Read file content as binary

INTRODUCTION

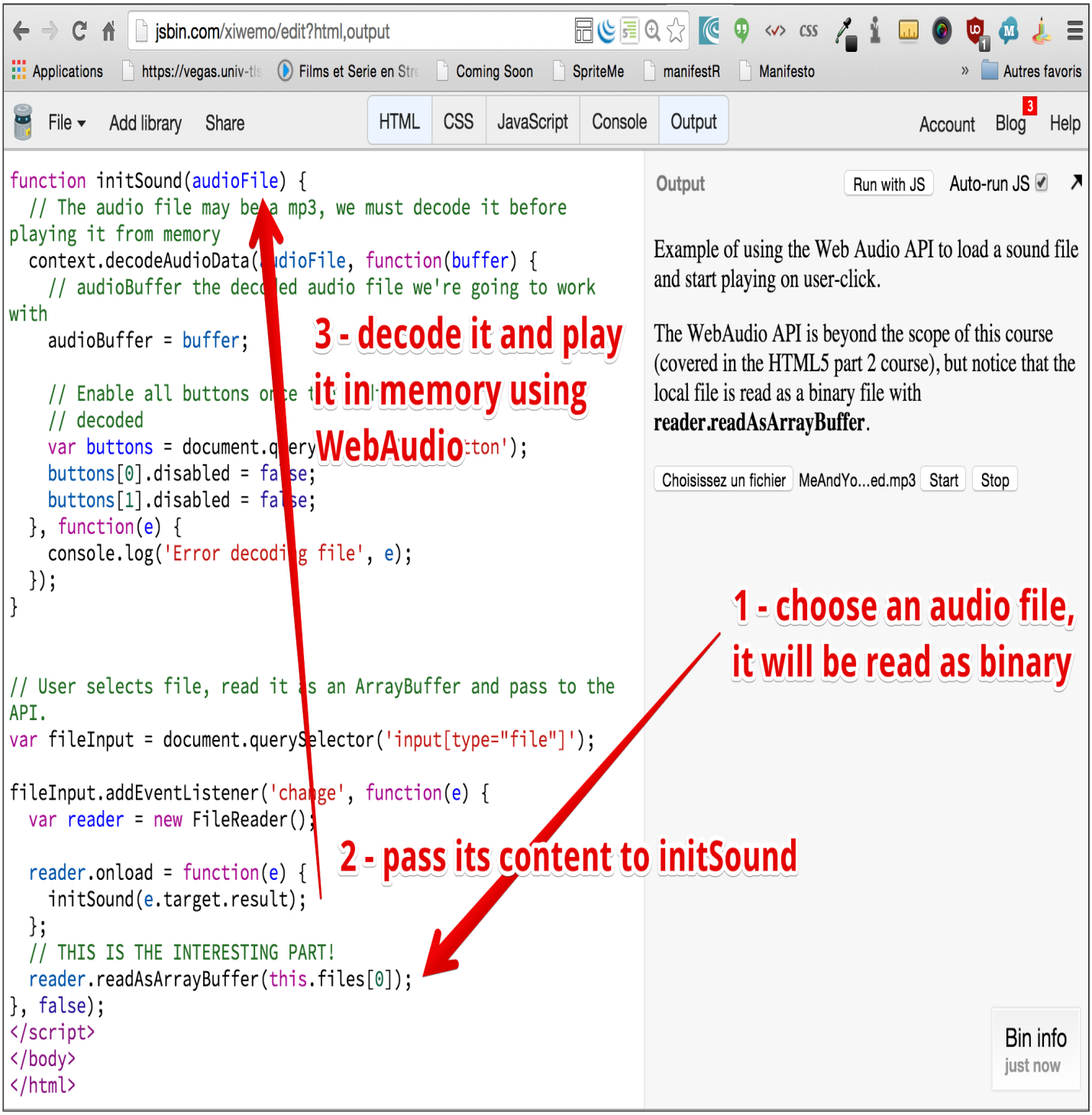
This method is rarely used, except for loading "raw" binary data. For images you would like to see in your HTML page using the `<img src= tag>` or for drawing in a canvas, or for audio and video files that you would like to play using the `<audio>` or`<video>` elements, it would be preferable to use the`readAsDataURL` method presented on the next page of the course.

`readAsArrayBuffer` is often used for purposes such as reading audio samples that should be loaded in memory and played using the WebAudio API, or for loading textures that you will use with WebGL for 3D animations.

EXAMPLE 1: READ A LOCAL AUDIO FILE AND PLAY IT WITH THE WEBAUDIO API

The WebAudio API is useful for reading audio sound samples from memory (no streaming), and has been designed for music application and games. This example shows how a local audio file can be read and played directly in the browser, without the need for a server!

Example on JS Bin (does not work on IE, as it does not support the WebAudio API). We could not embed it here on the edX platform as it prevents code that uses Ajax to run in its pages.



Source code extract:

```
    // User selects file. Read it as an ArrayBuffer and pass to
    the API.
    var fileInput =document.querySelector('input[type="file"]');
    fileInput.addEventListener('change',function(e) {
       var reader = new FileReader();
```

```
    reader.onload = function(e) {
        initSound(e.target.result);
    };
    // THIS IS THE INTERESTING PART!
    reader.readAsArrayBuffer(this.files[0]);
}, false);
```

Explanations:

- *Line 1:* we get a pointer to the file selector, the variable`fileInput`.
- *Line 4:* we define a `change` listener. In this example, we use an anonymous function directly included in the listener definition (the listener is the `function(e) {...}`).
- *Line 11:* when a user chooses a file, the listener will be executed. Line 11 will start the reading of the file content, as a binary file (this is what `readAsArrayBuffer` means: read as binary!). Once the file will be entirely read, the onload callback will be asynchronously called by the browser.
- *Line 7* is the `onload` callback, executed when the file content is loaded in memory. We pass the file content to the `initSound` function (see JS Bin example for complete source code) that uses WebAudio to decode it (it may be a compressed file - an mp3 for example - and WebAudio works only with uncompressed audio formats in memory), and to play it.