

Representation of MediaStreamTracks in a MediaStream

Track Sets

- MediaStream stores tracks internally in two unordered sets
 - audio track set
 - video track set

The tracks of a `MediaStream` are stored in two sets: one **audio track set** and one **video track set**. The two track sets MUST contain the `MediaStreamTrack` objects that correspond to the tracks of the stream. `MediaStreamTrack` objects with a `kind` equal to "audio" MUST be added to the audio track set. `MediaStreamTrack` objects with a `kind` equal to "video" MUST be added to the video track set. The relative order of the tracks sets is user agent defined and the API will never put any requirements on the order. The proper way to find a specific `MediaStreamTrack` object is to look it up by `id`.

MediaStream IDL

```
[Constructor (),
Constructor (MediaStream stream),
Constructor (MediaStreamTrackArray tracks)]
interface MediaStream : EventTarget {
    readonly attribute DOMString label;

    sequence<MediaStreamTrack> getAudioTracks (); *
    sequence<MediaStreamTrack> getVideoTracks (); *
    MediaStreamTrack getTrackById (DOMString trackId); *

    void addTrack (MediaStreamTrack track); *
    void removeTrack (MediaStreamTrack track); *

    attribute boolean ended;
    attribute EventHandler onended;
    attribute EventHandler onaddtrack; *
    attribute EventHandler onremovetrack; *
};
```

MediaStream

```
sequence<MediaStreamTrack> getAudioTracks ();  
sequence<MediaStreamTrack> getVideoTracks ();  
MediaStreamTrack getTrackById (DOMString trackId);
```

The `getAudioTracks()` method MUST return a sequence that represents a snapshot of all the `MediaStreamTrack` objects in this stream's **audio track set** at the time of the call. The conversion from the track set to the sequence is user agent defined and the order does not have to stable between calls.

The `getVideoTracks()` method MUST return a sequence that represents a snapshot of all the `MediaStreamTrack` objects in this stream's **video track set** at the time of the call. The conversion from the track set to the sequence is user agent defined and the order does not have to stable between calls.

The `getTrackById()` method MUST return the first `MediaStreamTrack` object in this stream's track sets (**audio track set** and **video track set**) whose `id` is equal to `trackId`. The method MUST return null if no track matches the `trackId` argument.

MediaStreamTrack id

```
interface MediaStreamTrack {  
  readonly attribute DOMString kind;  
  readonly attribute DOMString id; *  
  readonly attribute DOMString label;  
  
  attribute boolean enabled;  
  ...  
}
```

When a `MediaStreamTrack` is created, the user agent MUST generate a globally unique identifier string and initialize the object's `id` attribute to that string.

`MediaStreamTrack.id` attribute MUST return the value to which it was initialized when the object was created.