Avoiding screen flickering in Symbian Web Runtime

This code snippet demonstrates how to avoid screen flickering while changing several HTML elements at once and one by one.

Overview

The method `widget.prepareForTransition(String transitionMode)` is used to prepare a widget for a transition state before modifying the widget view by disabling updates to the widget UI.

`transitionMode` is a text string that defines the desired transition mode. Here, `transitionMode = "fade"` is used to achieve a fading effect.

The method `widget.performTransition()` is used to update the widget screen. It performs the animation while the widget's view is being changed.

Source file: Relevant HTML components

```
<table id="mainTable" class="mainTable">
    <tr>
        <td id="green">
            <input type="button" id="buttongreen" size="20"
                value="GREEN" onclick="switchColor('green');" />
        </td>
        <td class="tdText">
        <textarea id="greentext" name="colorText" rows="1" cols="30"
            readonly="readonly">
        </textarea>
        </td>
    </tr>
    <tr>
        <td id="blue">
            <input type="button" id="buttonblue" size="20"
                value="BLUE" onclick="switchColor('blue');" />
        </td>
        <td class="tdText">
        <textarea id="bluetext" name="colorText" rows="1" cols="30"
            readonly="readonly">
        </textarea>
        </td>
    </tr>
    <tr>
        <td id="red">
            <input type="button" id="buttonred" size="20"
                value="RED" onclick="switchColor('red');" />
        </td>
        <td class="tdText">
        <textarea id="redtext" name="colorText" rows="1" cols="30"
            readonly="readonly">
        </textarea>
        </td>
    </tr>
</table>
<input type="checkbox" id="mode" /><strong>Non-flickering mode</strong>
```

Source file: JavaScript file

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```
// Current main color
var currentColor = 'green';

window.onload = init;

// Initializes the widget
function init() {
    setDefaultSettings();
}

/**
 * Sets default application view settings.
 */
function setDefaultSettings() {
    // Set default main color to 'green'
    currentColor = 'green';

    // Hide the button corresponding to 'green' color
    document.getElementById('buttongreen').style.display = 'none';

    // Set other buttons visible
    document.getElementById('buttonblue').style.display = 'block';
    document.getElementById('buttonred').style.display = 'block';

    // Set default background color
    document.getElementById('green').style.backgroundColor = 'green';
    document.getElementById('blue').style.backgroundColor = 'white';
    document.getElementById('red').style.backgroundColor = 'white';

    // Set default text captions
    document.getElementById('greentext').innerHTML = 'GREEN COLOR IS SWITCHED ON';
    document.getElementById('bluetext').innerHTML = 'SWITCHED OFF';
    document.getElementById('redtext').innerHTML = 'SWITCHED OFF';

    // Show the softkeys
    window.menu.showSoftkeys();
}

/**
 * Changes the main color of application view.
 *
 * @param newColor a new color to be applied as main color.
 */
function switchColor(newColor) {
    // Construct id of button which was clicked before
    var lastClickedButtonId = "button" + currentColor;

    // Check if non-flickering mode is enabled
    if (document.getElementById('mode').checked) {
        // Set non-flickering mode
        window.widget.prepareForTransition("fade");
    }

    // Show the button which was clicked before
    document.getElementById(lastClickedButtonId).style.display = 'block';
```


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```
    // Reset the main color
    document.getElementById(currentColor).style.backgroundColor = 'white';

    // Construct id of new clicked button
    var newClickedButtonId = "button" + newColor;

    // Hide the clicked button
    document.getElementById(newClickedButtonId).style.display = 'none';

    // Set the new main color
    document.getElementById(newColor).style.backgroundColor = newColor;

    // Set new text captions
    // Get access to text areas
    var textareasArray = document.getElementsByName('colorText');

    // Change text captions
    for (var i = 0; i < textareasArray.length; i++) {
        if (textareasArray[i].id == (newColor + 'text')) {
            // Caption for color which is switched on
            var newMainColorCaption = newColor + ' COLOR IS SWITCHED ON';
            textareasArray[i].innerHTML = newMainColorCaption.toUpperCase();
        } else {
            // Set caption for color which is switched off
            textareasArray[i].innerHTML = 'SWITCHED OFF';
        }
    }

    // If non-flickering mode is enabled update screen
    if (document.getElementById('mode').checked) {
        // Update screen
        window.widget.performTransition();
    }

    // Update current color variable
    currentColor = newColor;
}
```

Postconditions

When the widget is launched, a view with three buttons is shown.

At each moment only two buttons are visible. A "Non-flickering mode" checkbox is also available.

When one of the buttons is clicked, the view state is changed. If the "Non-flickering mode" checkbox is checked, the screen is updated with a fading effect, which prevents possible flickering.

Supplementary material

This code snippet is part of the stub concept, which means that it has been patched on top of a template application in order to be more useful to developers. The version of the WRT stub application used as a template in this snippet is v1.1.

- The patched, executable application that can be used to test the features described in this snippet is available for download at Media:Avoiding flickering in WRT.zip.
- You can view all the changes that are required to implement the above-mentioned features. The changes are provided in unified diff and colour-coded diff (HTML) formats in Media:AvoidingScreenFlickering.diff.zip.
- For general information on applying the patch, see Using Diffs.
- For unpatched stub applications, see Example app stubs with logging framework.

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