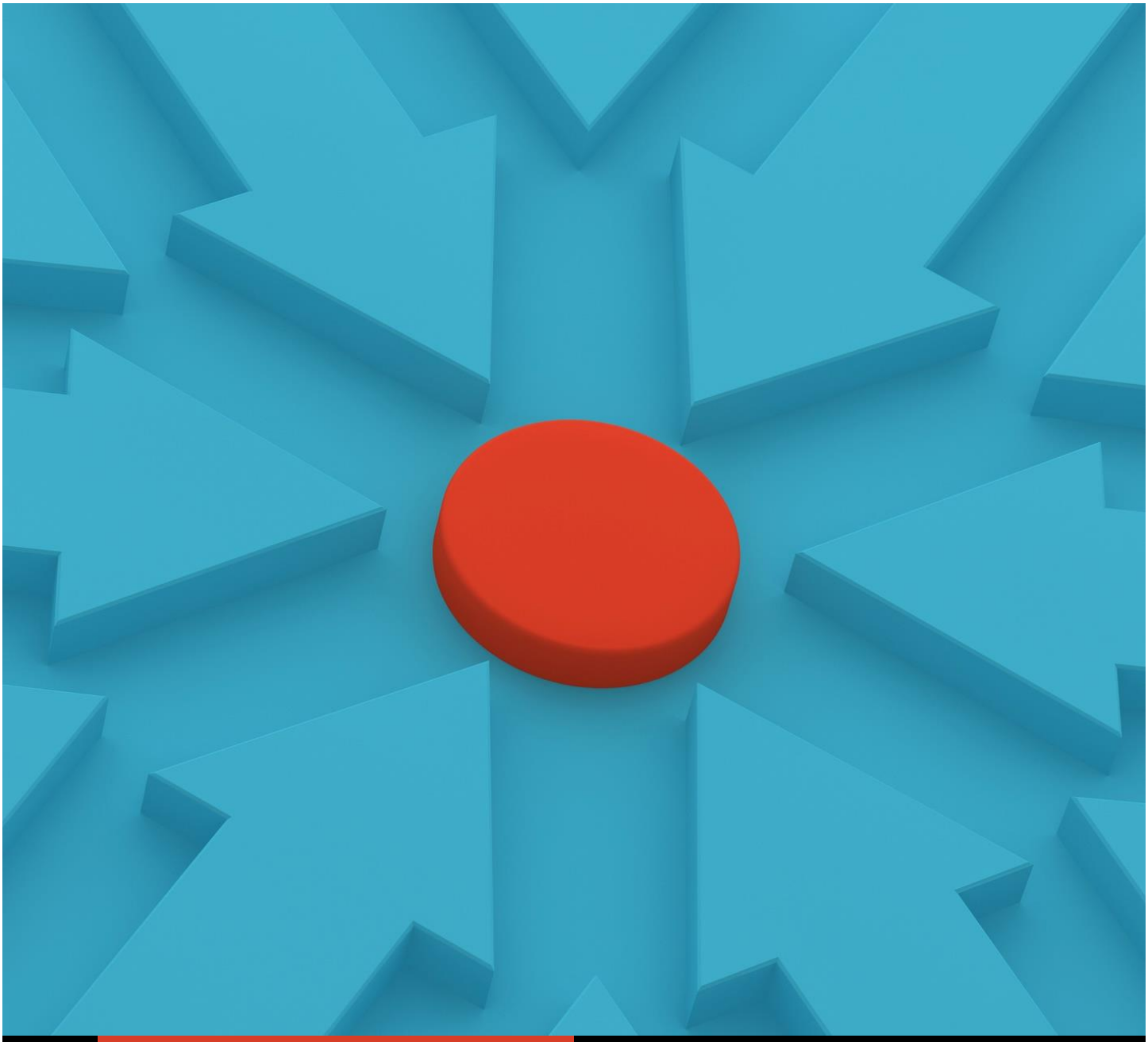

SOFTWARE DESIGN DOCUMENT

INTERVIEW ASSIGNMENT

DELOITTE

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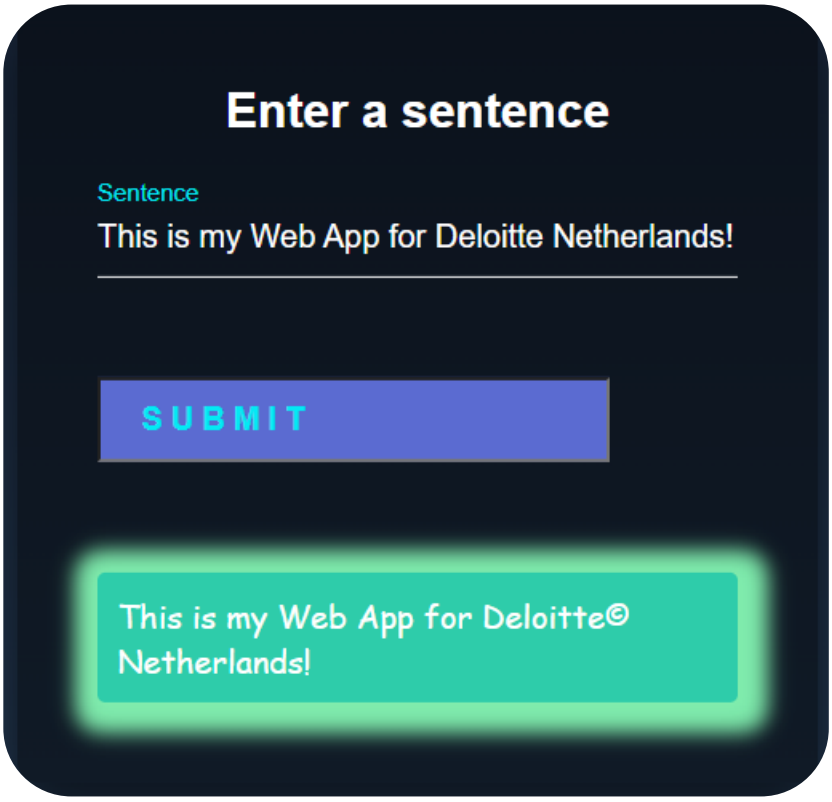
OVERVIEW

This is the design document for the Web App which was created for the Deloitte interview process. The website was created in Azure using an Azure App Services and uses HTML, Node.js and CSS as the backend.



Problem statement

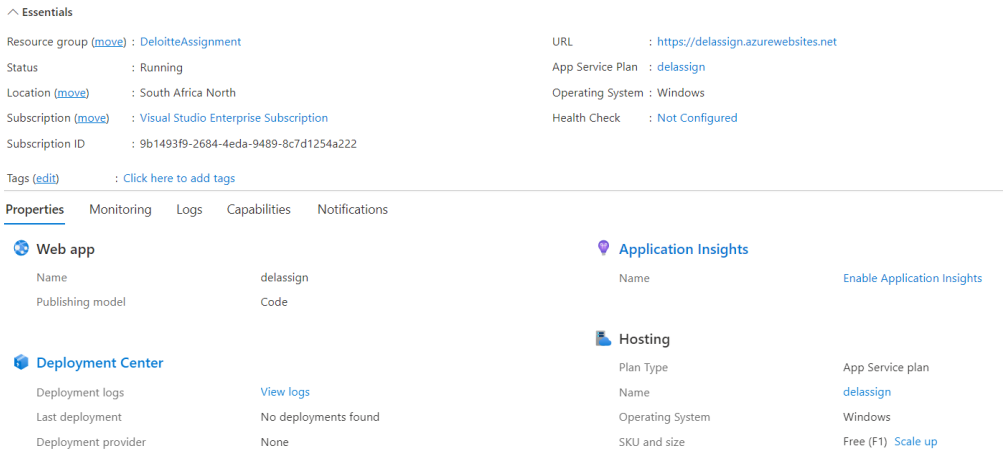
Build an API that will use a string as input and does a find and replace for certain words and outputs the result. For example: replace Google for Google©.
Words which need to be replaced are listed below:

- Oracle -> Oracle©
- Google -> Google©
- Microsoft -> Microsoft©
- Amazon -> Amazon©
- Deloitte -> Deloitte©

SOLUTION OVERVIEW

Azure App Service

The host which was decided on was Azure App Service which is an HTTP-based service for hosting web applications.
The deployment was done through an Azure Resource Manager Template which has been uploaded to the repository and uses the Free tier SKU. The operating system used is Windows for containerization and it runs with basic configurations.



HTML

HTML was used as the markup language for the webpage. There were three main elements used in the design of the HTML which are described below:

- Input box (*inputbx*) - used to input the initial sentence which will need to be converted
- Button (*button1*) – used for the onclick function to call the *testResults* function in JavaScript which is described in the Node.js section.
- Output Div (outsentence) – used to output the final result of the converted sentence.

The script also contains other elements such as title, labels and line breaks to make the design of the webpage more user friendly.

```html
<!DOCTYPE html>
<html lang="en" dir="ltr">
    <head>
      <title>Deloitte Assignment</title>


  </head>

      <meta charset="utf-8">
      <title> Assignment</title>
      <script defer src="src/index" charset="utf-8"></script>

    <body>

        <div class="mainassign">
          <h2>Enter a sentence</h2>
          <form>
            <div class="inputbx" >
              <input type="text" name="inputbox" required="">
              <label>Sentence</label>
            </div>

            <a href="#">
              <span></span>
              <span></span>
              <input class="button button1" Value="Submit" onClick="testResults(this.form)">
              <span></span>
              <span></span>

            </a>
            <br>
            <br>
            <br>
            <br>
            <div id="outsentence" class="outsentence" style="display:none"></div>
          </form>
        </div>
    </body>
```

Figure 1: HTML Code

Node.js

Node.js is a runtime environment for JavaScript and allowed easy integration between the Azure App service, HTML and CSS.
JavaScript was used to create the function which was used to convert the simple sentence into one where certain words needed to be concatenated with the Copyright Symbol (©).

The function *testResults* which is shown below gets the input text from an HTML input box element and stores this value in a *TestVar* variable. A map function (called *mapObj*) which is included in JavaScript was used to map each provided word with the same word which is concatenated with the copyright symbol.
The map function is then called inside a replace function where the word in the sentence is replaced with the concatenated version. This is then displayed in a div element called *outsentence* which is created in the HTML code.

Another role which this function plays is to hide the output div element until the function is called.

```
function testResults (form) {
    var TestVar = form.inputbox.value;
    var T = document.getElementById("outsentence");
    T.style.display = "block";  // <-- Set it to block
    var mapObj = {
      Microsoft:"Microsoft" + "\u00A9",
      Oracle:"Oracle" + "\u00A9",
      Google:"Google" + "\u00A9",
      Amazon: "Amazon" + "\u00A9",
      Deloitte: "Deloitte"  + "\u00A9",
      microsoft:"Microsoft" + "\u00A9",
      oracle:"Oracle" + "\u00A9",
      google:"Google" + "\u00A9",
      amazon: "Amazon" + "\u00A9",
      deloitte: "Deloitte"  + "\u00A9"
    };
    TestVar = TestVar.replace(/Microsoft|Google|Oracle|Amazon|Deloitte|microsoft|google|oracle|amazon|deloitte/gi, function(matched){
      return mapObj[matched];
    });
    //alert(TestVar);
    document.getElementById('outsentence').innerHTML = TestVar;
```

Figure 2: JavaScript Code

CSS

The final language used is CSS which was used to style the HTML document. This made the page more user friendly and allowed the HTML elements to be displayed with different fonts, colours and spacing.

The code used to style the elements is visible in the final webpage. A few of the styling which was used are elements such as hover which causes the button to change colour when a user's mouse pointer moves over the button. A shadow effect was used for the output div to make it more visible for users.

ARM Template

An Azure Resource Manager Template was used to deploy the webapp. This webapp was deployed using basic parameters in order to host the above code.

ACCESSING THE SOLUTION

The final solution can be view by following the link below

Deloitte Assignment (delassign.azurewebsites.net)

The code behind the solution can be accessed through GitHub by going to:

OrishaOrrie/IntAssignment (github.com)

For any issues with access to the solution, please send an email to orisha.orrie@gmail.com