multiplicity

an online blog for writing on youth + the internet

About Multiplicity

Description: A group of students on campus need a website for an article series centered on young people’s perspective on how the internet and technology affects different aspects of their society, politics, and economics globally.

Target audience: college students

Expected value: reach 1000 new users in the first month, publish 10 articles

Software Requirements

Functional

- New articles to be inputted through an accessible template
- Articles to be accessed on the home page
- Archive page to contain all articles

Non-functional

- Mobile version of the website should feel mobile native
- Website should be interactive and dynamic (not the same every time)

Tech Stack

Server & Hosting

- Node.js for a local server
- GitHub Pages for hosting

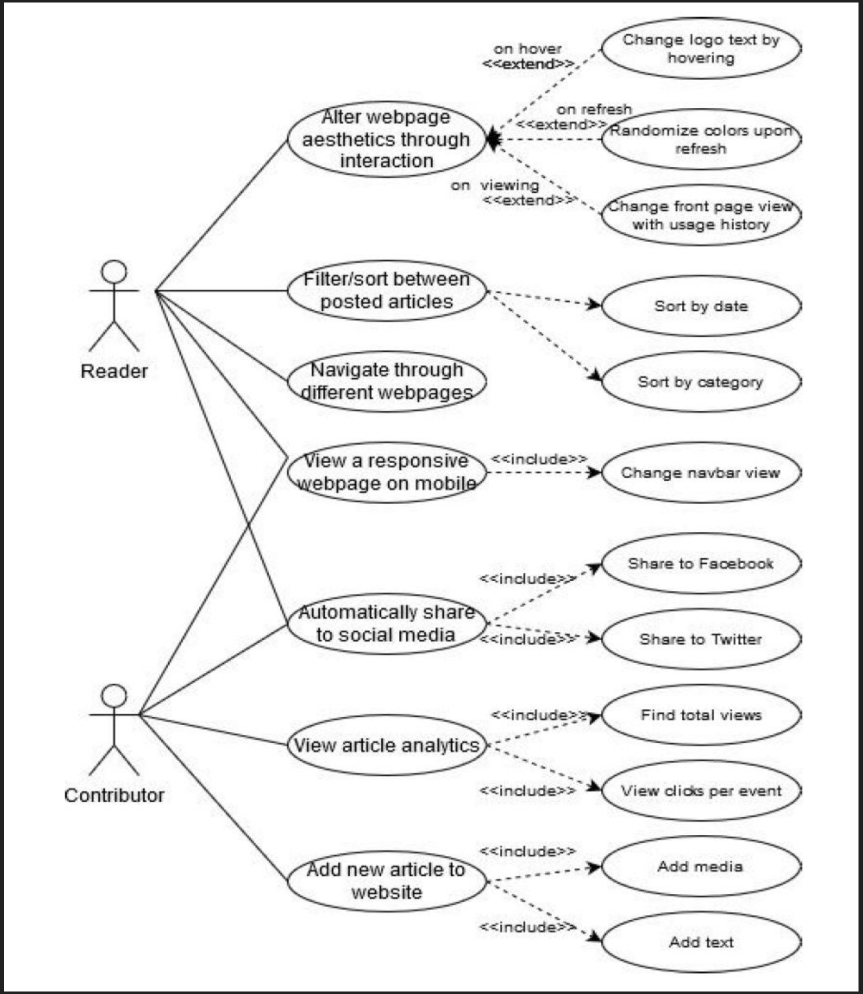
Front End

- **HTML/CSS**
- **JavaScript**
    - Handlebars.js for templating
    - Bootstrap for mobile responsiveness & templates

UML

Use Case Diagram

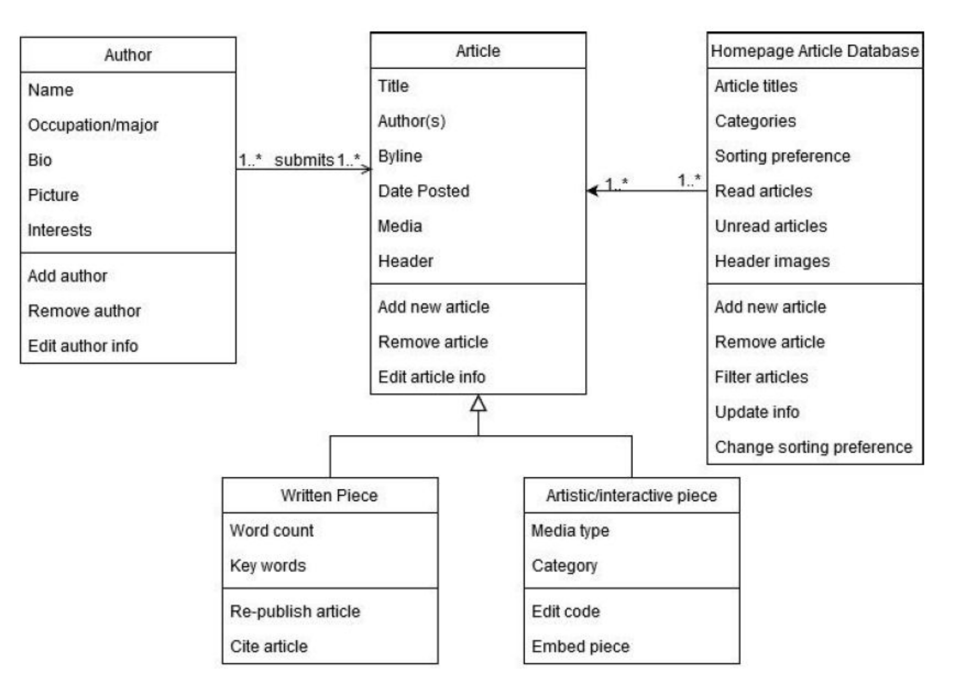
- Sort list of articles
- Navigate through different web pages
- Enable social media tags
- Edit article through template



UML

Class Diagram

- Article database class
- Class per article article
- Author class



Author

Name
Occupation/major
Bio
Picture
Interests

Add author
Remove author
Edit author info

Article

Title
Author(s)
Byline
Date Posted
Media
Header

Add new article
Remove article
Edit article info

Homepage Article Database

Article titles
Categories
Sorting preference
Read articles
Unread articles
Header images

Add new article
Remove article
Filter articles
Update info
Change sorting preference

Written Piece

Word count
Key words

Re-publish article
Cite article

Artistic/interactive piece

Media type
Category

Edit code
Embed piece

GRASP Design Principles

- **Low Cohesion:** creating distance between editing the article text and changing the web pages themselves, to make it more difficult for contributors to make changes by mistake

- **Controller**: a single controller/JS template controls all the articles to achieve consistency & make it easy to use

Working Agile

- We broke the implementation into smaller timed **features** and checked in after each one
- Included our “**clients**” (Lujain Ibrahim and Tom Abi Samra) at every step
- Continuously implemented **feedback**
- Work closely with the team’s **design** goals

Implementation: Design & Code

FONTS

Stencilitta Solid Bold

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz. 1 2 3 4 5 6 7 8 9 / % ? !

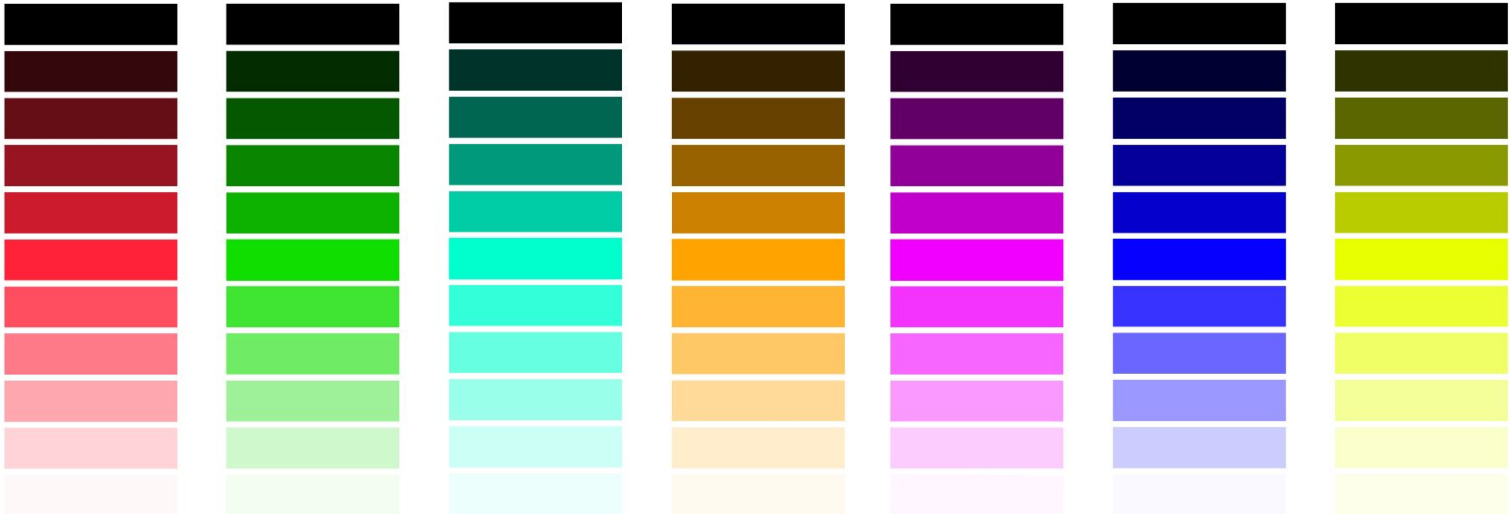
Ministry Medium

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz. 1 2 3 4 5 6 7 8 9 / % ? !

Ministry Light

Aa Bb Cc Dd Ee Ff Gg Hh Ii Jj Kk Ll Mm Nn Oo Pp Qq Rr Ss Tt Uu Vv Ww Xx Yy Zz. 1 2 3 4 5 6 7 8 9 / % ? !

HEX CODE	FF2238	10DD00	00FFCE	FFA300	F200FF	0600FF	E7FF00



multiplicity.tech

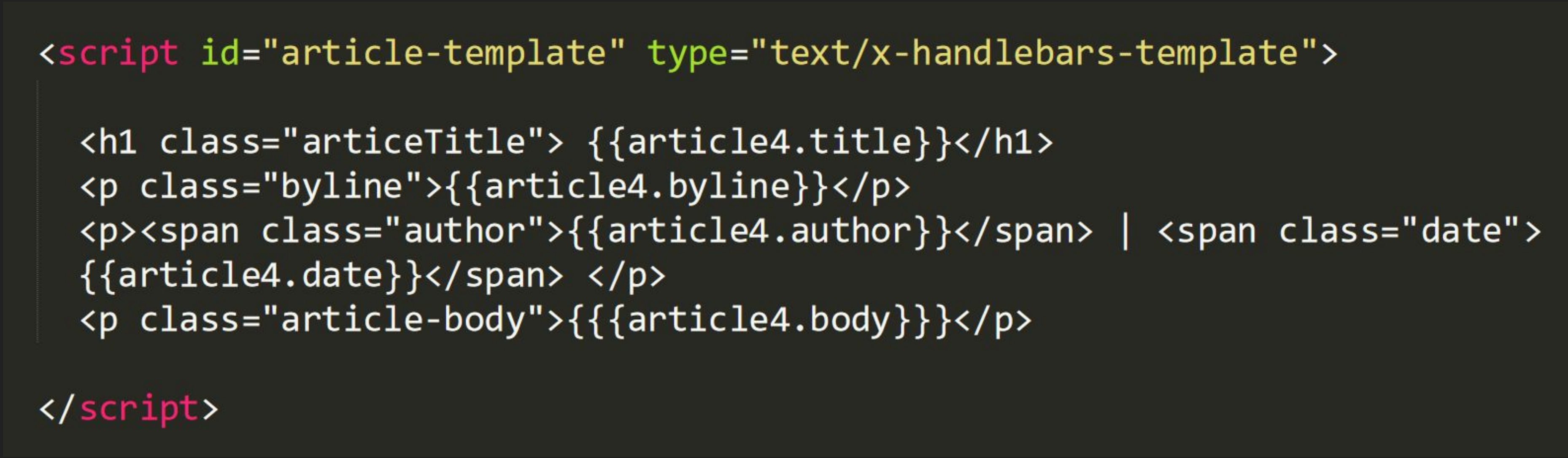
multiplicity.policy

multiplicity.gaming

multiplicity.politics

multiplicity.education

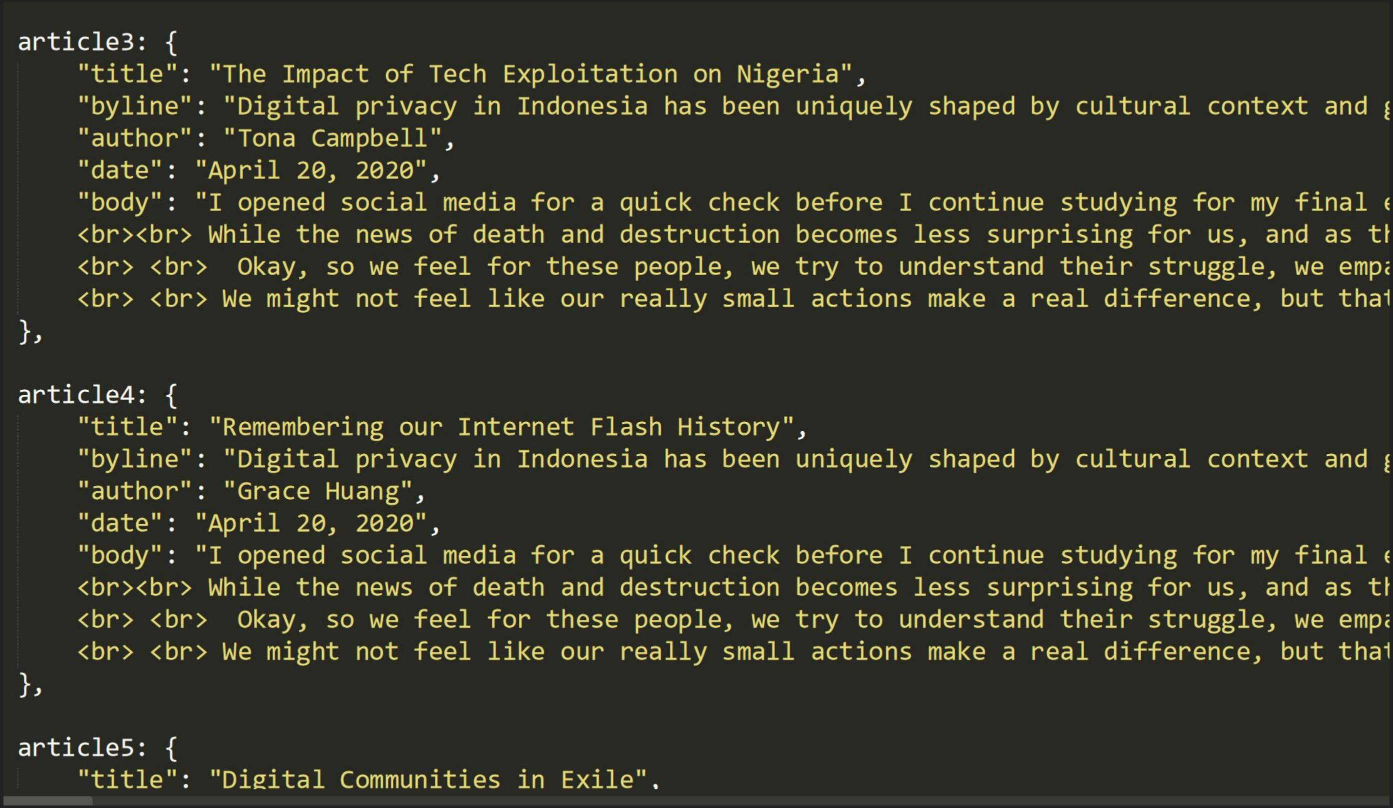
Templating



```
<script id="article-template" type="text/x-handlebars-template">

  <h1 class="articeTitle"> {{article4.title}}</h1>
  <p class="byline">{{article4.byline}}</p>
  <p><span class="author">{{article4.author}}</span> | <span class="date">
  {{article4.date}}</span> </p>
  <p class="article-body">{{{article4.body}}}</p>

</script>
```

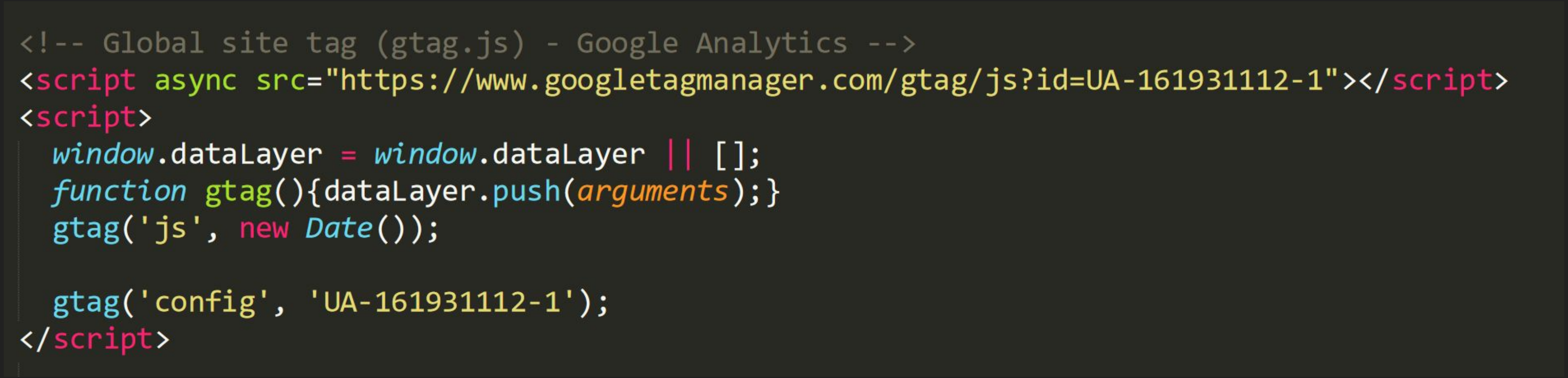
This is the only code on article web pages, so we wouldn’t need to access them to make any changes. Instead, all the content can be controlled from a single json object, compiled into the HTML through handlebars.js.

Templating



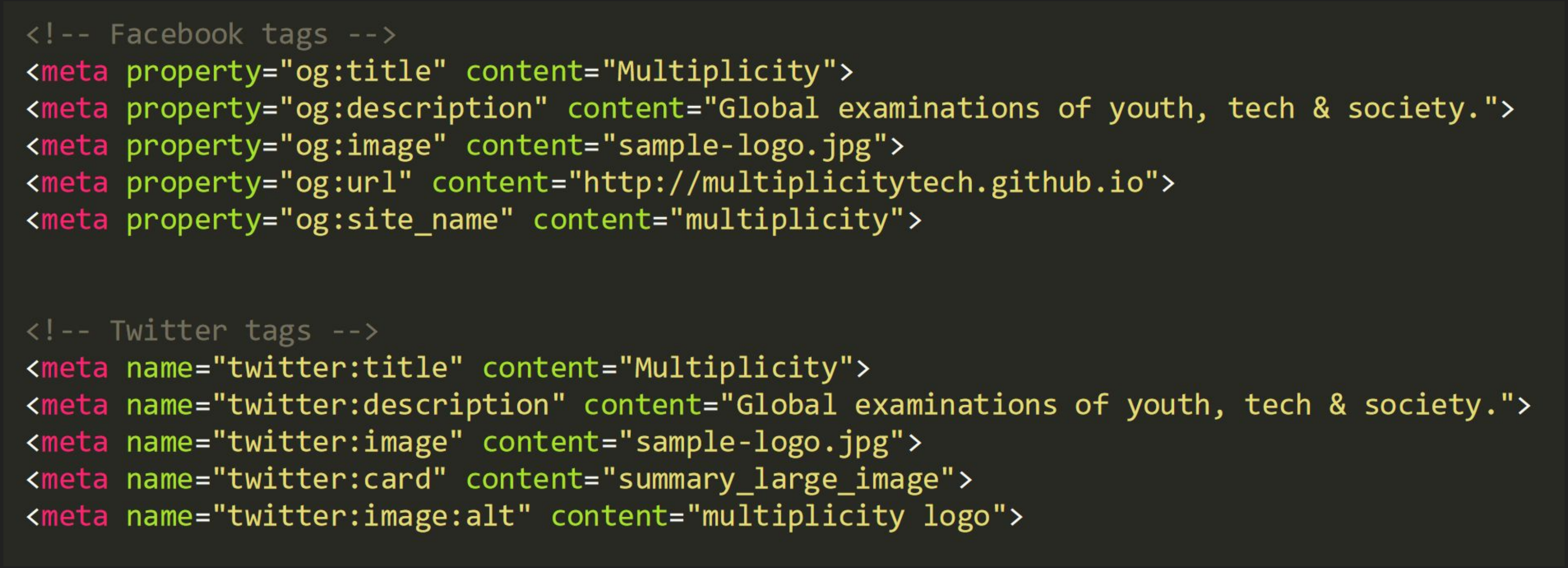
```
article3: {
    "title": "The Impact of Tech Exploitation on Nigeria",
    "byline": "Digital privacy in Indonesia has been uniquely shaped by cultural context and g
    "author": "Tona Campbell",
    "date": "April 20, 2020",
    "body": "I opened social media for a quick check before I continue studying for my final e
    <br><br> While the news of death and destruction becomes less surprising for us, and as th
    <br> <br>  Okay, so we feel for these people, we try to understand their struggle, we empa
    <br> <br> We might not feel like our really small actions make a real difference, but that
},

article4: {
    "title": "Remembering our Internet Flash History",
    "byline": "Digital privacy in Indonesia has been uniquely shaped by cultural context and g
    "author": "Grace Huang",
    "date": "April 20, 2020",
    "body": "I opened social media for a quick check before I continue studying for my final e
    <br><br> While the news of death and destruction becomes less surprising for us, and as th
    <br> <br>  Okay, so we feel for these people, we try to understand their struggle, we empa
    <br> <br> We might not feel like our really small actions make a real difference, but that
},

article5: {
    "title": "Digital Communities in Exile",
```

Google Analytics



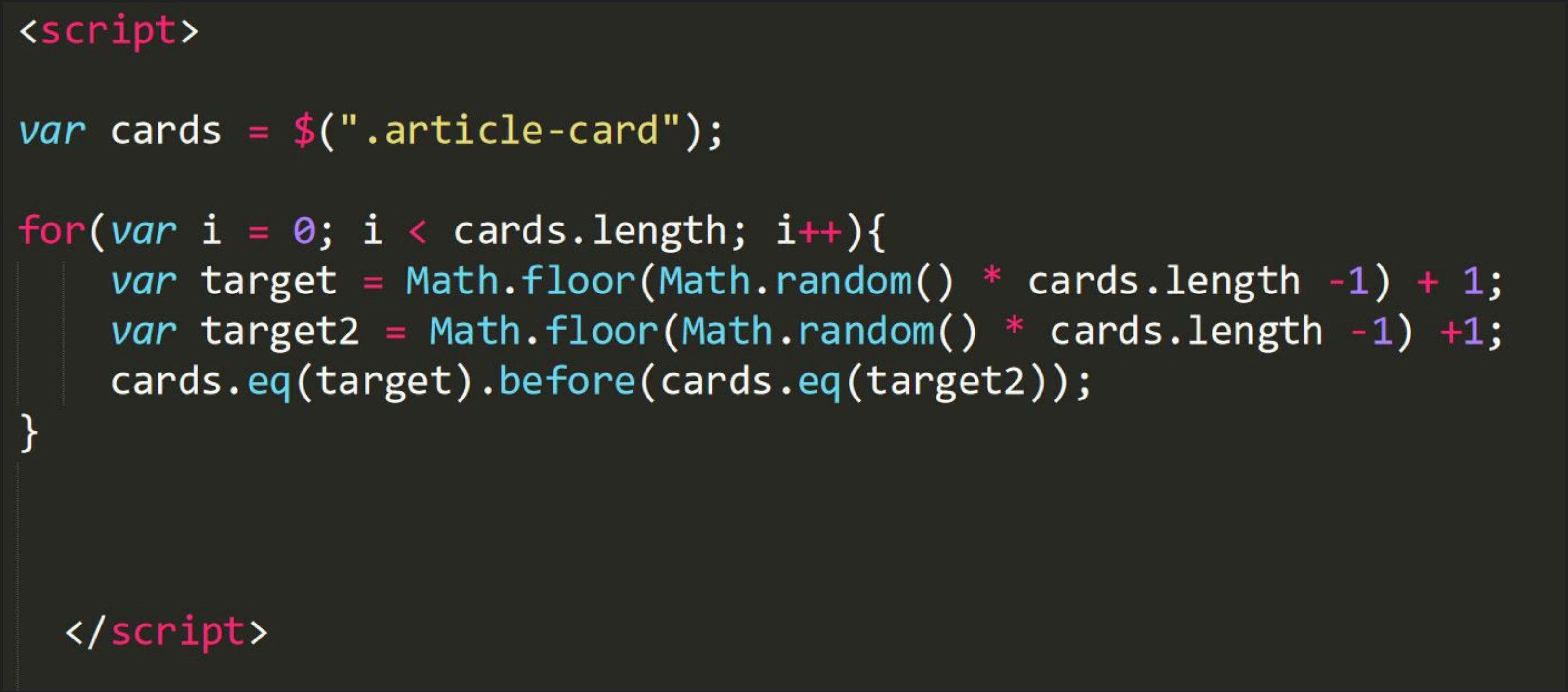
```
<!-- Global site tag (gtag.js) - Google Analytics -->
<script async src="https://www.googletagmanager.com/gtag/js?id=UA-161931112-1"></script>
<script>
  window.dataLayer = window.dataLayer || [];
  function gtag(){dataLayer.push(arguments);}
  gtag('js', new Date());

  gtag('config', 'UA-161931112-1');
</script>
```

Social media sharing



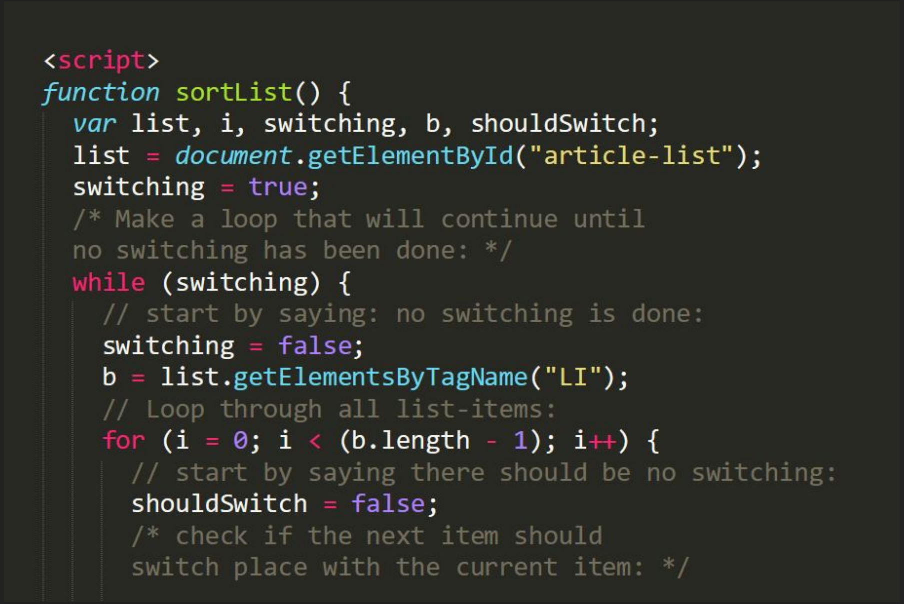
```
<!-- Facebook tags -->
<meta property="og:title" content="Multiplicity">
<meta property="og:description" content="Global examinations of youth, tech & society.">
<meta property="og:image" content="sample-logo.jpg">
<meta property="og:url" content="http://multiplicitytech.github.io">
<meta property="og:site_name" content="multiplicity">


<!-- Twitter tags -->
<meta name="twitter:title" content="Multiplicity">
<meta name="twitter:description" content="Global examinations of youth, tech & society.">
<meta name="twitter:image" content="sample-logo.jpg">
<meta name="twitter:card" content="summary_large_image">
<meta name="twitter:image:alt" content="multiplicity logo">
```

Dynamic web pages

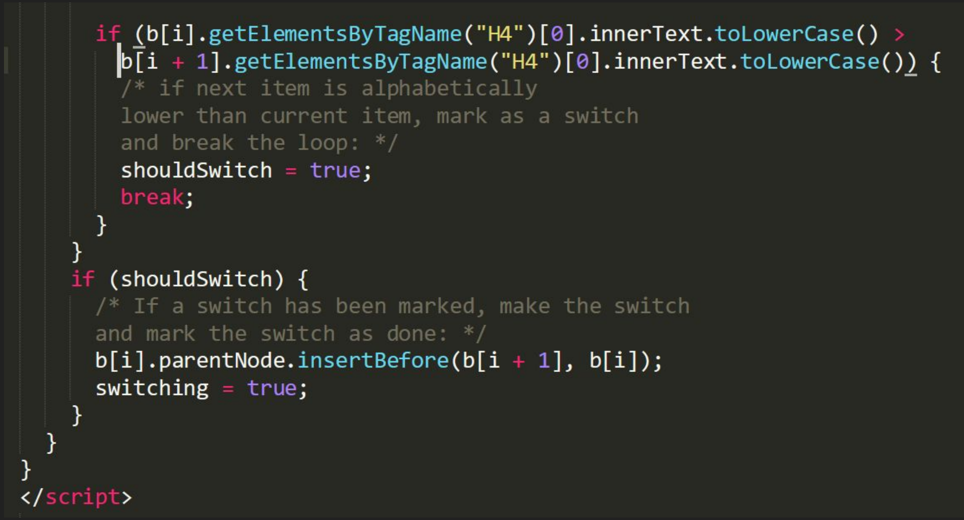


```
<script>

var cards = $(".article-card");

for(var i = 0; i < cards.length; i++){
    var target = Math.floor(Math.random() * cards.length -1) + 1;
    var target2 = Math.floor(Math.random() * cards.length -1) +1;
    cards.eq(target).before(cards.eq(target2));
}



  </script>
```

Sorting feature



```
<script>
function sortList() {
  var list, i, switching, b, shouldSwitch;
  list = document.getElementById("article-list");
  switching = true;
  /* Make a loop that will continue until
  no switching has been done: */
  while (switching) {
    // start by saying: no switching is done:
    switching = false;
    b = list.getElementsByTagName("LI");
    // Loop through all list-items:
    for (i = 0; i < (b.length - 1); i++) {
      // start by saying there should be no switching:
      shouldSwitch = false;
      /* check if the next item should
      switch place with the current item: */
```



```
      if (b[i].getElementsByTagName("H4")[0].innerText.toLowerCase() >
        b[i + 1].getElementsByTagName("H4")[0].innerText.toLowerCase()) {
        /* if next item is alphabetically
        lower than current item, mark as a switch
        and break the loop: */
        shouldSwitch = true;
        break;
      }
    }
    if (shouldSwitch) {
      /* If a switch has been marked, make the switch
      and mark the switch as done: */
      b[i].parentNode.insertBefore(b[i + 1], b[i]);
      switching = true;
    }
  }
}
</script>
```

Implementation: Demo