Introduction

<u>About me</u>

Vijay Shivakumar
Designer | Developer | Trainer

Adobe Certified Expert

Training & Consultation of
Contemporary Web Technologies and Adobe products from past 20+ years

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Introduction

About You

Designer
Developer
Tester
Content Writer
Prior Knowledge of HTML CSS and JS

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Introduction

About The Workshop

What is CSS ?
Why is it required ?
The past, present and future
Usages, limitations and its workaround

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What is CSS ?

The Cascading Style Sheets is a language that's used to write formatting instructions

how webpage content should 'look'— in terms of : Layout & style

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Why is it required ?

Data with alignment and indents

Data, Alignment & Indents:

16 tablet   56000

17 laptop   210000

18 cellphone 52500

Why is it required ?

Data with alignment, indents and formatting

Data, Alignment, Indents & Formatting :

SI #	Product	Price in INR
16	Tablet	₹ 56000
17	Laptop	₹ 210000
18	Cell Phone	₹ 52500

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Why to use CSS ?

Advantages

Separation of content and presentation

CSS provided in a file or a block that is separate to the (content) HTML that can be more easily be updated.

Smaller webpage file sizes I personally have seen file size reduction up to 50%

Improved webpage download speed

Can be cached for re use

Save bandwidth

Improve rendering performance and speed

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Why to use CSS ?

Advantages More...

Streamlined maintenance

Reduction in errors

Easy up gradation

Different devices different presentations For web For print For mobile etc...

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Where can CSS be used ?

Where to declare the styles

Inline Style :

<h1 style="font-family: Arial">Welcome!</h1>

Embedded Style :

<style>

        h1 {   font-family: Arial; }

</style>

<h1>Welcome!</h1>

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CSS3

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Where can CSS be used ?

Where to declare the styles

Linked Style :

```
<link rel="stylesheet" href="style.css" />
<style type="text/css">
@import "style.css";    or @import  url ("style.css")
</style>
```

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CSS code anatomy

What do you call them ?

```
p {
color: #ff0000;
font-size : 24px;
}
```

```
selector {
property: value ;  - declaration
property: value ;  - declaration        - declaration block        - style rule
}
```

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Selectors & Combinators

Identify specific HTML elements as targets for CSS styles

Element / Tag	div{ prop : val } all <div> elements
Class	.box{ prop : val } all elements with class attribute "box"
Id	#play{ prop : val } the element with "id" attribute "play"
Attribute	[More on Attribute Selectors](#)
Universal	Matches every element
Selector Groups	div, .box, .play { prop : val } all matching elements
Adjacent Sibling	+ Matching element that appear immediately after
General Sibling	~ Matching element that appear any where after

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Selectors & Combinators

Identify specific HTML elements as targets for CSS styles

Descendent	div span{ prop : val } all <span>s that are descendants of a <div>
Pseudo Element	div:before{ prop : val } All elements that match pseudo-element
Pseudo Class	div:hover{ prop : val } All divs with pseudo-class hover
Dynamic Pseudo Class	Dynamic Input Elements that matches :hover :focus :active
Lang Pseudo Class	p:lang(en){ prop : val; } Element that match :lang declaration
Child	More on Child Selectors

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CSS3

Child Selectors

Logical selectors introduced in CSS3

:first-child	Selects an element that is the first child of its parent.
:last-child	Selects an element that is the last child of its parent.
:only-child	Selects an element that is the only child of its parent & no siblings.
:first-of-type	Selects an element that is the first descendent or child of its type.
:last-of-type	Selects an element that is the last descendent or child of its type.
:only-of-type	Selects an element that is the only descendent or child of its type.
:nth-child()	Selects the nth-child of its parent using the value between the parentheses.

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Child Selectors

Logical selectors introduced in CSS3

:nth-of-type	**Selects the nth sibling of its type will select from its parent number / odd / even / 2n**
:nth-last-child	**Selects the nth-child of its parent counting from the last one.**
:nth-first-of-type	**Selects the nth sibling of its type counting from the last one.**
::selection	**User selected content**
:not	**Negation selector**
:empty	**Selects an element with no children**
>	**Child**

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Attribute Selectors

Select an element based on its attribute value

[attr]	**\<div attr\> With attribute attr**
[attr='val']	**\<div attr="val"\> Where attribute attr has value val**
[attr^='val']	**\<div attr="val1 val2"\> Where attr's value begins with val**
[attr$='val']	**\<div attr="sth aval"\> Where the attr's value ends with val**
[attr*='val']	**\<div attr="somevalhere"\> Where attr contains val anywhere**
[attr~='val']	**\<div attr="val val2 val3"\> Where val appears in whitespace-separated list of attr**
[attr|='val']	**\<div attr="val-sth etc"\> Where attr's value is exactly val, or starts with val and immediately followed by -**

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CSS Features

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Types of Elements

Basic classification of element

Inline

Block

Inline-block

Table

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Sources of Styles

Hierarchy of style sheets applied to a page

Browser Styles / User Agent Styles

User Styles
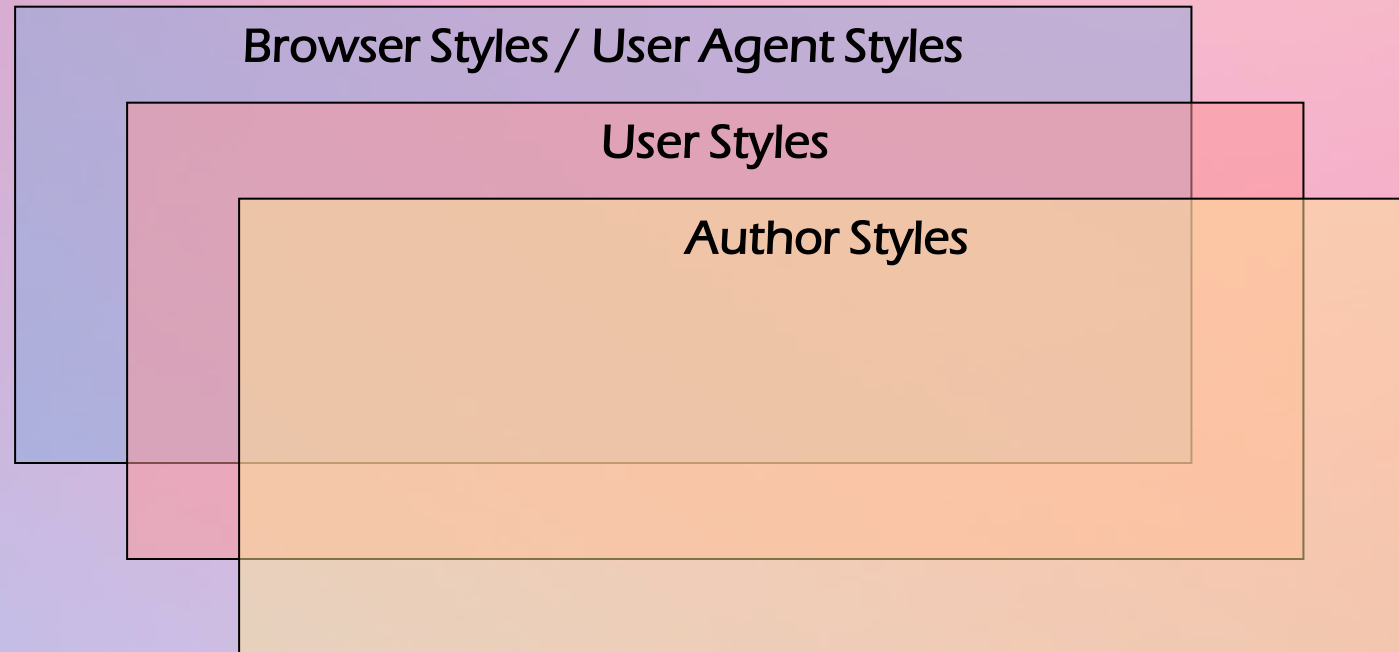
Author Styles

Specificity

Values for selectors

Inline	1000	1.0.0.0
Id	100	1.0.0
Class / Pseudo Class / Attribute	10	1.0
Element / Pseudo Element	1	1

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!important

Override Specificity

The order of importance

       User styles flagged as !important

       Author styles flagged as !important

       Author styles

       User styles

       Styles applied by the browser/user agent

Presentation properties and Values

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CSS Units

Units of measurement

px | pixel value

% | percentage

em | width of em

rem | relative width of em

vw | view port width

vh | view port hieght

vmin | view port minimum

vmax | view port maximum

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Border

Border to elements

border-top-width : 1px | border-right-width : 1px | border-bottom-width : 1px | border-left-width : 1px

border-width : thin, thick, medium sizes are allowed

border : 2px solid red - short form

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CSS

Margin

Space between elements

margin-top: 5px;

margin-right: 5px;

margin-bottom: 5px;

margin-left: 5px;

margin:<top> <right> <bottom> <left>

margin:<left> <right> <top | bottom>

margin:<left | right> < top | bottom>

margin:<top | right | bottom | left>

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Padding

Space between content and container

padding-top: 5px;

padding-right: 5px;

padding-bottom: 5px;

padding-left: 5px;

padding:<top> <right> <bottom> <left>

padding:<left> <right> <top | bottom>
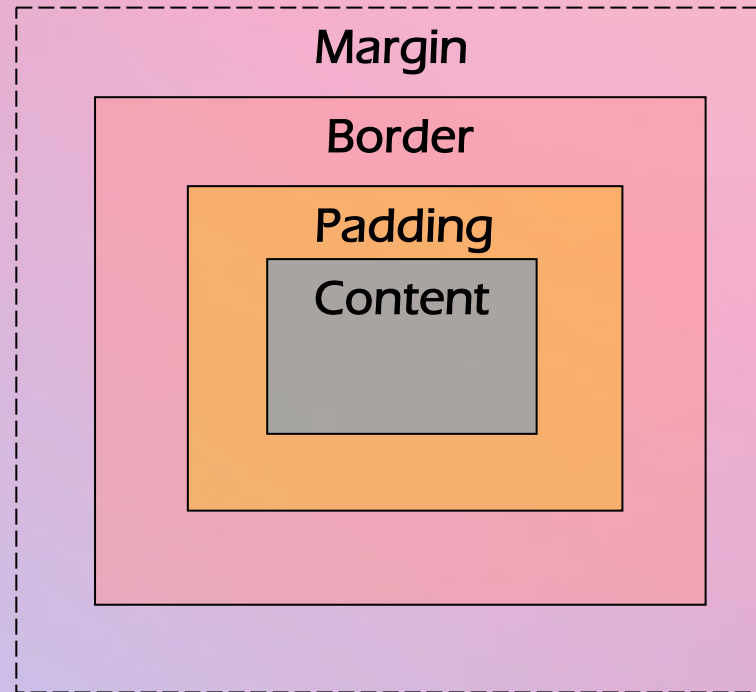
padding:<left | right> < top | bottom>

padding :<top | right | bottom | left>

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Layouts

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CSS box model

How to calculate the computed width and height

Margin

Border

Padding

Content

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Float Layout

Simple Layout with floats

float: left   - floats to the left of siblings

float: right   - floats to the right of siblings

clear : left   - clears the siblings floating to left

clear : right   - clears the sibling floating to right

clear : both   - clears the sibling floating left or right

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CSS3 Flex box module

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CSS

Flex Box Module

Flexible layouts

Highly optimised for UI design, they are flexible.

They can be laid out in any direction both horizontally and vertically in any order and can be flexible.

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Flex Box History

How we got here...

An implementation by Mozilla in XUL

July 2009 Working Draft (display: box;)

March 2011 Working Draft (display: flexbox;)

November 2011 Working Draft (display: flexbox;)

March 2012 Working Draft (display: flexbox;)

June 2012 Working Draft (display: flex;)

September 2012 Candidate Recommendation (display: flex;)

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Flex Box Properties

Properties on parent

display : flex

flex-direction : row | row-reverse | column | column-reverse;

flex-wrap: nowrap| wrap | wrap-reverse;

flex-flow: shorthand for flex direction and flex wrap

justify-content: flex-start| | flex-end | center | space-between |

space-around | space-evenly | start | end | left | right;

align-items: stretch | flex-start | flex-end | center | baseline | start | end | self-start | self-end ;

align-content: normal | flex-start | flex-end | center | space-between | space-around | space-evenly | stretch | start | end | baseline ;

gap : single value / gap : multiple values / row-gap : px value / column-gap : px value

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Flex Box Properties
Properties on child element

flex-basis: auto (value in px);

flex-grow: 0; (value in number)

flex-shrink: 1; (value in number)

flex: none ; / flex-grow flex-shrink flex-basis

order: 0;

align-self: auto | flex-start | flex-end | center | baseline | stretch;
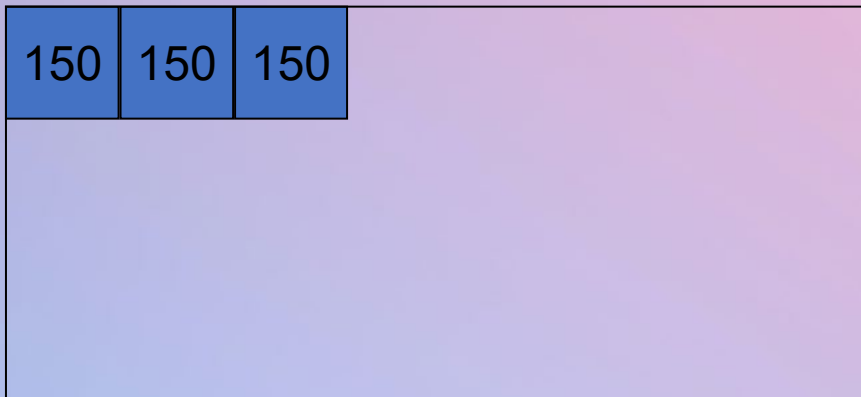
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Flex box

flex-basis

flex-basis : auto(default) | width in px, percent, rem, em

With 150px it will make the element to have a basic size of 150px
You can think of this as the natural width of the element until other layout properties affect it
which is the max width they can grow.

| 150 | 150 | 150 |

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CSS Grids Module

Grids for layout

Properties on parent element

    display : grid;

Properties on nested elements

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CSS3 Modules

New in CSS3

Flex box

Grid

Box Sizing

Border radius

Border Image

Box, text shadow

Transparency

Background Images

Multi column

Media queries

Font embedding

Transformations

Animation

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CSS3 Box Sizing Module

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Sizing Module

Box sizing

content-box - Makes the selected element to take the content width within the assigned width. (default)

border-box - Makes the selection to restrict the padding and the border within the width of the element, and wont grow outside.

```
selector{
        box-sizing: border-box;
}
* , *:before, *:after{
        box-sizing : border-box;
}
```

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CSS3 Border Radius Module

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Border Radius

No more boxes

Details

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CSS3 Border Image Module

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CSS

Border Image

The scale 9 images

Details

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CSS

Box – Text Shadow

Single and multiple

Details

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CSS

Opacity

Transparency and Opacity

Details

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Gradient

Lets add more colors

Details

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CSS3 Background Image Module

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Background Images

composition

Details

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Multi column Text Layout

composition

CSS

Details

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CSS3 Media Query

@media-query : query device for its properties

Ethan Marcotte coined the term responsive web design (RWD) in a May 2010 article in A List Apart.

CSS3 Media Query

What can we query for ?

Media Queries allow you to style elements for specific devices as per their

Resolution

    device-width

    device-height

    resolution

Aspect ratio

Orientation

    orientation : landscape / portrait

Color index

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CSS3 @FontFace for font embedding

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@font-face

Support for custom fonts

@font-face was created by Microsoft

EOT : Embedded Open Type.

A proprietary file standard supported only by IE8 and older browsers.

OTF / TTF : OpenType Font and TrueType Font.

An initial standardized version for older browsers.

SVG : Scalable Vector Graphics

This format is the only allowed by Safari for iOS below version 4.1

WOFF / WOFF2 : Web Open Font Format

Developed by Mozilla, compressed ,loads faster, includes metadata & license info.

Future web standard followed by all browsers..

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CSS3

@font-face

Support for custom fonts

```css
@font-face {
  font-family: 'NewFontName';
  src: url('webfont.eot'); /* for IE9 */
  src: local('local avalialbe name'),
      url('webfont.eot?#iefix') format('embedded-opentype'), /* IE6-IE8 */
      url('webfont.woff2') format('woff2'), /* Browsers that support the latest features */
      url('webfont.woff') format('woff'),   /* Browsers that support the latest features */
      url('webfont.ttf')  format('truetype'), /* Most browsers and devices */
      url('webfont.svg#svgFontName') format('svg'); /* Legacy iOS devices */
}
.container {
  font-family: 'NewFontName', FallbackFontName, sans-serif;
}
```

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CSS3 Transformations

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Transformations

CSS3 Transform property

skew | skewX | skewY

transform: skew(45deg) / skewX(45deg) / skewY(45deg)

scale | scaleX | scaleY | scaleZ

transform: scale(1) / scaleX(2) / scaleY(3)

rotate | rotateX | rotateY | rotateZ

transform: rotate(45deg) / rotateX(45deg) / rotateY(45deg) /rotate(45deg)

translate | translateX | translateY

transform: translate(50px) / translateX(45px) / translateY(45px)

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Keyframes

Configurations for CSS3 animation with from and to

```
@keyframes keyFrameName{

    from{

        prop: val;

    }

    to{

        prop: val;

    }

}
```

```
selector{

animation-name: keyFrameName;

animation-duration: 3s;

}
```

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Keyframes

Configurations for CSS3 animation with ratio

```
@keyframes keyFrameName{

    10%{

    }

    50%{

    }

    100%{

    }

}
```

```
selector{

animation-name: keyFrameName;

animation-duration: 3s;

}
```

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Animation related properties

And their values

animation-name : myAnimationName

specifies the name of the @keyframes

animation-delay : 6s / 120ms

delay between the time the page is loaded & animation.

animation-direction : normal / reverse / alternate / alternate-reverse

alternate direction on each run through the sequence or reset to the start point and repeat itself.

animation-duration : 6s / 120ms

time that an animation should take to complete one cycle.

animation-iteration-count : infinite / number / initial (default = 1)

number of times the animation should repeat.

animation-play-state : paused / running / initial / inherit

lets you pause and resume the animation sequence.

animation-timing-function : ease / ease-in / ease-out / ease-in-out / linear / cubic-bezier / step-start / step-end / steps(i start / end) / initial / inherit

how the animation transitions through keyframes, by establishing acceleration curves.

animation-fill-mode : none / forwards / backwords / both / initial /inherit

values applied by the animation before & after it is executing.

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Thank you

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