

Engineering Take Home Assignment

JW Player

Create a javascript class or function that creates a very simple video player. The video player would use the HTML video element to render media. You can find information on how to use the HTML video element [\(here\)](#)

When created, the player class should accept the following variables:

- divId: the HTML div id of the element which will contain the video player
- width: the player's desired width
- height: the player's desired height.

When instantiated, the player must be placed in the container specified by the div id and sized to the width and height provided.

The player's API consists of:

- load(url) , where url is the string path of an mp4 file. i.e.
“<https://www.learningcontainer.com/wp-content/uploads/2020/05/sample-mp4-file.mp4>”
- play() which should start the playback
- Pause() which should pause the playback
- resize(width, height) which should change the player's size.
- getHeight() , which returns the player's height
- getWidth() , which returns the player's width
- setAutoplay(autoplay) where the 'autoplay' argument is a boolean indicating whether or not the player should autostart.
- setVolume(volume), where the volume argument is an integer from 0 to 100 representing the percentage of audible volume
- getVolume() which returns the current volume as an integer from 0 to 100.
- setMute(mute) where the mute argument is a boolean indicating whether or not the player should be muted
- getMute() which returns a boolean indicating whether or not the player is muted
- getDuration() which returns an integer indicating the duration of the media in seconds
- setFullscreen(fullscreen) where the fullscreen argument is a boolean indicating whether or not the player should occupy the entire area of the screen.
- getPlaybackState() which returns a string indicating the player's current playback state. The options are: “playing”, “paused”, and “ended”. The “ended” value should be returned when the media reaches the end.

Note:

- In this exercise, width and height should always be an integer indicating the dimensions in pixels.
- It is sufficient for your player to work in Chrome, Firefox or Safari. Internet Explorer and Edge will not be tested.
- To test your player you can use the following mp4 source:
<https://www.learningcontainer.com/wp-content/uploads/2020/05/sample-mp4-file.mp4>

Extra credit:

Add to the API a `getViewability()` function that returns an integer between 0 and 100 indicating the percentage of the player that is viewable on the page. In other words, if the page is scrolled, and only half of the player is visible, `getViewability()` should return 50. Hint: you can use the browser's (intersection observer

API)[https://developer.mozilla.org/en-US/docs/Web/API/Intersection_Observer_API]. The precision should be threshold should be 10% of the player's size.

The following resources may or may not be helpful:

<https://developer.mozilla.org/en-US/docs/Web/HTML/Element/video>

<https://developer.mozilla.org/en-US/docs/Web/API/HTMLMediaElement>

https://developer.mozilla.org/en-US/docs/Web/API/Resize_Observer_API