**Design Document: Enhancing Font Style Retention in HTML to SmartHTML Conversion**

**1. Overview**

This document outlines the design and implementation approach for enhancing the HtmlToSmartHtml module to support retention of font-specific styles (e.g., <font class="fontX">) during the conversion of HTML tables (from Excel) to SmartHTML and eventually to SmartTable XML.

**2. Current Flow**

**2.1 HTML Generation**

* HTML is generated either:
  + **Direct Upload**: Excel file is uploaded and converted to HTML using **Aspose**.
  + **Adapter Upload**: Excel file is processed by **Microsoft Office adapter** and then checked in, generating HTML through the adapter.

**2.2 HTML to SmartHTML Conversion**

* The HtmlToSmartHtml module parses the input HTML table and transforms it into **SmartHTML**.
* **Current Limitation**: While outer <td> styles (e.g., class xl65) are preserved, **inline font classes** inside cells are ignored.
  + Example Ignored Content:
  + <td class=xl65 style='border-top:none;border-left:none'>
  + as**<font class="font6">dfs</font>**
  + **<font class="font0">df<span style='mso-spacerun:yes'>  </span></font>**
  + **<font class="font5">safsdf</font>**
  + </td>

**2.3 SmartHTML to SmartTable Conversion**

* SmartHTML is further transformed to SmartTable XML using **XSLT**.

**3. Problem Statement**

Currently, font-level styling within cell contents is lost during the SmartHTML transformation. This results in **loss of semantic and visual fidelity**, especially for Excel documents relying heavily on font-based formatting.

**4. Objective**

To **retain font-specific styles** inside table cell content throughout the transformation pipeline from HTML → SmartHTML → SmartTable XML.

**5. Proposed Design Changes**

**5.1 Areas of Modification**

The enhancement will span three key layers of the transformation flow:

**5.1.1 HtmlToSmartHtml Module**

* **Enhance the HTML parsing logic** to capture and retain inline <font> class-based styling inside <td>.
* These styles should be represented in the resulting SmartHTML either as inline style metadata or as semantic XML tags that XSLT can recognize.
* Update the minified JavaScript bundle:
  + **File**: HtmlToSmartHtml/resources/qxml-editor-all-min.js
  + **Responsibility**: This file provides the SmartHTML editor logic and rendering capabilities using a custom XML-based rich text engine.
  + **Enhancement**: Add logic to support rendering and saving of retained <font class="..."> data in SmartHTML structure.
    - Possibly expand the **style manager**, **component handler**, or **widget plugin** handling text content to support this.

**5.1.2 SmartHTML to SmartTable (XSLT)**

* Modify the XSLT transformation rules to **recognize and translate font style metadata** into the appropriate SmartTable XML tags or attributes.

**6. Technical Background on qxml-editor-all-min.js**

This is a **minified JavaScript bundle** powering the QXmlEditor, a custom XML-based WYSIWYG editor (likely built atop CKEditor).

**Key Functionalities:**

* **Editor Initialization & Configuration**
* **SmartHTML Document Lifecycle Management**
* **Component Management** (sections, tables, lists, figures)
* **Event Dispatching & Listening**
* **Command Execution Control**
* **Server Interaction via AJAX**
* **Error Handling & Logging**
* **Support for Collaborative Editing**

**Role in Current Context:**

This file governs how XML/SmartHTML is interpreted, visualized, and serialized in the frontend. Any font-style changes in SmartHTML need to be rendered accurately and persisted in SmartTable XML, necessitating updates here.

**7. Implementation Plan**

| **Step** | **Task** | **Owner** | **Notes** |
| --- | --- | --- | --- |
| 1 | Enhance HtmlToSmartHtml to retain <font class="..."> data | Backend Dev | May involve DOM parsing and new tag injection |
| 2 | Modify qxml-editor-all-min.js to recognize font classes in SmartHTML | Backend Dev | May require editing source and rebuilding minified file |
| 3 | Extend XSLT transformation logic to support font metadata | XML Specialist | Ensure mapping of semantic font tags to SmartTable XML |
| 4 | Testing | QA | End-to-end test for visual and data fidelity |

**8. Summary**

This enhancement ensures fidelity in the document transformation process by preserving inner font-level styles in Excel-generated HTML. By updating the HtmlToSmartHtml logic, the editor rendering engine, and the SmartTable XSLT transformation, we ensure a complete and accurate round-trip conversion experience.