

Objective:

Creating SPA (Single Page Application) with segregated paged elements under following preconditions:

1. minimum coding efforts
2. code encapsulation

Both preconditions are vital requirements for yielding minimum runtime errors and maintenance efforts.

Implementation:

The main (SPA) page will host an arbitrary number of subpages, added to the page using `<iframe>` elements.

Each separate subpage is implemented as separate HTML page (or group of HTML pages).

Advantages:

Server side or JavaScript code for each of the HTML pages is kept with each of the subpages, so code cannot “bleed” into other pages’ content.

Each subpage can be implemented and tested “stand-alone”. No context is necessary.

Thus, code and data validation can be maintained separately, even by separate implementers, without affecting the other subpages’ code. And new subpages can be added to the main (SPA) page without requiring testing all possible combinations of subpages.

This isn’t true for current draft of Web Components.

Examples:

Main page (static version):

```
<html>

  <head><title></title></head>

  <body>
    <iframe src="product_edit.html?productID=1" seamless="autoheight" style="width: 100%"/>
    <iframe src="product_edit.html?productID=2" seamless="autoheight" style="width: 100%"/>
    <iframe src="product_edit.html?productID=3" seamless="autoheight" style="width: 100%"/>
    <iframe src="sale_cond.html?groupID=1" seamless="autoheight" style="width: 100%"/>
  </body>

</html>
```

Main page (dynamic version):

```
<html>

<head>
  <title></title>

  <script type="text/javascript" src="../../../jquery_min.js"></script>
  <script type="text/javascript">

    // get and display all products to be sold
    $.getJSON("get_products?sellerID=1", function (data)
      {$.each(data, function (index, val)
        {$("#body").append(
          '<iframe src="product_edit.html?productID='
          + val
          + '" seamless="autoheight" style="width: 100%"/>');
        });}
      );

    // get and display all sales conditions of seller
    $.getJSON("get_sales_conditions?sellerID=1", function (data)
      {$.each(data, function (index, val)
        {$("#body").append(
          '<iframe src="sale_cond.html?groupID='
          + val
          + '" seamless="autoheight" style="width: 100%"/>');
        });}
      );

  </script>
</head>

<body>
</body>

</html>
```

Product subpage (static version, no server code shown):

```
<html>

<head>
  <title></title>

  <script type="text/javascript" src="../../../jquery_min.js"></script>
  <script type="text/javascript">

    // load new editor page according to product group selection
    $(function()
    {
      var $prodGroup = $("#prodGroup");
      var groupEditor = $("#pg_edit")[0];

      $prodGroup.change(function ()
      {
        groupEditor.src =
          "product_properties.html?productGroupID="
          + $prodGroup.val();
      });
    });

  </script>
</head>

<body>
  <form method="post" action="...">
    <fieldset>
      <table>
        <tr>
          <td>Name:</td>
          <td><input type="text" id="prodName" value="USB Mouse"/></td>
        </tr>
        <tr>
          <td>GTIN:</td>
          <td><input type="text" id="prodGTIN" value="12345678"/></td>
        </tr>
        <tr>
          <td>Price:</td>
          <td><input type="text" id="prodPrice" value="12.45 €"/></td>
        </tr>
        <tr>
          <td>Group:</td>
          <td>
            <select id="prodGroup">
              <option value="1">Clothing</option>
              <option value="2" selected="selected">Electronics</option>
              <option value="3">Food</option>
              <option value="4">Vehicles</option>
            </select>
          </td>
        </tr>
        <tr>
          <td>Properties:</td>
          <td>
            <iframe id="pg_edit"
              src="product_properties.html?productGroupID=2"
              seamless="autoheight"
              style="width: 100%"/>
          </td>
        </tr>
      </table>
    </fieldset>
  </form>
</body>
</html>
```

Sample Directory Layout

```
/pages
  /SPA
    /shopping_cart
      /shopping_cart.html
      /shopping_cart.cgi
      /shopping_cart.css
      /shopping_cart.js
    /seller_editor_list
      /seller_editor_list.html
      /seller_editor_list.cgi
      /seller_editor_list.css
      /seller_editor_list.js
  /Subpages
    /product_editor
      /product_properties.html
      /product_properties.cgi
      /product_properties.css
      /product_properties.js
    /product_group_editor
      /group_properties.html
      /group_properties.cgi
      /group_properties.css
      /group_properties.js
    /cart_editor
      /cart_item.html
      /cart_item.cgi
      /cart_item.css
      /cart_item.js
```