Fancy Hello World

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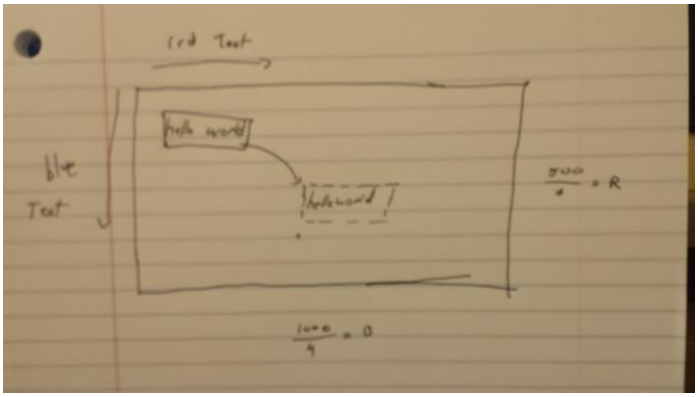

Introduction:

This paper details how the fancy hello world program was developed. The original idea was a floating message “Hello World” that could be dragged and dropped around the screen. The color of the text would then change based on the position of the message, the further right the higher red value it would and the further down it went the higher the blue value.

The final program was a message that could be dragged around a box and dropped anywhere inside where the message would remain until moved again. Having the text color change based on the position wasn’t possible, instead the color is changed randomly via a randomly generated hex-color code.

Body:

HTML has a built in drag and drop function so it’s not too difficult to get running, however the default HTML drag and drop doesn’t have the dragged item remain so the location has to be changed to the new position. For this program the Hello World message is an aside, the aside is set to have the ‘draggable’ be set to true. And ondragstart event will trigger the drag function activate. The area that the aside can be dropped in is a div, that has the ondrop event trigger the ondrop function and the ondragover event triggers the drag_over function.

```
<aside draggable="true" id="dragme" ondragstart="drag(event)" >
Hello World.
</aside>

<div id="div1"  ondrop="drop(event)" ondragover="drag_over(event)">
</div>
```

The drag function works by getting the style of the object that triggered the drag event, in the program the only one that can be dragged is the aside. The offset of the original and new position is sent using event. DataTransfer.

```
//Go here when the object is clicked and dragged away
function drag(ev) {

    //Get the style of the the target; the Hello World aside
    var style = window.getComputedStyle(ev.target, null);

    //Transfer the offset of pixles from before the drag and the end
    ev.dataTransfer.setData("text/plain",
        (parseInt(style.getPropertyValue("left"),10) - ev.clientX) + ',' +
        (parseInt(style.getPropertyValue("top"),10) - ev.clientY));
}
```

```
//Go here when the dragged object is over another object
function drag_over(event) {
    //Defualt: an object can't be over another object
   event.preventDefault();
}
```

HTML defaults to not allowing two objects to be dragged across each other, on the drag_over function disables the default so an object can be dragged on another.

The drop function is activated when the left mouse is picked up and the object is dropped. HTML treats an object dropped into another object as a redirect; in developing the program there was a constant error that when the aside was dropped on the div the browser would redirect to “dragme.com”, the ID of the aside. The offset is grabbed from the dataTransfer and the style of the aside is set to the variable dm. The location of the aside is set to the new location based on the offset. Finally, the color of the text is changed from a random color generated from getRandomColor.

```
//Go here when the object is released
function drop(ev) {

   //Default: using the droped object as an address
   ev.preventDefault();

   //change the postion of the dragged object using the offset from drag
   var offset = ev.dataTransfer.getData("text/plain").split(',');
   var dm = document.getElementById('dragme');
   dm.style.left = (ev.clientX + parseInt(offset[0],10)) + 'px';
   dm.style.top = (ev.clientY + parseInt(offset[1],10)) + 'px';

   //Change the font in the object to a random color
   dm.style.color = getRandomColor();


}
```

```
//Go here when called from drop
function getRandomColor() {

    //Generate a random HexDec color code
    var letters = '0123456789ABCDEF';
    var color = '#';
    for (var i = 0; i < 6; i++ ) {
        color += letters[Math.floor(Math.random() * 16)];
    }
    return color;
}
```

Get random color randomly generates a random hex color code using the math. Random function.

Reflections:

The program wasn't difficult to make, the main problem was not being able to set the color of the text in the aside using RGB values. I was only able to find, and get working, color changing using the hex code and color names. The color changing based on the location was the only idea able to implement from the original idea, while it would be cool if it was able to work I am satisfied with how it turned out.