



Website Design

(Team)

BPA Chapter: Okemos High School 56-0243

Team: Anvita Gollu and Navya Gupta

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Team

Anvita Gollu

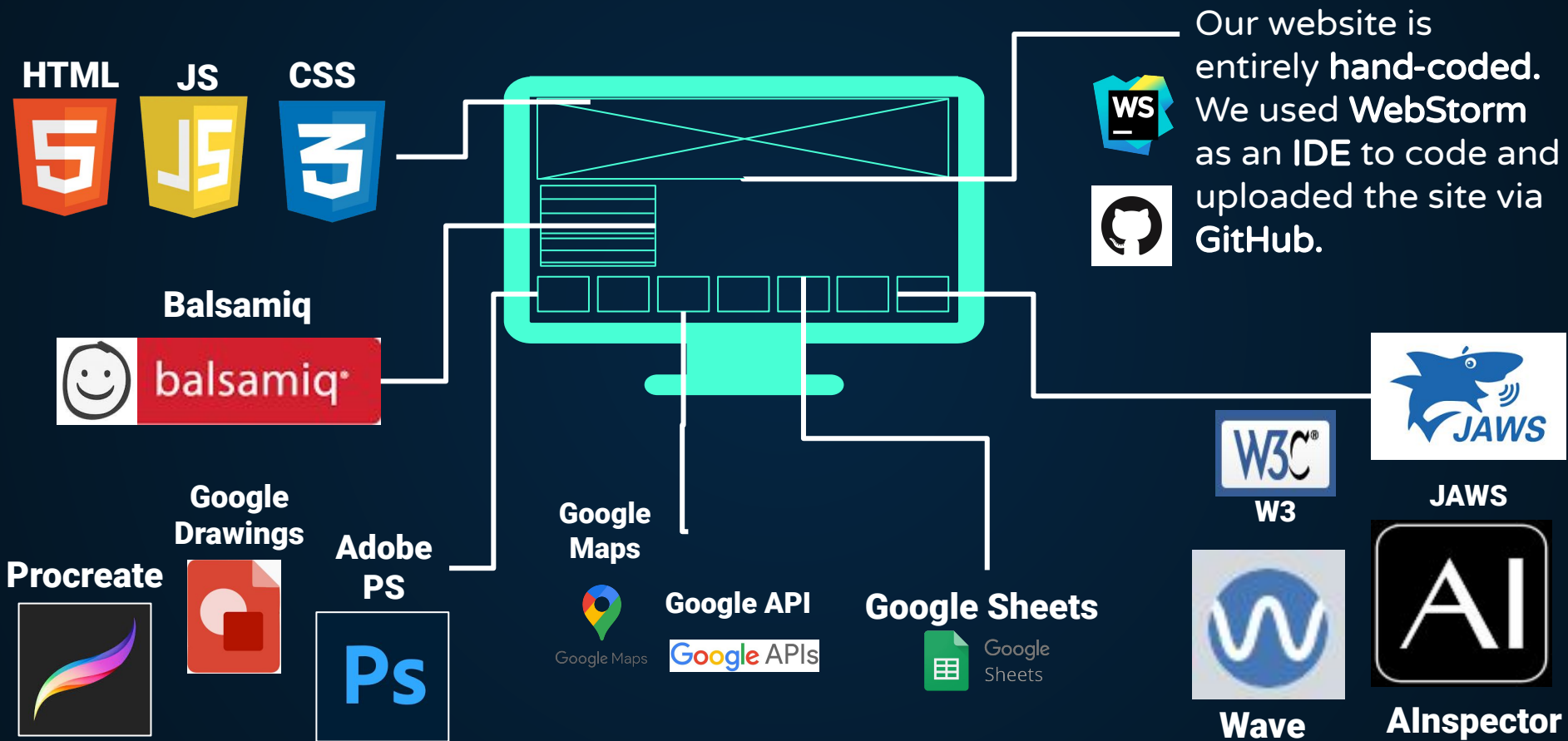
- Software Architect
- Software Developer

Navya Gupta

- UX Designer
- Presentation Designer
- Graphic Designer
- Content Researcher

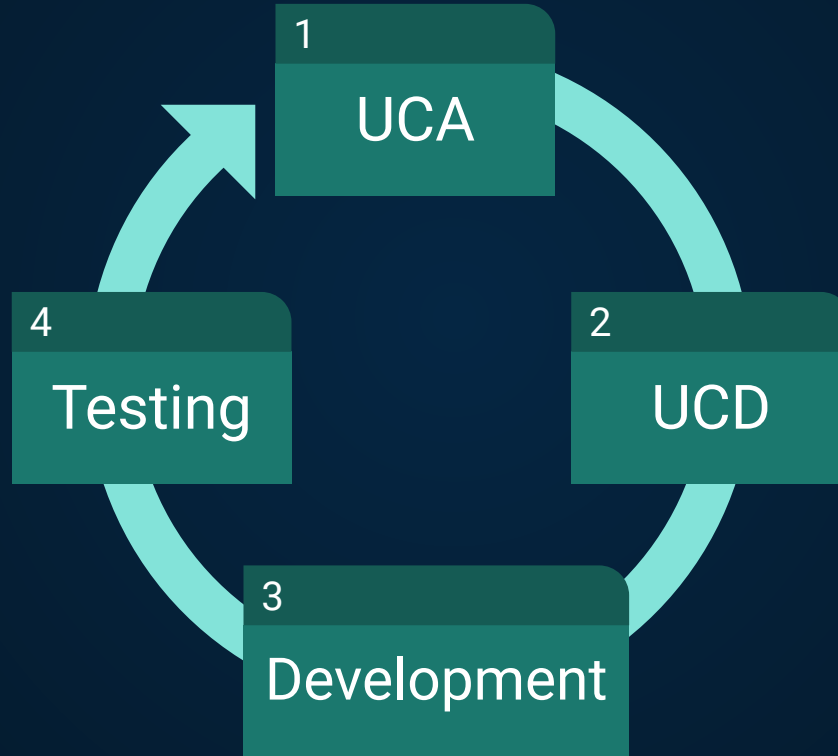


Incorporated Technology





Web development and UX Process



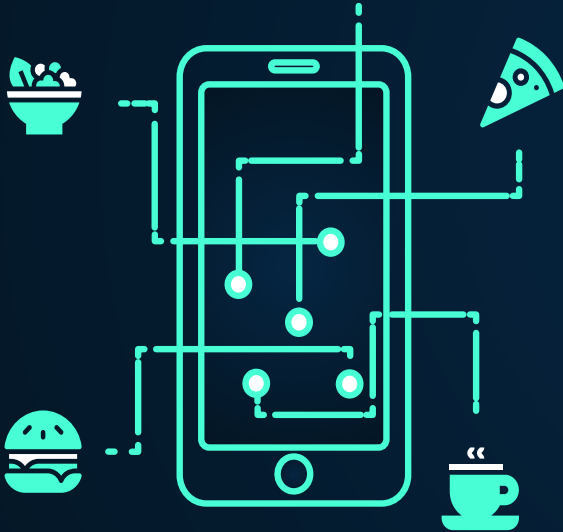
Repetitive process until completion



Web development and UX Process



UCA (User Centric Analysis)

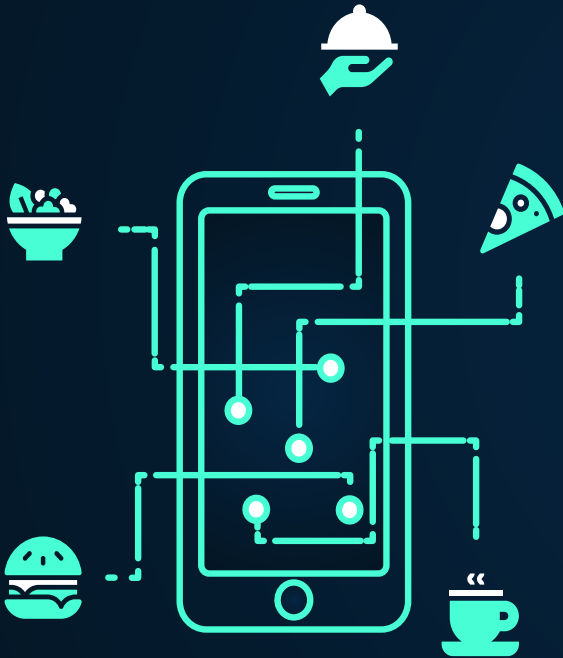


- ◆ **Goal** - assist BPA members in planning their attendance at NLC in Orlando
- ◆ **List of tasks** - inform on transportation, local attractions, food, costs, hours, etc.
- ◆ **Target User** - visitors attending NLC
- ◆ **Technology** - decided upon our incorporated technology
- ◆ **Critical Success Ratio** - ability to achieve goal through list of tasks



Web development and UX Process

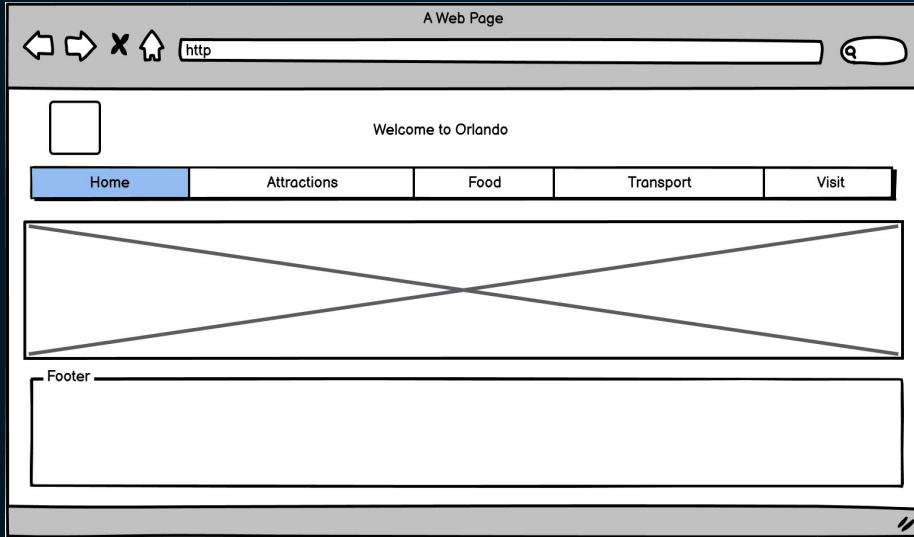
→ UCD (User Centric Design)



- ◆ **Branding Guidelines** - design, aesthetic appeal, & general look-and-feel
- ◆ **Wireframe** - Information Architecture organized and navigable
 - Navigation bar
 - Hyperlinks
 - Content design
- ◆ **Graphics**- logo, slideshow, icons, images, etc
- ◆ **Feedback/Contact Form**



Web development and UX Process



- ◆ **Wireframe** - Layout of the pages
 - **Header**- logo, title and navigation menu
 - **Main content**
 - **Footer**- About Us & Contact Form
- ◆ Provides clarity and protects against possible errors in the future by setting a perfect foundation.





Web development and UX Process



→ Software Development

◆ Hand-Code - Implement our wireframe

- HTML pages
- CSS (style) pages
- JS pages
- Responsiveness code (Media Query)
- Accessibility/ADA - level AA Acceptance Compliance

→ Testing - Testing after every step of development. This process repeats until critical success ratio has comfortably passed.



Development - Web Language



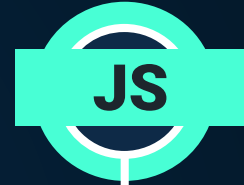
Hypertext Markup Language

Structure the website and its content



Cascading Style Sheet

Stylesheet language to style and describe the presentation of website



JavaScript

Interactive features
(slideshow & feedback form)

Languages





Graphics



Logo



Logo was **hand drawn** using the app Procreate.



- A **Torch** with flames is a popular **symbol** used for competitions. It is a symbol of **peace, unity, tolerance, hope** and extreme **competitiveness** all at once.



Graphics

Color Scheme

- **Color scheme** is based on Orlando's famous Basketball Team, **Orlando Magic**, and our fire **Logo**.

Google API fonts

- Google API **fonts** were used throughout

```
<link href="https://fonts.googleapis.com/css2?family=Rubik&family=Varela&display=swap" rel="stylesheet">
```

Images

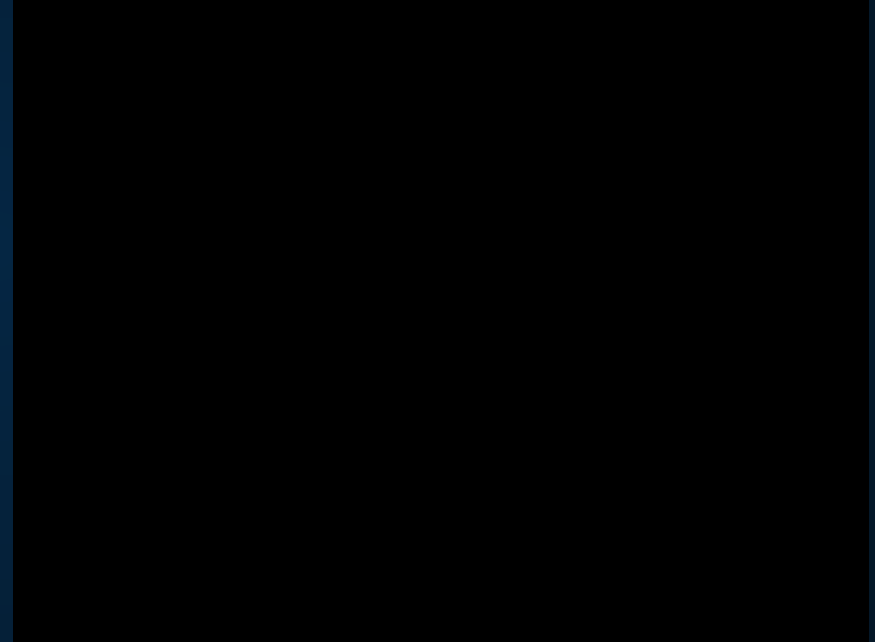
- Adobe photoshop
- ◆ Jpg is lossy compressed file format
 - ◆ Made sure images were loading fast enough upon visit
 - ◆ Compromise between image size and quality





Slideshow

- Enhances user experience by providing visual connection
 - Coded using JavaScript
- Images are hyperlinked to pages on the website to which they are related
 - images edited using Google Drawings

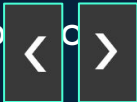




Slideshow

HAND OPERATED SLIDESHOW

→ Previous slide and Next slide controls



```
// Next/previous controls
function plusSlides(n) {
    showDivs( n: slideIndex += n);
    <a class="prev" onclick="plusSlides(-1)">&#10094;</a>
    <a class="next" onclick="plusSlides(1)">&#10095;</a>
}
```

```
//Operated Slideshow
function showDivs(n) {
    var i;
    var x = document.getElementsByClassName( className: "mySlides");
    var dots = document.getElementsByClassName( className: "dot");

    if (n > x.length) {slideIndex = 1}
    if (n < 1) {slideIndex = x.length}
    for (i = 0; i < x.length; i++) {
        x[i].style.display = "none";
    }
    x[slideIndex-1].style.display = "block";
    myIndex=n;
    for (i = 0; i < dots.length; i++) {
        dots[i].className = dots[i].className.replace( searchValue: " active", replaceValue: "");
    }
    dots[slideIndex-1].className += " active";
}
```



Graphics

AUTOMATIC SLIDESHOW

→ Images change with 3 second intervals

```
//Automatic slideshow
function carousel() {
    var i;
    var x = document.getElementsByClassName( className: "mySlides");
    var dots = document.getElementsByClassName( className: "dot");
    for (i = 0; i < x.length; i++) {
        x[i].style.display = "none";
    }
    myIndex++;
    if (myIndex > x.length) {myIndex = 1}
    for (i = 0; i < dots.length; i++) {
        dots[i].className = dots[i].className.replace( searchValue: " active", replaceValue: "");
    }
    x[myIndex-1].style.display = "block";
    dots[myIndex-1].className += " active";
    setTimeout(carousel, timeout: 3000); // Change image every 3 seconds
}
```



Graphics



Slideshow

Dots to indicate active slide:



For loop in **JavaScript** to change color of dot as slide changes:

```
var dots = document.getElementsByClassName( className: "dot");  
for (i = 0; i < dots.length; i++) {  
    dots[i].className = dots[i].className.replace( searchValue: " active", replaceValue: "");  
}  
dots[slideIndex-1].className += " active";
```

Each slide is assigned in **HTML**:

```
<div style="text-align:center">  
    <span class="dot" onclick="currentSlide(1)"></span>  
    <span class="dot" onclick="currentSlide(2)"></span>  
    <span class="dot" onclick="currentSlide(3)"></span>  
    <span class="dot" onclick="currentSlide(4)"></span>  
    <span class="dot" onclick="currentSlide(5)"></span>  
</div>
```

CSS:

- Active slide's dot is highlighted
- Color of dot changes upon hover
- Fading animation was used

```
.active, .dot:hover {  
    background-color: #717171;  
}  
  
/* Fading animation */  
.fade {  
    -webkit-animation-name: fade;  
    -webkit-animation-duration: 1.5s;  
    animation-name: fade;  
    animation-duration: 1.5s;  
}
```

```
@-webkit-keyframes fade {  
    from {opacity: .4}  
    to {opacity: 1}  
}  
  
@keyframes fade {  
    from {opacity: .4}  
    to {opacity: 1}  
}
```



Features

Favicon

- A minimized version of our logo shows up as a favicon

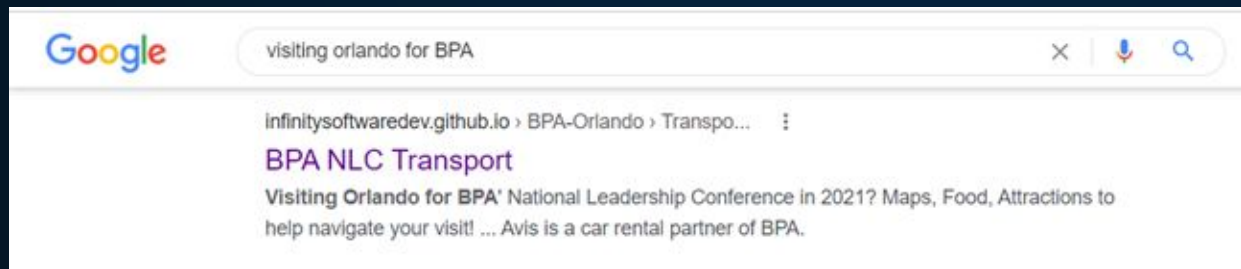


```
8 <link rel="icon" type="image/png" sizes="16x16" href="images/favicon/favicon-BPA.png">
```

Search Features

- Tags to help users find our website via search engine
- Site description to help users know whether our site has what they are looking for

```
<meta name="description" content="Visiting Orlando for BPA' National Leadership Conference in 2021? Maps, Food, Attractions to help navigate your visit!">  
<meta name="keywords" content="Orlando, Florida, bpa, BPA, food, maps, attractions, visit, NLC, 2021">
```



Infobox



Orlando Balloon Rides

One of the world's largest operators of commercial hot air balloons.

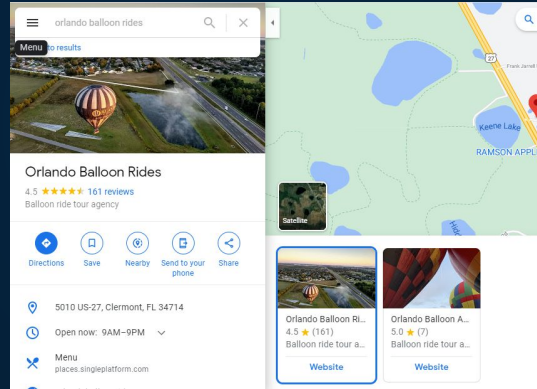
Rating: 4.5/5

Hours Of Operation: 9AM-9PM

Address: [5010 US-27, Clermont](#)

[Visit Website](#)

Images & Buttons
hyperlink to event's website



Address hyperlink to google maps



Features

→ All clickable items are made orange for consistency

InfoBox



Orlando Balloon Rides

One of the world's largest operators of commercial hot air balloons.

Rating: 4.5/5

Hours Of Operation: 9AM-9PM

Address: [5010 US-27, Clermont](#)

Visit Website



Orlando Balloon Rides



Features

Shadow on image over hover

```
.img:hover, .crop img:hover{  
  box-shadow: 0 5px 5px 0 rgba(0,0,0,0.07), 0 5px 5px 0 rgba(0,0,0,0.07),  
  0 5px 5px 0 rgba(0,0,0,0.07), 0 5px 5px 0 rgba(0,0,0,0.07);  
}
```

Cursor over image is a pointer

→ to indicate clickable- link behind image

```
cursor: pointer;
```

Visit button enlarges upon hover/click

```
.button-visit:hover {  
  transform: scale(1.1);  
  color: black;  
}
```



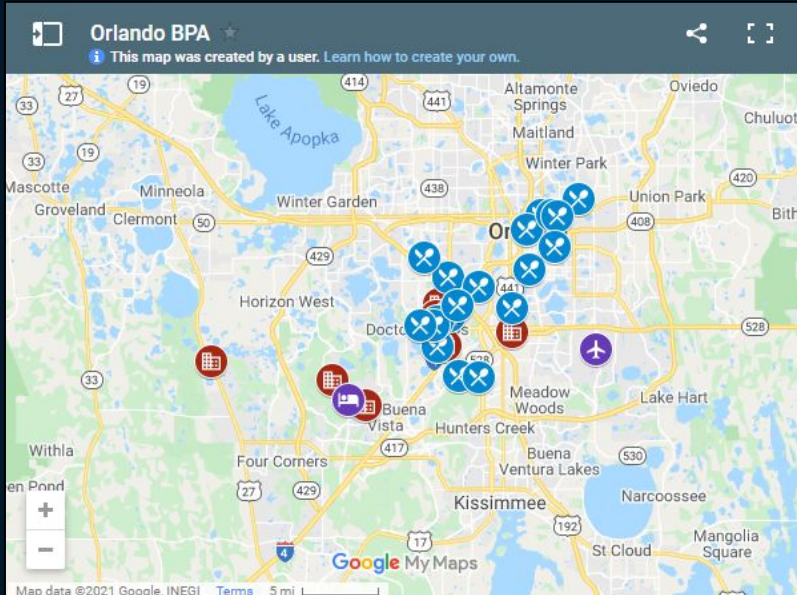
Features



Google Maps

GOOGLE API Map

- Map is embedded in the site so that user may explore the map within the page itself
- All locations throughout our site that will assist users to plan their visit are marked (official stay, airport, dining, attractions)
 - descriptions and markers are different colors to indicate different facilities
 - map can be saved to Google Drive



```
<ul style="text-align:center"><iframe src="https://www.google.com/maps/d/u/2/embed?mid=1YPmWgac7sEPd6V8kMPzKUnd_7sKd003h"
title="Google Map" width="100%" height="480px" frameborder="0" style="border:0;" allowfullscreen=""
aria-hidden="false" tabindex="0"></iframe></ul>
```



Features

Link - unvisited/visited/hover

- Links change color depending on their visit/hover status.

www.delta.com

www.delta.com

www.delta.com

```
/* unvisited link */
.footergrid-item a:link, .mapspage a:link {
    color: rgb(255, 77, 77);
}

/* visited link */
.footergrid-item a:visited{
    color: white;
}

.mapspage a:visited{
    color: rgb(0, 0, 102);
}

/* mouse over link */
.footergrid-item a:hover, .mapspage a:hover {
    color: rgb(36, 143, 36);
}
```



Features

Navigation Menu

- Color of menu changes upon hovering
- Active page is highlighted to help users know which page they are on

```
103  .button:hover, .button.active {  
104      background-color: rgb(255, 77, 77);  
105      color: #fbfbfb;  
106  }
```




Features

Sort-By

- This feature was created to help users find content that matches their best interests.
 - Re-orders and filters content based on the input of the user.
- Color of button changes upon hovering and active page is highlighted
- Present on Dining and Attractions page
- Created linking HTML pages

Attractions

Sort by Relevance

Sort By Rating

Sort by Alphabet

```
<div class="sort-row">  
  <a class="sort-button active" href="Attractions-BPA.html">Sort by Relevance</a>  
  <a class="sort-button" href="AttractionsByRating.html">Sort By Rating</a>  
  <a class="sort-button" href="AttractionsByAlpha.html">Sort by Alphabet</a>  
</div>
```

Dining

View All

American

Asian

Italian

African

```
<div class="sort-row">  
  <a class="sort-button active" href="Dining-BPA.html">View All</a>  
  <a class="sort-button" href="DiningByAmerican.html">American</a>  
  <a class="sort-button" href="DiningByAsian.html">Asian</a>  
  <a class="sort-button" href="DiningByItalian.html">Italian</a>  
  <a class="sort-button" href="DiningByAfrican.html">African</a>  
</div>
```



Features

Visit page Navigation

- Buttons on top the visit page help users locate the information they need to plan their visit
- Buttons were linked to the ID tags that were created for each section

```
<a class="sort-button" href="#srg">Security restrictions/guidelines</a>
<a class="sort-button" href="#dc">Dress Code</a>
<a class="sort-button" href="#map">Map</a>
<a class="sort-button" href="#hr">Housing</a>
<a class="sort-button" href="#trv">Traveling</a>
```

```
<div id="srg">
  <h2>Security restrictions/guidelines</h2>
```

```
<div id="dc">
  <h2>Dress Code</h2>
```

```
<div id="map">
  <h2>Map</h2>
```

```
<div id="hr">
  <h2>Housing</h2>
```

```
<div id="trv">
  <h2>Traveling</h2>
```





Features

Scroll to top button

- This feature was created to help users scroll back to the top
- This was coded using JavaScript
- Appears only once the user scrolls down



```
//Get the button:
mybutton = document.getElementById( "top-button");

// When the user scrolls down 20px from the top of the document, show the button
window.onscroll = function() {scrollFunction()};

function scrollFunction() {
    if (document.body.scrollTop > 20 || document.documentElement.scrollTop > 20) {
        mybutton.style.display = "block";
    } else {
        mybutton.style.display = "none";
    }
}

// When the user clicks on the button, scroll to the top of the document
function topFunction() {
    document.body.scrollTop = 0; // For Safari
    document.documentElement.scrollTop = 0; // For Chrome, Firefox, IE and Opera
}
```


Contact form

- Contact form takes in input
 - Name
 - Email address(required field)
 - The message
- “Thank you” message after form submission
 - coded using JavaScript
- Honeypot is a computer security mechanism to detect and deflect spam
 - ◆ It is a hidden text field which must be empty to submit the form
 - ◆ spambot fills in this field which is hidden to human-users

```
.honeypot-field {  
  display: none;  
}
```

```
disableAllButtons(form);  
var url = form.action;  
var xhr = new XMLHttpRequest();  
xhr.open( 'method: 'POST', url);  
// xhr.withCredentials = true;  
xhr.setRequestHeader( 'name: 'Content-Type', 'value: 'application/x-www-form-urlencoded');  
xhr.onreadystatechange = function() {  
  if (xhr.readyState === 4 && xhr.status === 200) {  
    form.reset();  
    var formElements = form.querySelector( selectors: ".form-elements")  
    if (formElements) {  
      formElements.style.display = "none"; // hide form  
    }  
    var thankYouMessage = form.querySelector( selectors: ".thankyou_message");  
    if (thankYouMessage) {  
      thankYouMessage.style.display = "block";  
    }  
  }  
}
```



Features

User enters form details

Contact Us
*=Mandatory

We would love to hear from you, please send us a message!

Please Provide Your Information

Name:
Anvita Gollu

Your Email Address :
anvita.gollu@gmail.com

Message:
This is my message!

Send



“Thank you” message

Contact Us

Thanks for contacting us!
We will get back to you soon!

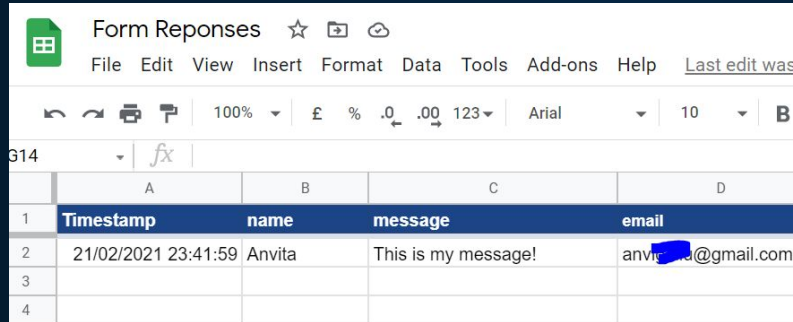


Features

Contact form- Server Side

- The inputs are stored in a google sheet and an email is sent to us from the **script editor** of the sheet upon every form submission

Inputs stored in google sheet to be accessed




Form Responses

	A	B	C	D
1	Timestamp	name	message	email
2	21/02/2021 23:41:59	Anvita	This is my message!	anvita@gmail.com
3				
4				

```
135 function getDataColumns(data) {
136   return Object.keys(data).filter(function(column) {
137     return !(column === 'formDataNameOrder' || column === 'formGoogleSheetName' || column === 'formGoogleSendEmail');
138   });
139 }
140
141 function getFieldFromData(field, data) {
142   var values = data[field] || '';
143   var output = values.join ? values.join(', ') : values;
144   return output;
145 }
```

Email confirmation

Contact form submitted Inbox x

 **BPA ohs** <okemosbpa2021@gmail.com>
to BPA ▾

Name
Anvita

Message
This is my message!

Email
anvita@gmail.com

← Reply → Forward

```
// Send Email if to address is set
if (sendEmailTo) {
  MailApp.sendEmail({
    to: String(sendEmailTo),
    subject: "Contact form submitted",
    replyTo: String(mailData.email),
    htmlBody: formatMailBody(mailData, dataOrder)
  });
}
```

Accessibility



TESTING WEB DEVELOPMENT CODE

→ W3 Validation Service
(https://validator.w3.org/#validate_by_uri+with_options)

- **HTML5** - no errors & warnings
- **CSS level 3 + SVG** - no errors

Accessibility



ADA

- The Americans with Disabilities Act (ADA) requires accommodations for people with disabilities.
- Web content should be accessible to blind users, deaf users or any others who must navigate by voice, screen readers or other assistive technologies.
- During every step of the web development process, we made sure to make decisions that wouldn't interfere with assistive technologies interpreting the website in order to make our website accessible to all users.
- We tested our website to make sure it passes the latest Web Content Accessibility Guidelines (WCAG) 2.1 Standard



Accessibility + ADA Features

- Functionality through the use of the keyboard alone
- Alt text & descriptions for all images & icons
- Satisfactory Color contrast
- Consistent Navigation elements throughout the site
- “tab” focus on every clickable item
- Roles assigned
- Aria label
- Semantic HTML coding
- Responsive Code (Media Query)
- Properly placed headings & landmarks
- Unique page titles

Accessibility



```
</form>
```

button#top-button	34.77 × 57
Color	<input type="checkbox"/> #FFFFFF
Font	35px Arial
Background	<input checked="" type="checkbox"/> #FF4D4D
Margin	0px 2px 0px 0px
Padding	3px
ACCESSIBILITY	
Contrast	Aa 3.27
Name	
Role	button
Keyboard-focusable	

```
<h3>Universal's Volcano Bay</h3>
```

```
<div class="header" role="banner">
```

```
<div class="navBar" role="navigation">
```

```
<div class="container" role="main">
```

```
<div class="footer" role="contentinfo">
```

```
aria-label="Home page">
```



BPA NLC Attractions



BPA NLC Transport



```
a:focus, a:focus button.mySlides, a:focus-within button.dot, button:focus-within button.prev,  
a:focus-within button.next, button:focus, a:focus img.logo{  
  outline: 2px solid red;  
}
```

Accessibility + ADA Features

→ Web accessibility test tools

The screenshot shows the WAVE web accessibility evaluation tool interface. At the top, it says "WAVE powered by WebAIM" and "web accessibility evaluation tool". The address bar shows "https://infinitysoftwaredev.github.io/BPA-Or". Below the address bar, there's a "Styles" toggle switch set to "ON". The "Summary" section is highlighted, showing a navigation bar with "Summary", "Details", "Reference", "Structure", and "Contrast". The summary statistics are as follows:

Category	Count
Errors	0
Contrast Errors	0
Alerts	1
Features	31
Structural Elements	46
ARIA	15

Accessibility



The screenshot shows a web page header with a logo that includes a computer monitor and a speech bubble, followed by the text "BPA Nationals Logo, NLC". Below the logo, the word "JPA" is displayed in a large, stylized font. The page has a blue header bar. The text "Header" is present, followed by the description: "A <header> element or banner landmark is present." Below this, there are links for "REFERENCE" and "CODE".

The screenshot shows a web page with the text "Large Text: Sample" in a large, bold font. Below this, the text "AA: Pass" is displayed. The page has a blue header bar. The text "Large Text:" is present, followed by the description: "An ARIA role, state, or property is present." Below this, there are links for "REFERENCE" and "CODE".

The screenshot shows a web page with the text "ARIA" in a large, bold font. Below this, the text "An ARIA role, state, or property is present." is displayed. The page has a blue header bar. The text "ARIA" is present, followed by the description: "An ARIA role, state, or property is present." Below this, there are links for "REFERENCE" and "CODE".

The screenshot shows a web page with the text "Text Size:" in a large, bold font. Below this, the text "Normal Text: Sample" is displayed. The page has a blue header bar. The text "Text Size:" is present, followed by the description: "A fieldset is present." Below this, there are links for "REFERENCE" and "CODE".

The screenshot shows a web page with the text "Fieldset" in a large, bold font. Below this, the text "A fieldset is present." is displayed. The page has a blue header bar. The text "Fieldset" is present, followed by the description: "A fieldset is present." Below this, there are links for "REFERENCE" and "CODE".

The screenshot shows a web page with the text "Form label" in a large, bold font. Below this, the text "A form label is present and associated with a form control." is displayed. The page has a blue header bar. The text "Form label" is present, followed by the description: "A form label is present and associated with a form control." Below this, there are links for "REFERENCE" and "CODE".

The screenshot shows a web page with the text "h1 Welcome To" in a large, bold font. Below this, the text "Heading level 1" is displayed. The page has a blue header bar. The text "h1 Welcome To" is present, followed by the description: "A first level heading (<h1> element) is present." Below this, there are links for "REFERENCE" and "CODE".

The screenshot shows a web page with the text "Linked image with alternative text" in a large, bold font. Below this, the text "Alternative text is present for an image that is within a link." is displayed. The page has a blue header bar. The text "Linked image with alternative text" is present, followed by the description: "Alternative text is present for an image that is within a link." Below this, there are links for "REFERENCE" and "CODE".

The screenshot shows a web page with the text "Main content" in a large, bold font. Below this, the text "A <main> element or main landmark is present." is displayed. The page has a blue header bar. The text "Main content" is present, followed by the description: "A <main> element or main landmark is present." Below this, there are links for "REFERENCE" and "CODE".

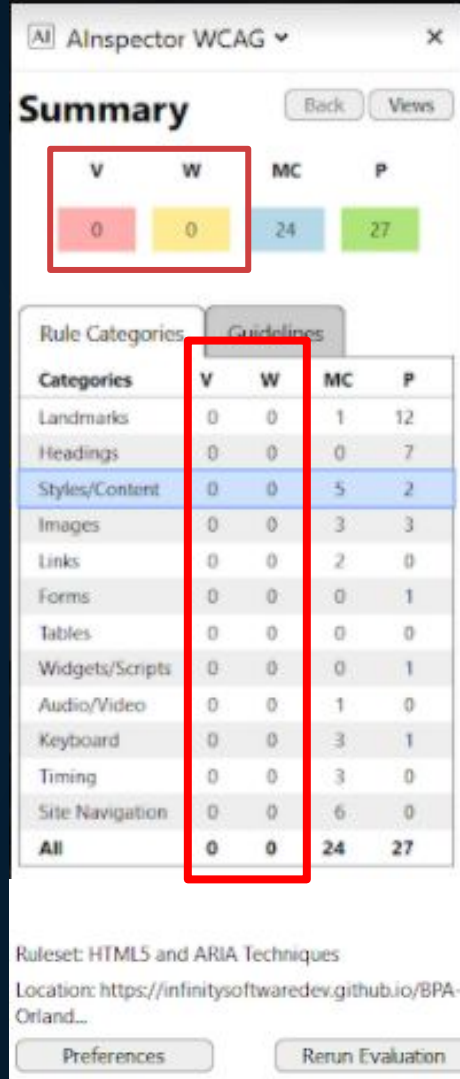
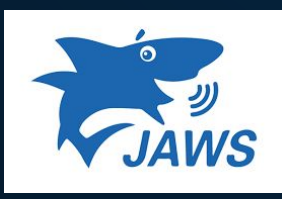
Accessibility

Level AA

- No ADA warnings/errors
- Level A & AA passing
 - ◆ Reference- <https://www.w3.org/WAI/WCAG21/quickref/>
 - ◆ Adaptability
 - ◆ Distinguishability
 - ◆ Navigability
 - ◆ Readability
 - ◆ Predictability
 - ◆ Compatibility



Tested accessibility through web assistive tools: Ainspector, Wave & JAWS



Summary

V	W	MC	P
0	0	24	27

Rule Categories

Categories	V	W	MC	P
Landmarks	0	0	1	12
Headings	0	0	0	7
Styles/Content	0	0	5	2
Images	0	0	3	3
Links	0	0	2	0
Forms	0	0	0	1
Tables	0	0	0	0
Widgets/Scripts	0	0	0	1
Audio/Video	0	0	1	0
Keyboard	0	0	3	1
Timing	0	0	3	0
Site Navigation	0	0	6	0
All	0	0	24	27

Ruleset: HTML5 and ARIA Techniques
Location: <https://infinitysoftwaredev.github.io/BPA-Orland...>

Buttons: Preferences, Rerun Evaluation

Accessibility



Responsiveness- Navigation

Hamburger Menu

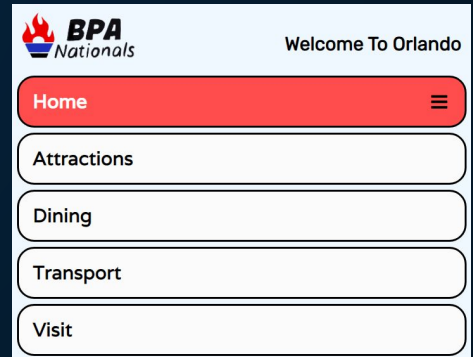
➤ Media Query

- Icons disappear
- Infoboxes, header change in size
- Body and Footer adjust

```
@media (max-width: 1000px) {  
  .topnav a img {  
    display:none;  
  }  
  
  .topnav {  
    display: flex;  
  }  
  
  .navbutton {  
    width:18% !important;  
  }  
  h1{  
    font-size:35px;  
    text-align:right !important;  
    margin:21px 10px 10px 0;  
    font-weight:bold;  
  }  
  .w3-display-left, .w3-display-right{  
    top:38%;  
  }  
}
```

```
@media (max-width: 800px) {  
  .navbutton {  
    font-size:20px;  
    margin:5px 5px 5px 5px;  
    /* height: 30px; */  
    padding: 8px 10px;  
  }  
  
  h1{  
    font-size:38px;  
    text-align:right !important;  
    margin:14px 10px 10px 0;  
    font-weight:bold;  
  }  
  .w3-display-left, .w3-display-right{  
    top:30%;  
  }  
  
  .logo{  
    width: 120px;  
  }  
}
```

```
@media (max-width: 600px) {  
  h1{  
    font-size:20px;  
    text-align:right !important;  
    margin:32px 10px 10px 0;  
    font-weight:bold;  
  }  
}
```

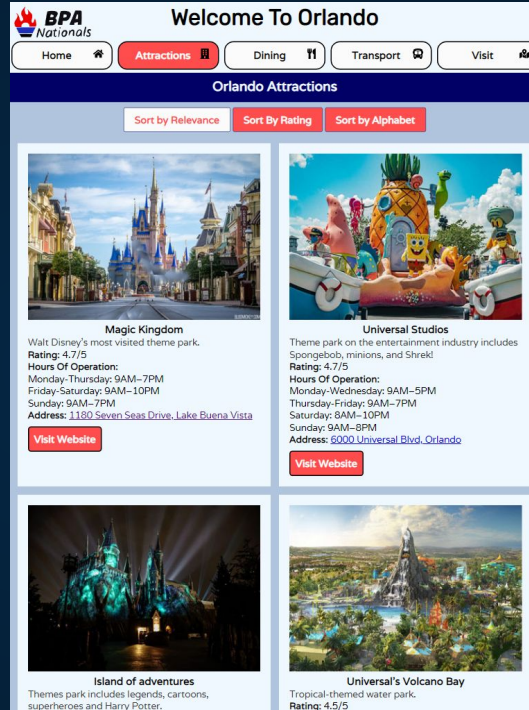


Accessibility

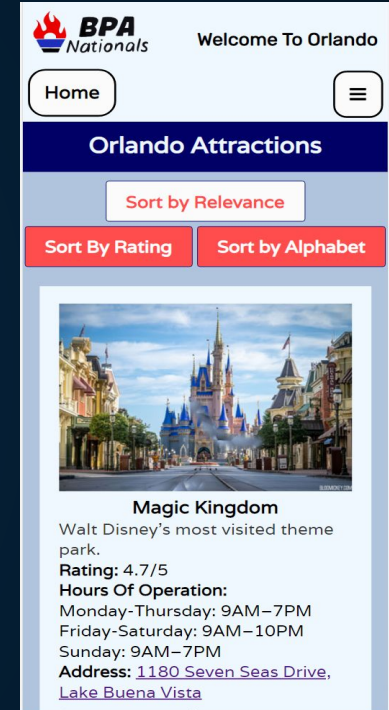


Responsiveness

→ Website is accessible through all screen sizes



Ipad



Iphone X

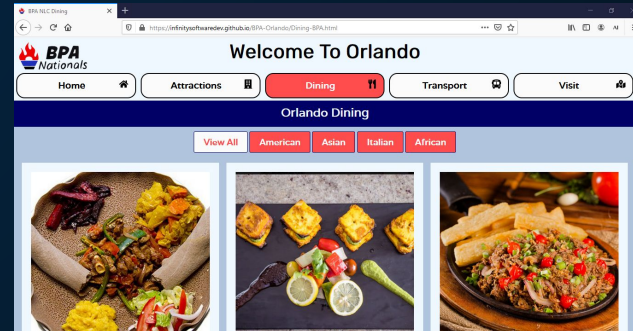
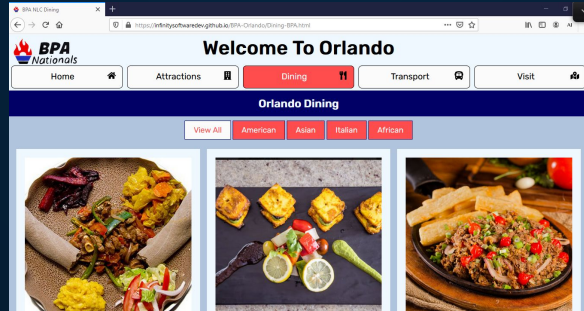
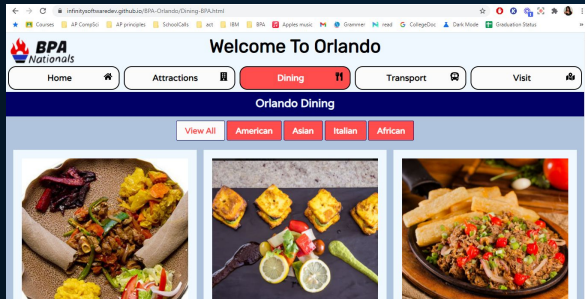


Accessibility



Cross-Browser Compatibility

→ Website is accessible through all browsers and all operating systems





Website Design (Team)

BPA Chapter: Okemos High School

Location: Okemos, Michigan

Chapter ID: 56-0243

Year: 2020-2021

Theme: Develop a website to assist BPA chapters plan their attendance at NLC in Orlando, FL. May 4-8, 2021