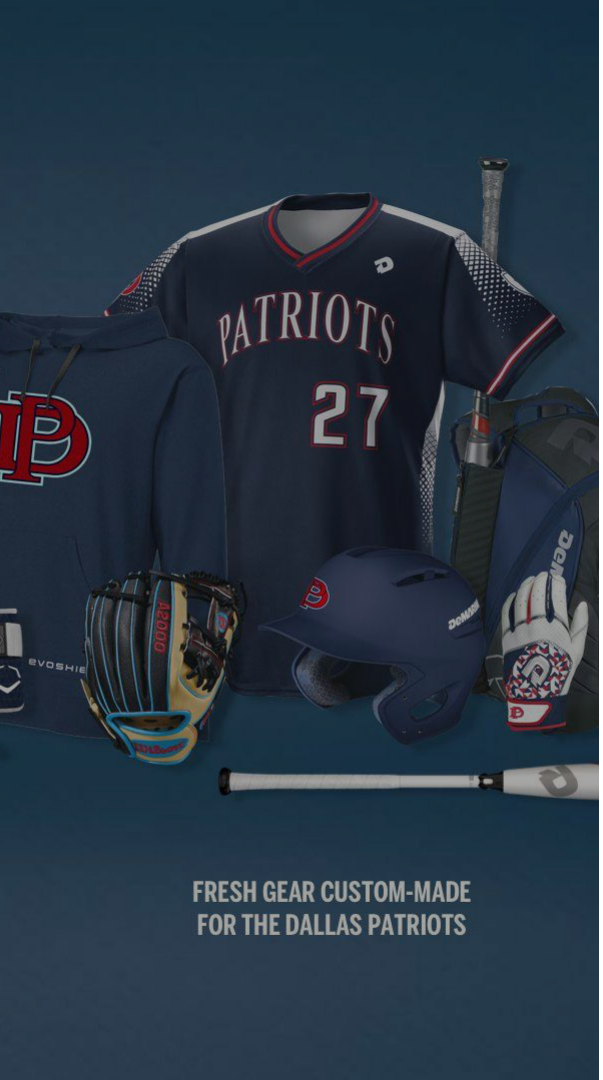


HS2 SOLUTIONS

HOW SVGS POWER WILSON SPORTING GOODS PRODUCT CONFIGURATOR

PRESENTED BY ANDREW OLSON

June 28th, 2018

ANDREW OLSON

- Front End Developer from the Chicago Suburbs
- Working with Drupal since 2008
- Been on the Wilson Sporting Goods project since 2015
- Fun Fact About Me:
  - Musician + played in a band at Lollapalooza

Andrew Olson
Lead Front End Developer
@ HS2 Solutions

HS2 SOLUTIONS

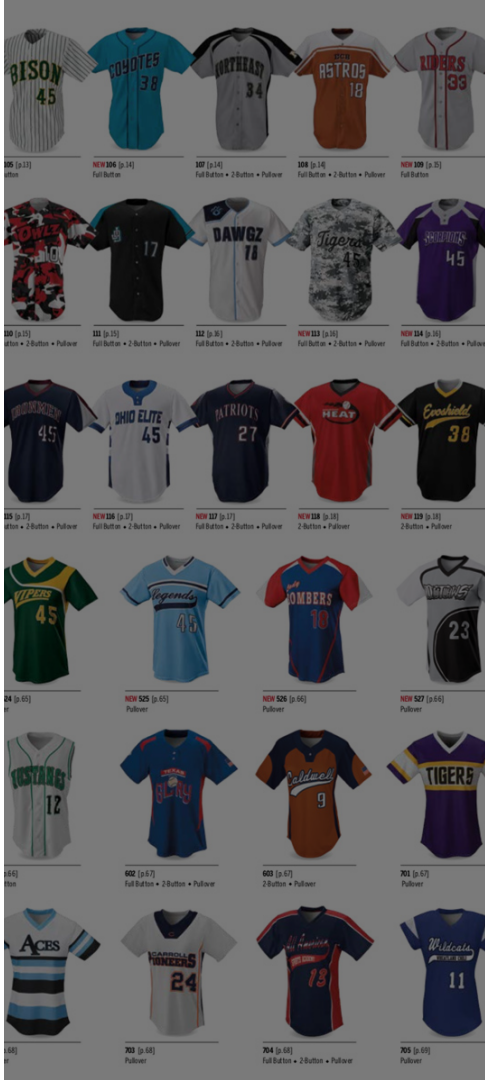
AGENDA

1. Project Goals
2. Our Approach
3. Challenges
4. Q&A

PROJECT GOALS

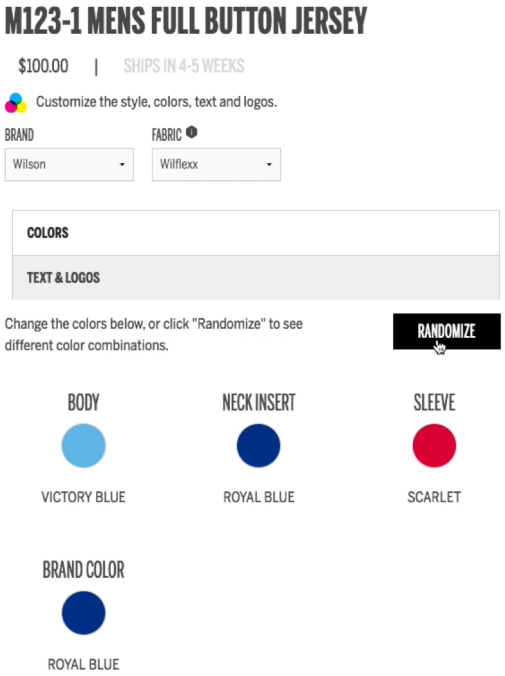
OUR PRODUCT CONFIGURATOR HAD TO

- Be “Photo Realistic.”
- Demonstrate multiple colors & styles.
- Allow Users to add custom text & upload logos.
- Manage
  - Different product types.
  - Multiple product views.
  - Future products & sports.



PROJECT GOALS

Jerseys	Total
62 Baseball + 52 Fastpitch Styles	114
3 Color Insert Styles per Jersey (on average)	3
33 Total Color Options	33
TOTAL JERSEY COMBINATIONS	**3,731,904**



Formula: $${}_nP_k = \frac{n!}{(n-k)!} = n\,(n-1)\,(n-2)\cdots(n-k+1)$$

Source: mathwords.com

PROJECT GOALS

But Wait, There's More …

- 3 styles of pants.
- 2 styles of batting gloves.
- Helmets (with and without masks).
- Protective gear straps.
- Plus, any product made in the future.

PROJECT GOALS

Would vector artwork suffice?

OUR APPROACH

Using photography, vector art, and JavaScript, we can create a “*Photo Real*” product configurator.

Photography

DETERMINE BASE IMAGES

COORDINATE PHOTO SHOOT

PROVIDE ART DIRECTION

OUR APPROACH: PHOTOGRAPHY

Base Images

- 41 total base images
- Non-color (white) products
- Consistent sizes

OUR APPROACH: PHOTOGRAPHY

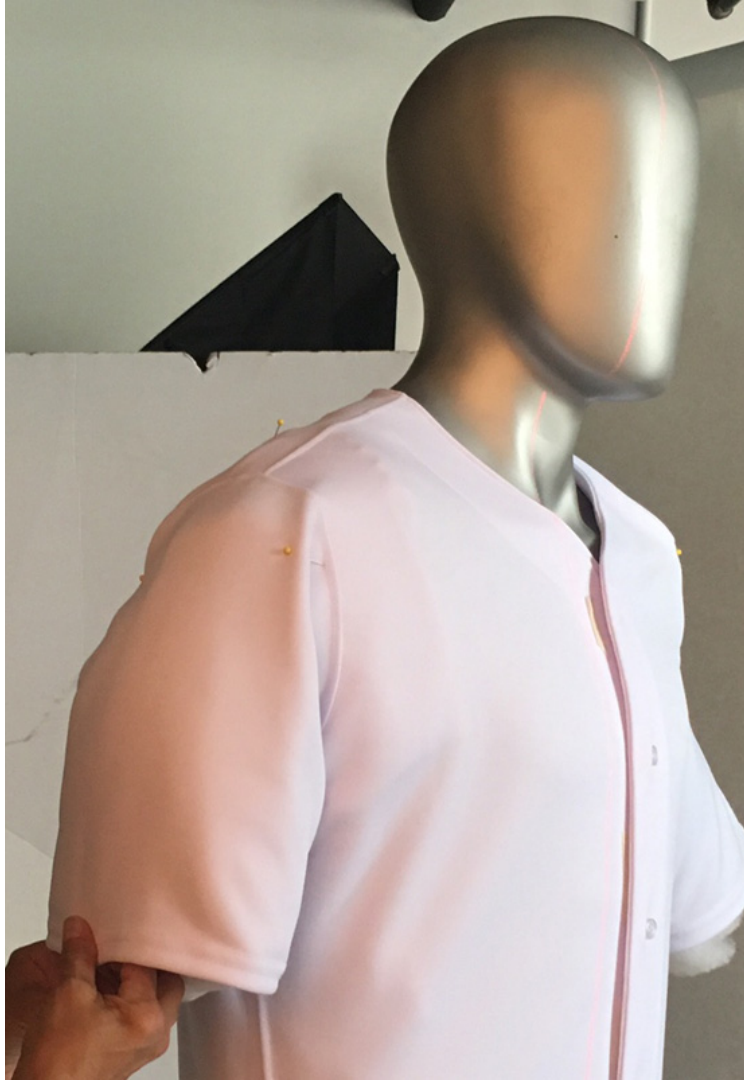
Snap36

- Provide 360 degree spin of products
- Consistent placement, sizing, and angles
- Post production of images

OUR APPROACH: PHOTOGRAPHY

Art Direction

- Lighting to reduce shadows.
- Iron garments to reduce wrinkles.
- Pin garment to create flat areas for logo placement.



Vector Art

FREE DRAWING ON TOP OF PHOTOGRAPHY

EXPORTING SVGS

MULTIPLY FILTER

SVG CAKE

OUR APPROACH: VECTOR ART

OUR APPROACH: VECTOR ART

OUR APPROACH: VECTOR ART

OUR APPROACH: VECTOR ART

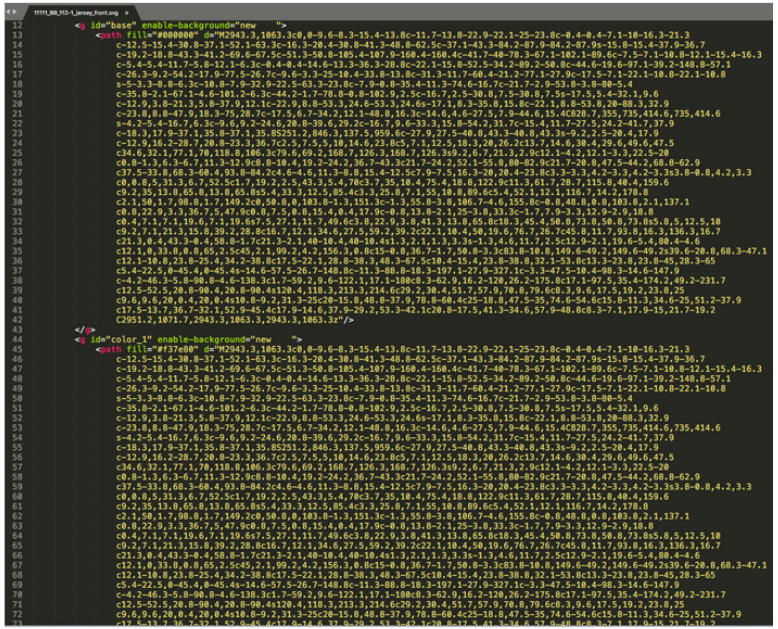
OUR APPROACH: VECTOR ART

OUR APPROACH: VECTOR ART

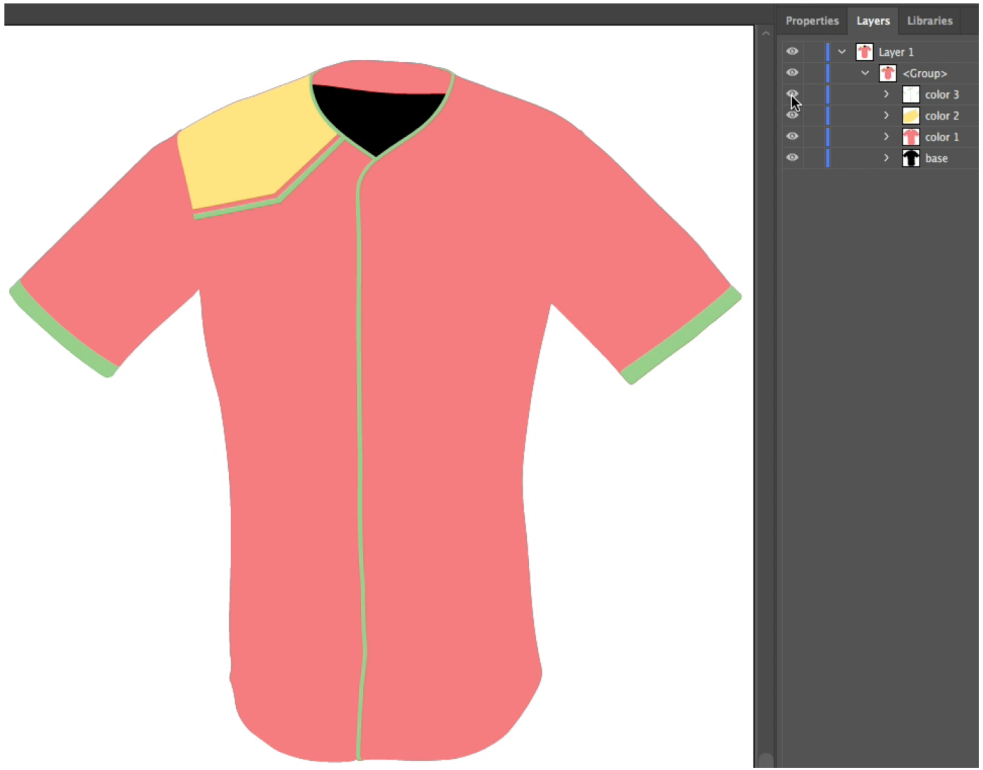
SVG in Adobe Illustrator

=

SVG in Code Editor



OUR APPROACH: VECTOR ART

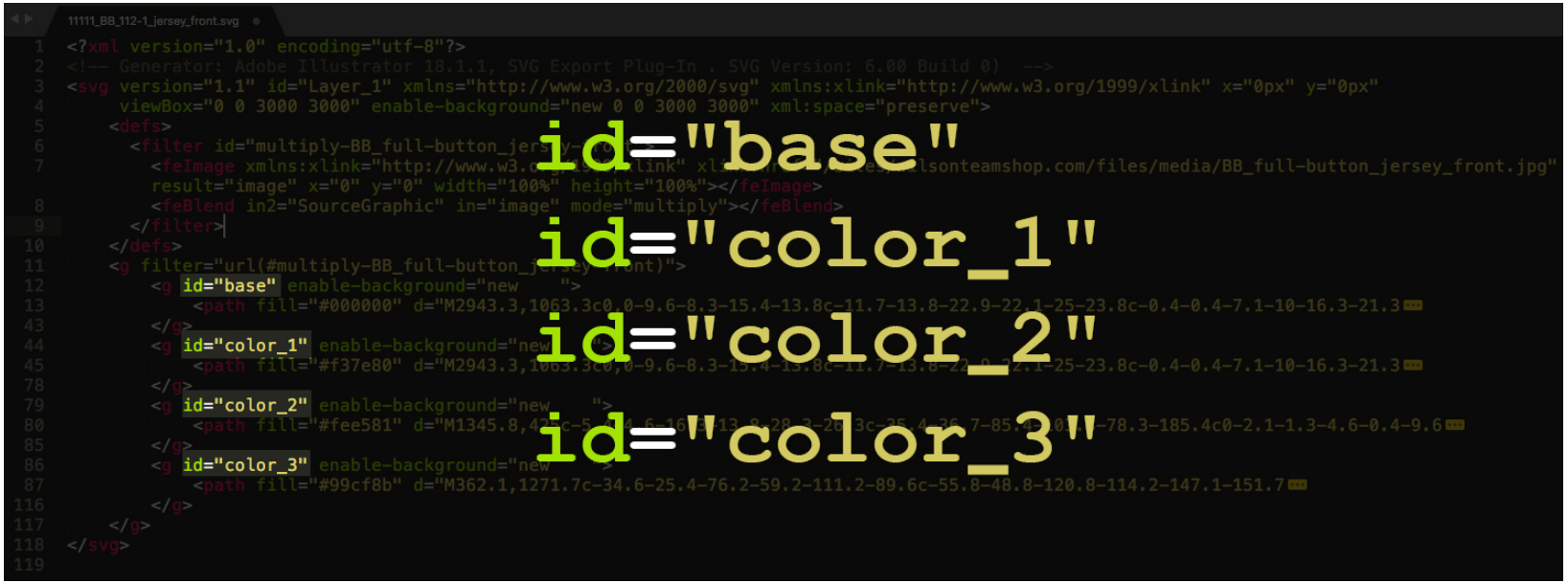


OUR APPROACH: VECTOR ART

11111_BB_112-1_jersey_front.svg

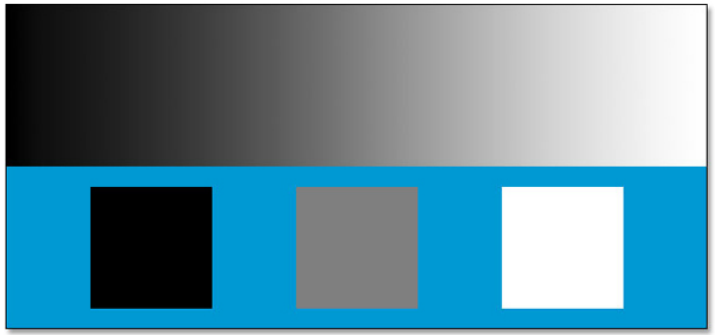
```
<?xml version="1.0" encoding="utf-8"?>
<!-- Generator: Adobe Illustrator 18.1.1, SVG Export Plug-In . SVG Version: 6.00 Build 0)  -->
<svg version="1.1" id="Layer_1" xmlns="http://www.w3.org/2000/svg" xmlns:xlink="http://www.w3.org/1999/xlink" x="0px" y="0px"
     viewBox="0 0 3000 3000" enable-background="new 0 0 3000 3000" xml:space="preserve">
    <defs>
      <filter id="multiply-BB_full-button_jersey-front">
        <feImage xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="/sites/wilsonteamshop.com/files/media/BB_full-button_jersey_front.jpg"
        result="image" x="0" y="0" width="100%" height="100%"></feImage>
        <feBlend in2="SourceGraphic" in="image" mode="multiply"></feBlend>
      </filter>
    </defs>
    <g filter="url(#multiply-BB_full-button_jersey-front)">
        <g id="base" enable-background="new    ">
            <path fill="#000000" d="M2943.3,1063.3c0,0-9.6-8.3-15.4-13.8c-11.7-13.8-22.9-22.1-25-23.8c-0.4-0.4-7.1-10-16.3-21.3...
        </g>
        <g id="color_1" enable-background="new    ">
            <path fill="#f37e80" d="M2943.3,1063.3c0,0-9.6-8.3-15.4-13.8c-11.7-13.8-22.9-22.1-25-23.8c-0.4-0.4-7.1-10-16.3-21.3...
        </g>
        <g id="color_2" enable-background="new    ">
            <path fill="#fee581" d="M1345.8,425c-5.4-4.6-16.3-13.8-28.3-26.3c-35.4-36.7-85.4-103.8-78.3-185.4c0-2.1-1.3-4.6-0.4-9.6...
        </g>
        <g id="color_3" enable-background="new    ">
            <path fill="#99cf8b" d="M362.1,1271.7c-34.6-25.4-76.2-59.2-111.2-89.6c-55.8-48.8-120.8-114.2-147.1-151.7...
        </g>
    </g>
</svg>
```

OUR APPROACH: VECTOR ART

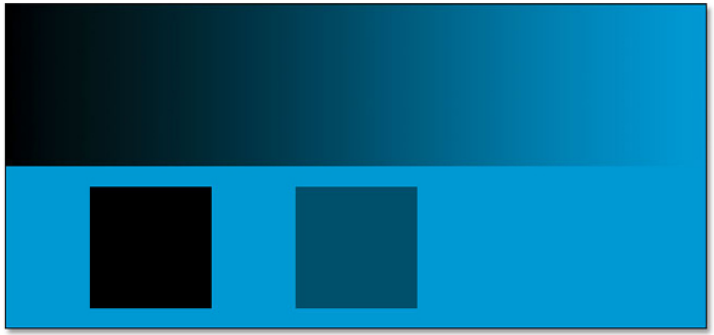


OUR APPROACH: VECTOR ART

Without Multiply Filter



Multiply Filter



Images from photoshopessentials.com

OUR APPROACH: VECTOR ART

Without Multiply Filter

Multiply Filter

OUR APPROACH: VECTOR ART

OUR APPROACH: VECTOR ART

SVG Cake

- Top Layer: Transparent PNG
- Middle Layer: SVG Artwork
- Bottom Layer: Non-colored Product Image

JavaScript

UPDATE PATH FILL COLORS

INSERT TEXT, NUMBERS, & LOGOS

MOVE BUTTONS

OUR APPROACH: JAVASCRIPT

```
    </div>
    ▼<div class="container-jersey">
      <!--?xml version="1.0" encoding="utf-8"?-->
      <!-- Generator: Adobe Illustrator 18.1.1,
      SVG Export Plug-In . SVG Version: 6.00 Build
      0)  -->
      ▼<svg version="1.1" id="Layer_1" xmlns="http:
      //www.w3.org/2000/svg" xmlns:xlink="http://
      www.w3.org/1999/xlink" x="0px" y="0px"
      viewBox="0 0 3000 3000" enable-background="new
      0 0 3000 3000" xml:space="preserve">
        ▶<defs>…</defs>
        ▼<g filter="url(#multiply-BB_2-
        button_jersey-front)">
          ▶<g id="base" enable-background="new     ">
          …</g>
          ▶<g id="color_1" enable-background="new
          ">…</g>
          ▶<g id="color_2" enable-background="new
          ">…</g>
          ▶<g id="color_3" enable-background="new
          ">…</g>
        </g>
      </svg>
    </div>
    ::after
  </div>
  <!-- #main -->
</div>
<!-- #main-container -->
▶<div class="footer-container">…</div>
<script src="//ajax.googleapis.com/ajax/libs/
jquery/1.11.2/jquery.min.js"></script>
▶<script type="text/javascript">…</script>
</body>
</html>
```

OUR APPROACH: JAVASCRIPT

OUR APPROACH: JAVASCRIPT

OUR APPROACH: JAVASCRIPT

OUR APPROACH: JAVASCRIPT

```
<script type="text/javascript">
jQuery(document).ready(function() {
  (function($) {
    $('.color-picker-1 .color-swatch').click(function() {
      var my_color_value;
      $my_color_value = $(this).attr("data-hex-color");
      $('.container-jersey #color_1 path').css("fill", $my_color_value);
      return false;
    });
  })(jQuery);
});
</script>
```

OUR APPROACH: JAVASCRIPT

```
<script type="text/javascript">
jQuery(document).ready(function() {
  (function($) {
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OUR APPROACH: JAVASCRIPT

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      $('.container-jersey #color_1 path').css("fill", $my_color_value);
      return false;
    });
  })(jQuery);
});
</script>
```

... .attr("data-hex-color") ...

OUR APPROACH: JAVASCRIPT

```
<script type="text/javascript">
jQuery(document).ready(function() {
  (function($) {
    $('.color-picker-1 .color-swatch').click(function() {
      var my_color_value;
      $my_color_value = $(this).attr("data-hex-color");
      $('.container-jersey #color_1 path').css("fill", $my_color_value);
      return false;
    });
  })(jQuery);
});
</script>
```

OUR APPROACH: JAVASCRIPT

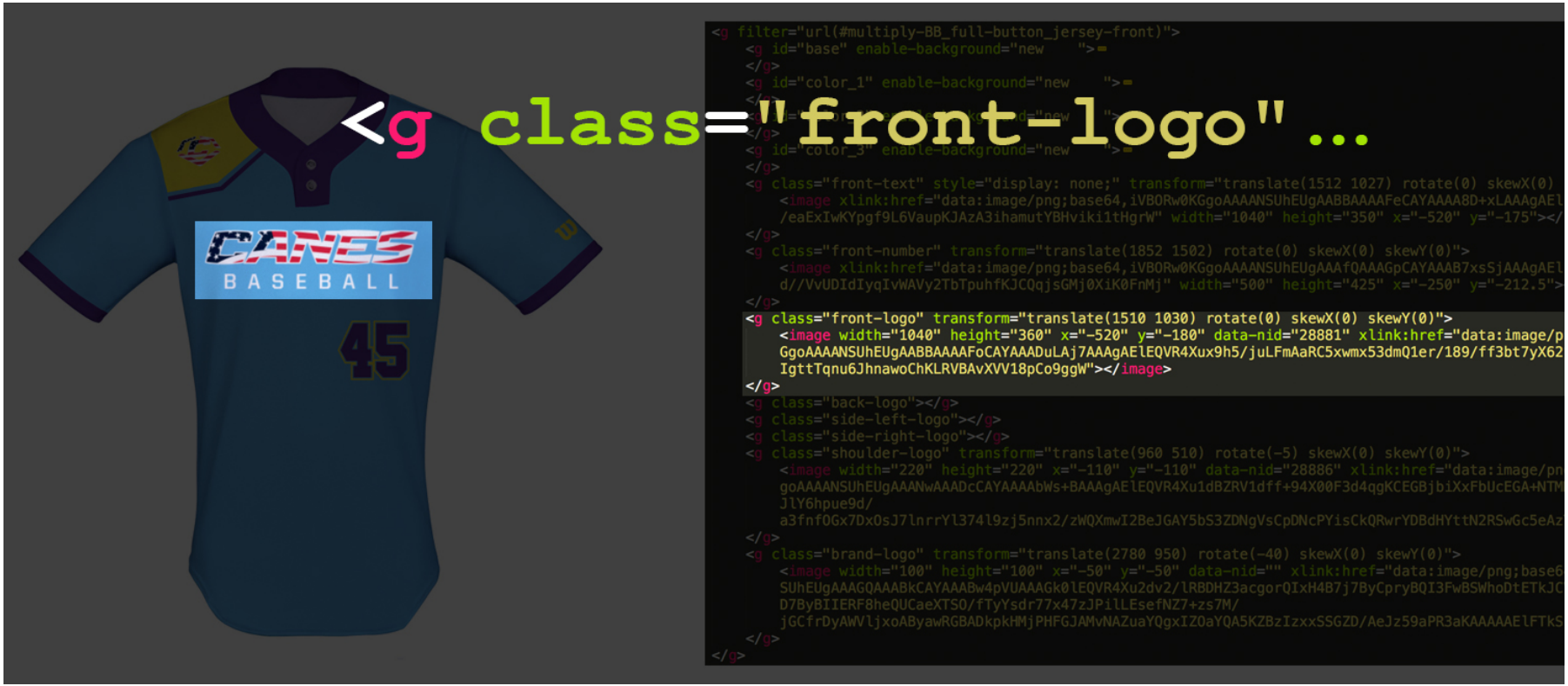
Custom Text, Numbers, & Logos

- <g> Groups inserted on the fly.
- Rasterized artwork added to <g> Groups.
- Order in the SVG matters.

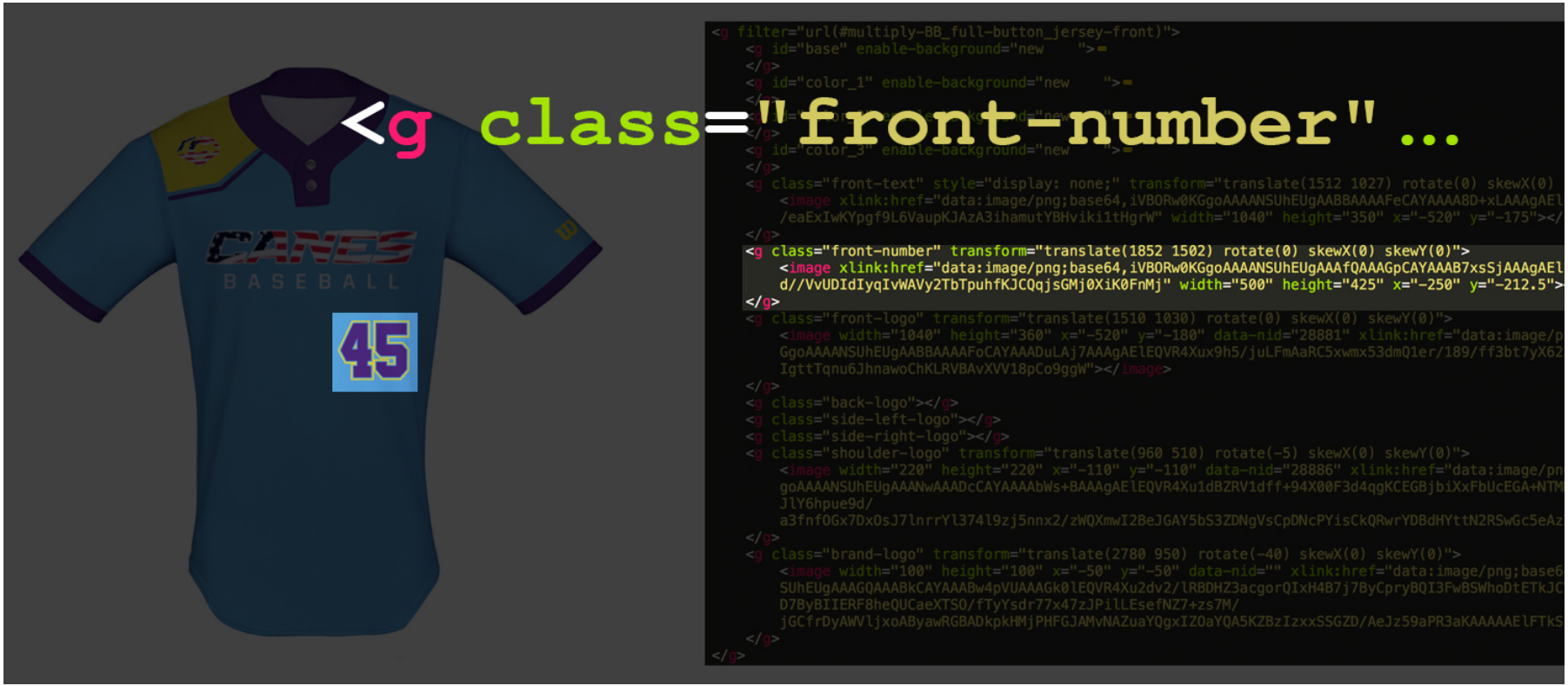
OUR APPROACH: JAVASCRIPT

```
<g filter="url(#multiply-BB_full-button_jersey-front)">
    <g id="base" enable-background="new    ">
    </g>
    <g id="color_1" enable-background="new    ">
    </g>
    <g id="color_2" enable-background="new    ">
    </g>
    <g id="color_3" enable-background="new    ">
    </g>
    <g class="front-text" style="display: none;" transform="translate(1512 1027) rotate(0) skewX(0)
        <image xlink:href="
        /eaExIwKYpgf9L6VaupKJAzA3ihamutYBHviki1tHgrW" width="1040" height="350" x="-520" y="-175"></
    </g>
    <g class="front-number" transform="translate(1852 1502) rotate(0) skewX(0) skewY(0)">
        <image xlink:href="
        d//VvUDIdIyqIvWAVy2TbTpuhfKJCQqjsGMj0XiK0FnMj" width="500" height="425" x="-250" y="-212.5">
    </g>
    <g class="front-logo" transform="translate(1510 1030) rotate(0) skewX(0) skewY(0)">
        <image width="1040" height="360" x="-520" y="-180" data-nid="28881" xlink:href="data:image/p
        GgoAAAANSUhEUgAABBAAAAFoCAYAAADuLAj7AAAgAElEQVR4Xux9h5/juLFmAaoiKCEGBjiXxsCQ1er/189/ff3bt7yX62
        IgttTqnu6JhnawoChKLRVBAvXVV18pCo9ggW"></image>
    </g>
    <g class="back-logo"></g>
    <g class="side-left-logo"></g>
    <g class="side-right-logo"></g>
    <g class="shoulder-logo" transform="translate(960 510) rotate(-5) skewX(0) skewY(0)">
        <image width="220" height="220" x="-110" y="-110" data-nid="28886" xlink:href="data:image/pn
        goAAAANSUhEUgAAANwAAADcCAYAAAAbWs+BAAAgAElEQVR4Xu1dBZRV1dff+94xuqQ7pKQkBAEJBUFJJ
        JlY6hpue9d/
        a3fnfOGx7DxOsJ7lnrrYl374l9zj5nnx2/zWQXmwI2BeJGAVsCpQDNcPYisCkQRwrYDBHYTtNGSwGc5eAz
    </g>
    <g class="brand-logo" transform="translate(2780 950) rotate(-40) skewX(0) skewY(0)">
        <image width="100" height="100" x="-50" y="-50" data-nid="" xlink:href="data:image/png;base6
        SUhEUgAAAGQAAABkCAYAAABw4pVUAAAGk0lEQVR4Xu2dv2/lRBDHZ3acgorQIxwH4B7vbSryCpyCryCryCry
```

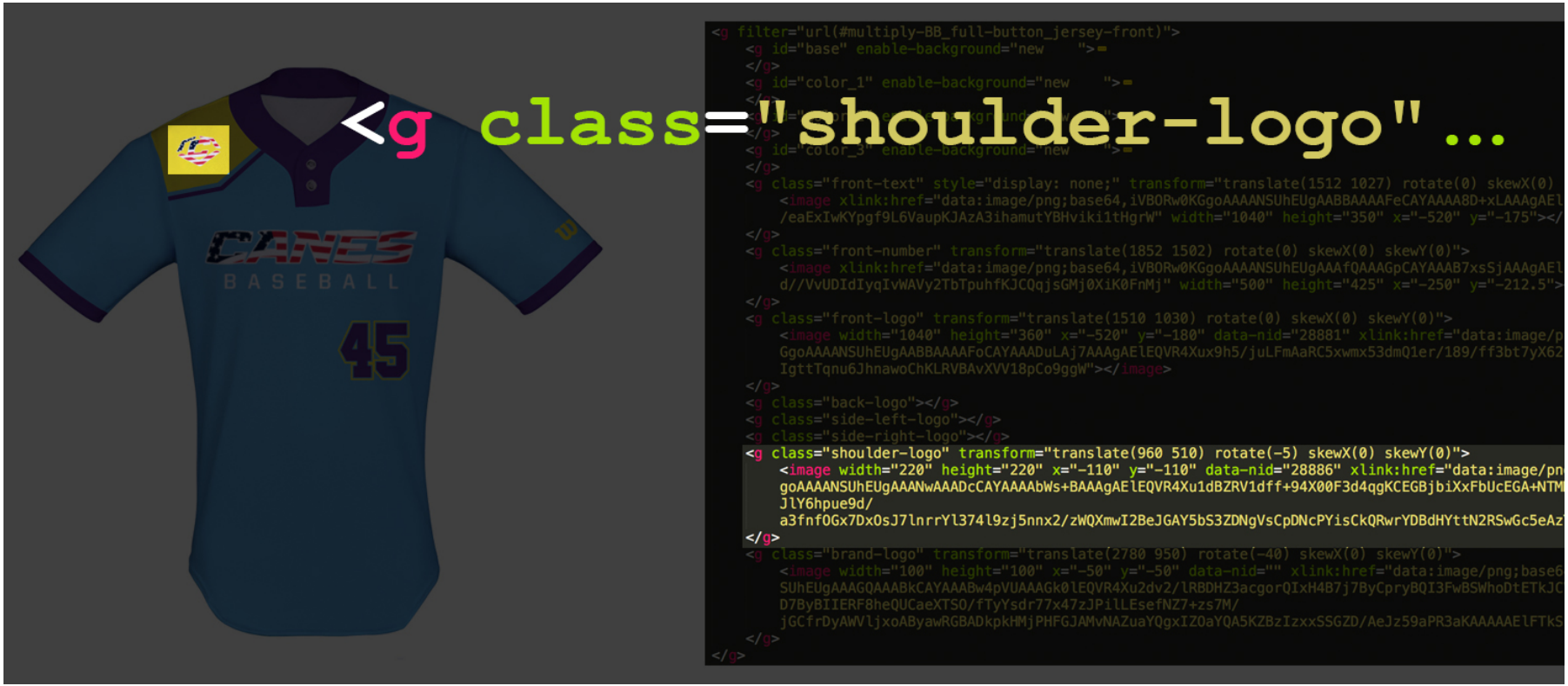
OUR APPROACH: JAVASCRIPT



OUR APPROACH: JAVASCRIPT



OUR APPROACH: JAVASCRIPT



OUR APPROACH: JAVASCRIPT

OUR APPROACH: JAVASCRIPT

Buttons

- Move depending on logo placement.
- Needed more visibility on darker colors.
- Use jQuery to toggle PNGs.

OUR APPROACH: JAVASCRIPT

```
<?xml version="1.0" encoding="utf-8"?>
<!-- Generator: Adobe Illustrator 18.1.1, SVG Export Plug-In . SVG Version: 6.00 Build 0)  --
<svg version="1.1" id="Layer_1" xmlns="http://www.w3.org/2000/svg" xmlns:xlink="http://www.w3
     viewBox="0 0 3000 3000" enable-background="new 0 0 3000 3000" xml:space="preserve">
    <defs>
      <filter id="multiply-BB_full-button_jersey-front">
        <feImage xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="/sites/all/modules/cu
        /BB_full-button_jersey_front.jpg" result="image" x="0" y="0" width="100%" height="100
        <feImage xmlns:xlink="http://www.w3.org/1999/xlink" xlink:href="/sites/all/modules/cu
        /BB_full-button_jersey_front_buttons_mv.jpg" result="image-mv" x="0" y="0" width="100
        <feBlend in2="SourceGraphic" in="image" mode="multiply"></feBlend>
      </filter>
    </defs>

    <g filter="url(#multiply-BB_full-button_jersey-front)">
        <g id="base" enable-background="new    ">…
        </g>
        <g id="color_1" enable-background="new    ">…
        </g>
        <g id="color_2" enable-background="new    ">…
        </g>
        <g id="color_3" enable-background="new    ">…
        </g>
    </g>
    <g id="buttons">
        <image class="org-buttons" width="100%" height="100%" x="0" y="0" xmlns:xlink="http:/
        sites/all/modules/custom/wilson_customizer/images/jerseys/BB_full-button_jersey_front
        <image class="alt-buttons" style="display:none;" width="100%" height="100%" x="0" y="
        www.w3.org/1999/xlink" xlink:href="/sites/all/modules/custom/wilson_customizer/images
        BB_full-button_jersey_front_buttons_mv.png"></image>
    </g>
</svg>
```

OUR APPROACH: JAVASCRIPT

OUR APPROACH: JAVASCRIPT

OUR APPROACH

Our Process

1. Photoshoot
2. Vector Art Production
3. Visual QA / Feedback Loop
4. Technical QA / Feedback Loop
5. Implementation into Product Configurator
6. In-Browser QA / Feedback Loop

Challenges

BASE IMAGES

FEEDBACK + QA

PERFORMANCE

EXCEPTIONS TO THE RULE

CHALLENGES

Finalizing Base Images

Original

(Post Production)

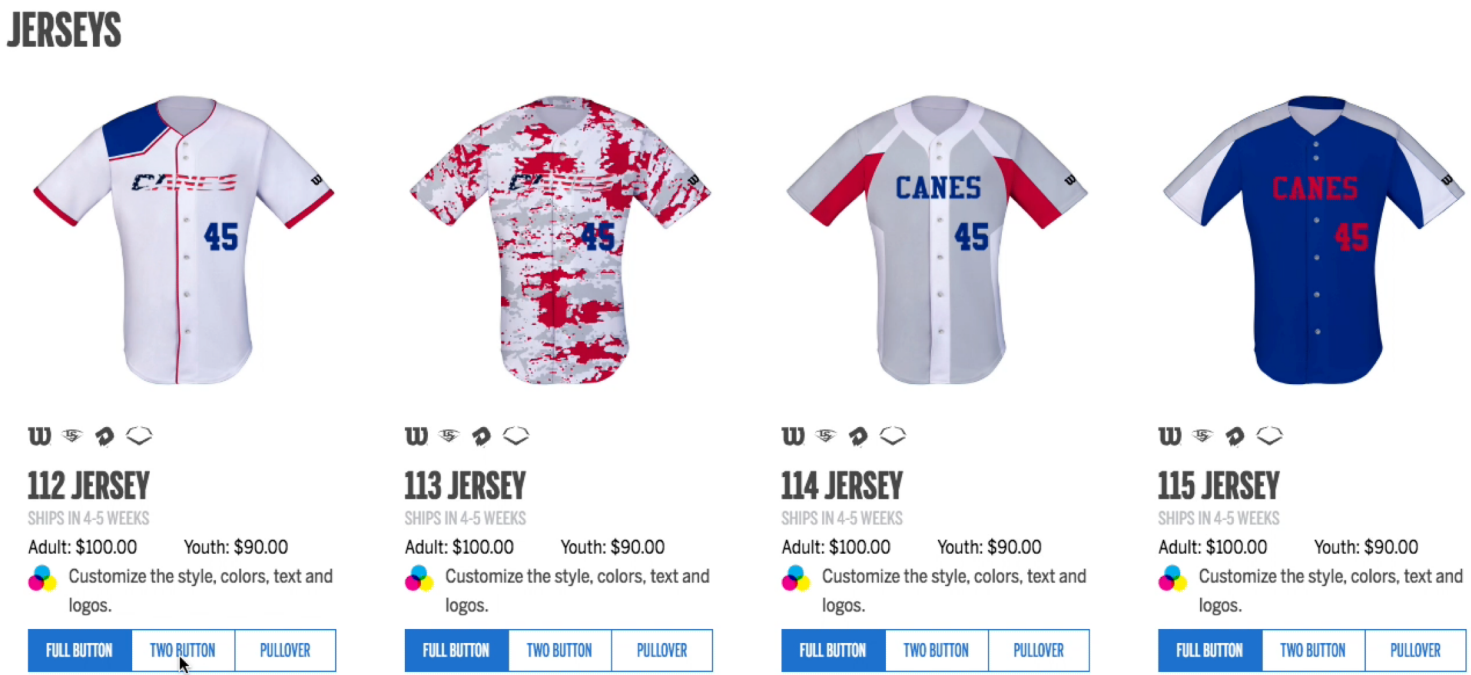
Final

CHALLENGES

Revisions to Vector Artwork

CHALLENGES

Performance



CHALLENGES

Fonts

FONT CHOICE

ABCDE Brush Script	ABCDE Fancy Block	ABCDE Full Block	ABCDE Jays
ABCDE New England	ABCDE Plain Block	ABCDE San Diego	ABCDE Script
ABCDE Tiepolo	ABCDE Vegas		

NAME ARRANGEMENT

Straight	Vertical Arch	Bridge Arch	Slanted

CHALLENGES

Batting Glove Shatter Pattern

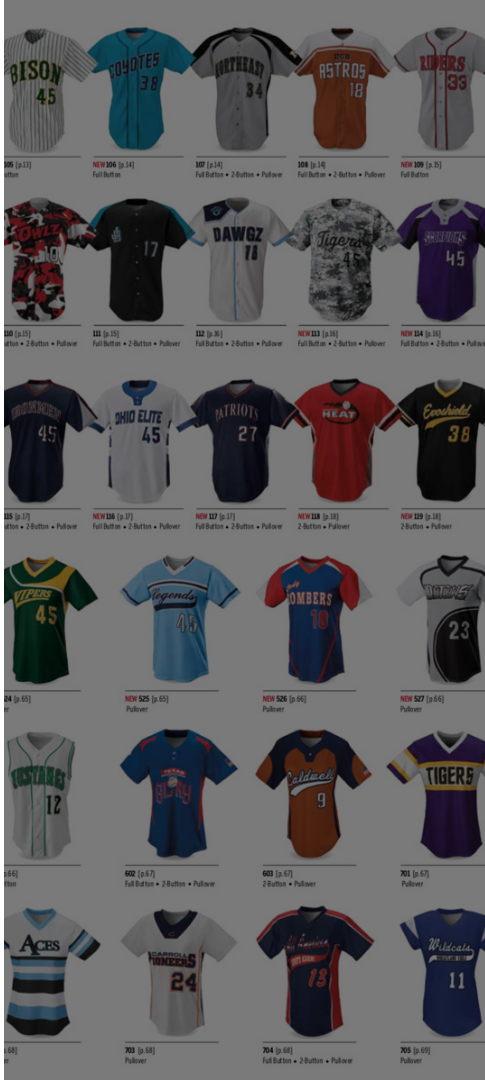
CHALLENGES

Glossy Helmet

WRAPPING UP

ADDITIONAL LINKS

- Wilson Team Shop
  - wilsonteamshop.com
- Configurator Database
  - configurator-database.com
- Smashing Magazine
  - Designing A Perfect Responsive Configurator



QUESTIONS?

ANDREW OLSON
Lead Front End Developer
HS2 Solutions, Inc.

andrew.olson@hs2solutions.com
d.o: andrewozone