**🌟 CSS Effects: Opacity & Transitions**

**🌫️ \*\*1. Opacity Sets Transparency\*\***

The `opacity` property controls the \*\*transparency level\*\* of an element.

**✅ Value Range:**

`0` = fully transparent

`1` = fully opaque

Any decimal (e.g. `0.5`) = 50% transparent

**🧪 Example:**

```html

<style>

.transparent-box {

width: 200px;

height: 100px;

background: black;

opacity: 0.5;

color: white;

}

</style>

<div class="transparent-box">50% transparent</div>

**🔁 \*\*2. Transitions for Smooth Changes\*\***

The `transition` property lets you animate changes to CSS values like `opacity`, `color`, `transform`, etc.

**✅ Example: Fade on Hover**

```html

<style>

.fade-box {

background: blue;

color: white;

padding: 20px;

opacity: 1;

transition: opacity 0.4s ease-in-out;

}

.fade-box:hover {

opacity: 0.4;

}

</style>

<div class="fade-box">Hover me to fade</div>

**⏱️ \*\*3. Define Duration & Easing Style\*\***

**Key Properties:**

| Property | Description |

| ---------------------------- | ----------------------------------------------------------- |

| `transition-property` | CSS property to animate (e.g. `opacity`) |

| `transition-duration` | Time in `s` or `ms` (e.g. `0.5s`) |

| `transition-timing-function` | Defines the speed curve (`ease`, `linear`, `ease-in`, etc.) |

| `transition-delay` | Delay before starting the transition |

**🧪 Full Example:**

```css

transition: opacity 0.3s ease-in 0.1s;

**🎨 \*\*4. Enhance User Experience with Effects\*\***

Using transitions and opacity:

\* Makes UI \*\*feel smoother and more interactive\*\*

\* Improves \*\*accessibility\*\* and \*\*user feedback\*\*

\* Adds visual clarity (e.g., fade tooltips, popups, buttons)

**✅ Button Example with Opacity + Transition:**

```html

<style>

.btn {

background: green;

color: white;

padding: 10px 20px;

opacity: 1;

transition: opacity 0.3s ease;

}

.btn:hover {

opacity: 0.7;

}

</style>

<button class="btn">Hover Me</button>