the contents properly throughout different browsers	Pass	[Nichol 02/19/2023 22:58]: Browser test is success.
2	HTML Version	Should be compatible with appropriate browser version	HTML 5 is compatible with appropriate browser version	Pass	[Nichol 02/19/2023 22:58]: HTML Version test is success.
3	Image	Should be display properly throughout different browsers	Properly displayed	Pass	[Nichol 02/19/2023 22:58]: Image test is success.
4	Video	Should be display properly throughout different	Properly displayed	Pass	[Nichol 02/19/2023 22:58]: Video test is success.

		browsers			
5	Fonts	Should be usable throughout different browsers	Usable throughout different browsers	Pass	[Nichol 02/19/2023 22:58]: Font test is success.
6	Bootstrap JavaScript	Should be usable throughout different browsers	Usable throughout different browsers	Pass	[Nichol 02/19/2023 22:58]: Bootstrap JavaScript test is success.
7	Buttons	Should be usable throughout different devices and browsers	Usable throughout different devices and browsers	Pass	[Nichol 02/19/2023 22:58]: Button test is success.
8	Dropdown	Should be displayable throughout different devices and browsers	Usable throughout different devices and browsers	Pass	[Nichol 02/19/2023 22:58]: Dropdown test is success.
9	Links	Should be usable throughout different devices and browsers	Usable throughout different devices and browsers	Pass	[Nichol 02/19/2023 22:58]: Links test is success.
10	Alignments	Should be aligned properly	Aligned properly	Pass	[Nichol 02/19/2023 22:58]: Alignment test is success.

		across devices and browsers			
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4. Performance is a test used to evaluate system or component compliance with specified performance requirements.

No	Test	Expected output	Actual Output	Test Result	Test Comments
1	Loading time	Under 5 seconds	Under 5 seconds	Pass	[Nichol 02/19/2023 22:58]: Loading Time test is success.
2	App Performance in different devices	Good	Good	Pass	[Nichol 02/19/2023 22:58]: Device diverse test is success.
3	Battery consumption	Should not consume more than 5% to access all the domain contents	Consuming less than 5% battery to access all the domain contents	Pass	[Nichol 02/19/2023 22:58]: Battery Consumption test is success.
4	Network scalability	Should be accessible with minimum 5mbps network speed	Accessible with 5mbps network speed	Pass	[Nichol 02/19/2023 22:58]: Network Scalability test is success.
5	Memory and CPU Utilization	Should not give significant usage	Not give significant usage	Pass	[Nichol 02/19/2023 22:58]: Memory and CPU Utilization test is success.
6	App behavior	Should not significantly	Did not significantl	Pass	[Nichol 02/19/2023 22:58]: Network

	during network fluctuation	impact the main contents	y impact the main contents		fluctuation test is success.
7	Software version	Should not impact the response time	Did not impact the response time	Pass	[Nichol 02/19/2023 22:58]: Software Version test is success.
8					
9					
10					

5. Responsive

No	Test	Expected Output	Actual output	Test Result	Test comments
1	Logo	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Logo test is success.
2	Navigation bar	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Navigation Bar test is success.
3	Home Page	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Home Page test is success.
4	Course Schedule Page	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Course Schedule Page test is success.
5	Course Preview Page	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Course Preview Page test is success.

6	About Page	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: About Page test is success.
7	Privacy Policy Page	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Privacy Policy Page test is success.
8	Site Map Page	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Site Map Page test is success.
9	Contact Us Page	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Contact Us Page test is success.
10	Footer	Responsive	Responsive	Pass	[Nichol 02/19/2023 22:58]: Footer test is success.