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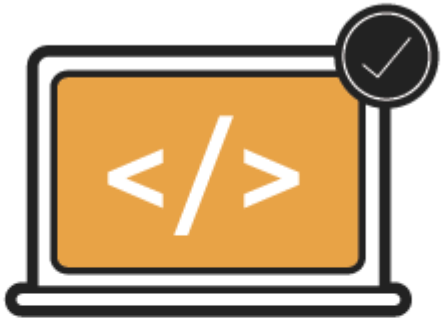

FRONT END WEB DEVELOPMENT FUNDAMENTALS

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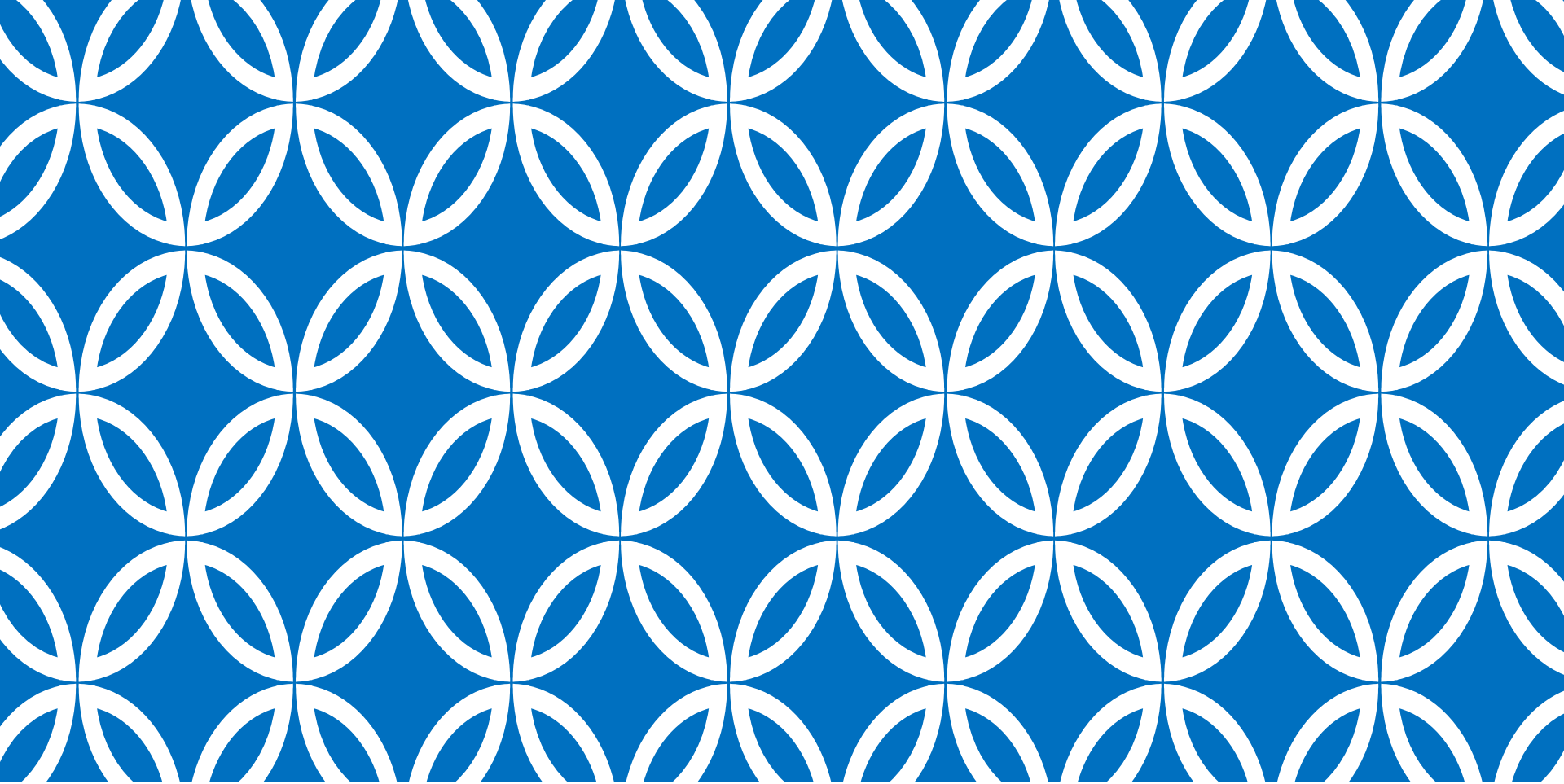

Session 6 –HTML 5

Agenda – HTML & HTML 5 Basics

Sl No	Agenda Title
1	What is HTML5?
2	Differences Between HTML4 & HTML5
3	HTML Structure
4	Semantic Tags
5	HTML5 Form
6	HTML5 Form Attributes
7	HTML5 Input Types

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8	HTML5 Form Elements
9	HTML Storage
10	HTML Geolocation and Methods
11	<figure> Element
12	HTML Video Tags
13	HTML Audio Tags
14	Modenizer

What is HTML5?

- **HTML5** is the successor of HTML 4.01 and XHTML 1.1.
- **HTML5** comes with new tags, features and APIs.

Wondering what it takes to get it started?

1. Any Text editor such as **Notepad++, EditPlus, TextMate, Dreamweaver**
2. Modern browsers such as **Firefox 3.5 +, IE9, Chrome, Safari**
3. Prior knowledge of **HTML 4**

What is HTML5 (contd.)

- **HTML5** is the new standard for HTML.
- The previous version of HTML was HTML 4.01 which was released in 1999.
- **HTML5** was designed to deliver almost everything you want to do online.
- **HTML5** is a cooperation between the World Wide Web Consortium (W3C) and the Web Hypertext Application Technology Working Group (WHATWG).
- **HTML5** does everything from animation to apps, music to movies.
- The new standard incorporates features like video playback and drag-and-drop that have been previously dependent on third-party browser plug-ins such as Adobe Flash, Microsoft Silverlight, and Google Gears.
- **HTML5** is cross – platform.
- It does not care whether you are using Tablet, smartphone, a notebook, or smart TV.

Differences Between HTML4 & HTML5

- Simplified and Clear syntax.
- The new **<canvas>** tag for 2D drawings. It is used to draw graphics using JavaScript.
- New contents-specific elements, like **<article>, <header>,<footer>, <nav>, <section>**.
- New **<Menu>** and **<figure>** elements.
- New form controls, like calendar, date, time, email, url, search.
- No more **<frame>, , <big>, <frameset>, <strike>** in HTML5.
- Support for local storage.

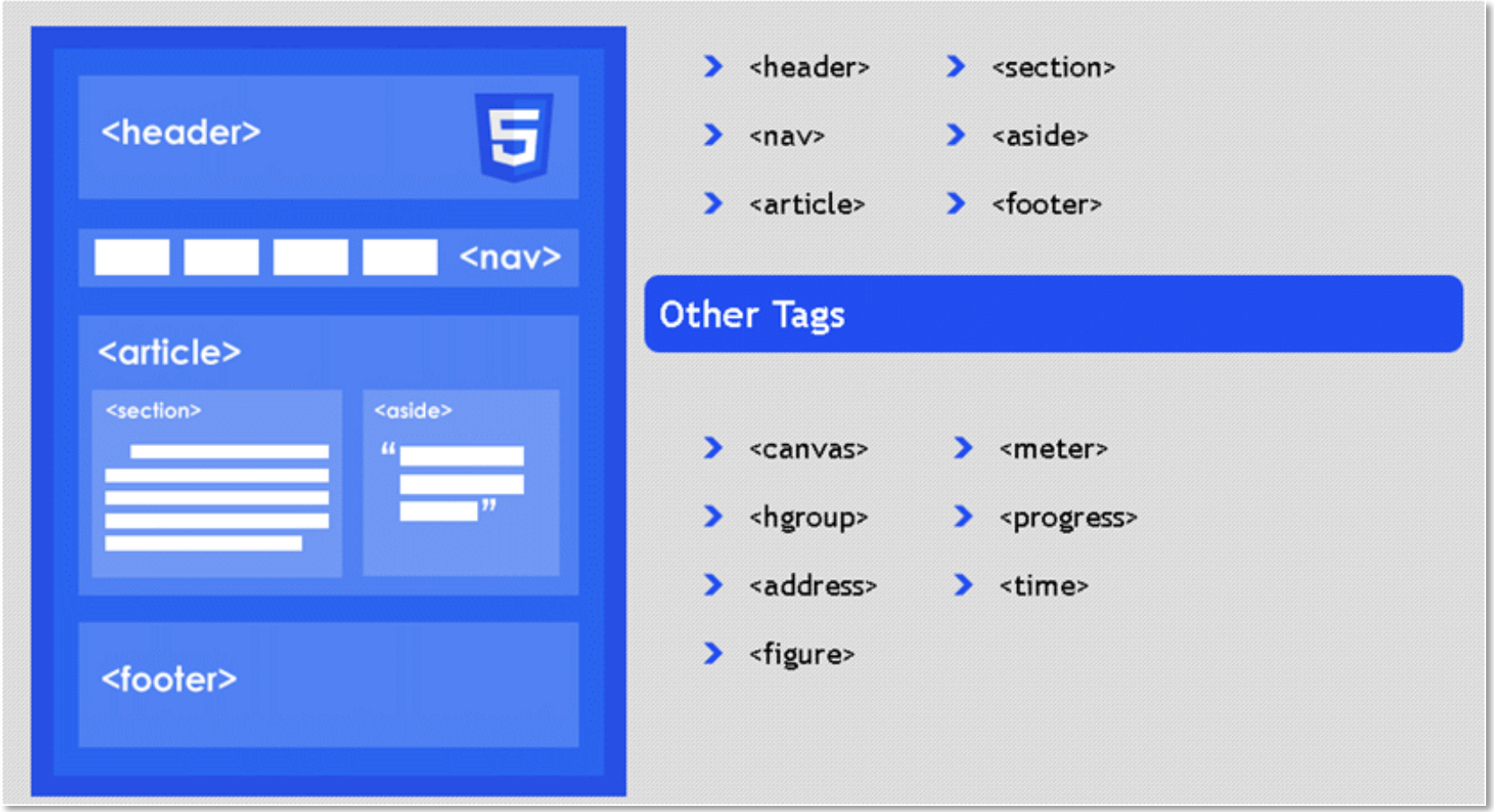
HTML Structure

- An HTML page first starts with the DOCTYPE declaration, which defines the document type to be HTML.
- The text between **<html> and </html>** describes an HTML document.
- The text between **<head> and </head>** provides information about the document.
- The text between **<title> and </title>** provides a title to the document.
- The text between **<body> and </body>** describes the visible page content.

```
<!DOCTYPE html>
<html>

    <head>
        <title>Title of the
    document</title>
    </head>

    <body>
        That's all I need to create
    my first HTML5 page
    </body>

</html>
```

Semantic Tags

- Following are the tags used to organize and describe the content.



HTML5 Form

- HTML5 not only makes **marking up forms easier** for the developer, it's also better for the user.
- With client-side validation being handled natively by the browser, there will be **greater consistency** across different sites, and many **pages will load faster** without all the redundant JavaScript.
- Lets discuss the various features associated with forms:
  - HTML5 Form Attributes
  - HTML5 Input Types
  - HTML5 Form Elements

HTML5 Form Attributes

- <form> / <input> autocomplete Attribute
- <form> / <input> novalidate Attribute
- <input> autofocus Attribute
- <input> formaction Attribute
- <input> formmethod Attribute
- <input> formnovalidate Attribute
- <input> formtarget Attribute
- <input> list Attribute
- <input> required Attribute
- <input> placeholder Attribute
- <input> multiple Attribute

HTML5 Input Types

- HTML5 gives us input types that provide for more data-specific UI elements and native data validation.
- HTML5 has a total of 13 new input types:

search	week
email	time
url	datetime-local
tel	number
date	range
month	color
datetime	

HTML5 Form Elements

<input type> keygen

- The purpose of the <keygen> element is to provide a secure way to authenticate users.
- The <keygen> element specifies a key-pair generator field used for forms.
- When the form is submitted, two keys are generated, one private and one public.
  - The private key is stored locally, and the public key is sent to the server.
  - The public key could be used to generate a client certificate to authenticate the user in the future.

<input type> output

- The <output> element represents the result of a calculation (like one performed by a script).

HTML Storage

- Web Storage simply provides a key-value mapping,

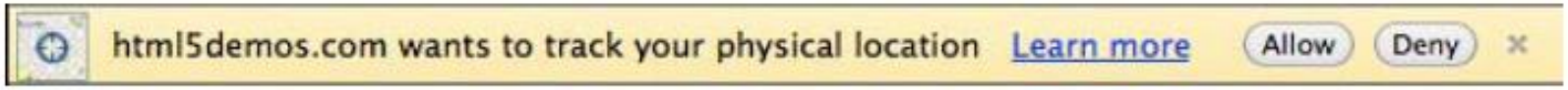
  Example, localStorage["name"] = username;
- Unfortunately, present implementations only support string-to-string mappings, so you need to serialize and de-serialize other data structures.
- You can do so using JSON.stringify()and JSON.parse().
- Web SQL Database gives you all the power and effect of a structured SQL relational database.
- Web SQL Database is a web page API for storing data in databases that can be queried using a variant of SQL.
- Local Storage allows us to save persistent data to the user's computer, via the browser. When a user revisits a site at a later date, any data saved to local storage can be retrieved.

HTML Geolocation

- **Geolocation** allows visitors to share their current location.
- Location are determined by any of the following:
  - IP address
  - Wireless network connection
  - Cell tower
  - GPS hardware on the device

Privacy Concerns

- Not everyone will want to share their location as there are privacy concerns related to this information. Thus, the position is not available unless the user/ visitors approves for the same.
- Nothing will be passed along to the site or web application unless the user agrees for it.
- The decision is made via a **prompt** at the top of the browser as shown below:



Geolocation Methods

- These different tasks are controlled through the three methods currently available in the Geolocation API. These are:
  - getCurrentPosition
  - watchPosition
  - clearPosition

<figure> Element

- The **<figure>** element is used to mark up a photo in a document.
- The <figure> element specifies self-contained content like illustrations, diagrams, photos, code listings, etc.
- Content of the **<figure>** element is related to the main flow but its position is independent of the main flow. So if <figure> tag is removed, it does not affect the flow of the document.

```
<figure>
        <img src="insect.jpg" alt="Insect image">
        <figcaption>Caption for the Insect image</figcaption>
</figure>
```

HTML Video Tags

- **HTML5 video tag** is used to display videos.

```
<video controls>

<source
        src=“movie.webm"
        type=‘ video/webm; codecs="vp8, vorbis“ '/>

 <source
        src=“movie.mp4"
        type=‘ video/mp4; codecs="avc1.42E01E, mp4a.40.2“ '/>

</video>
```

HTML Audio Tags

- **HTML5** audio tag is used to display audio.

```
<audio>

 <source
          src="song.mp3"    type="audio/mpeg"/>

</audio>
```

Modernizr

- **Modernizr** ,a tool for HTML5 verification of tags in HTM5 and features.
- **Modernizr** is a small JavaScript Library that detects the availability of native implementations for HTML5 Features and CSS.
- **Modernizr** provides an easy way to detect any new feature so that you can take corresponding action.
- Just load the Modernizr script at the head section of DOM

```
<script
      src="modernizr.min.js"
      type="text/javascript">
</script>
```

Lets Discuss Assignments

Assignment