

Representation of MediaStreamTracks in a MediaStream

Track Sets

- MediaStream stores tracks internally in an unordered set
- The track set is filtered to provide the output to `getAudioTracks()` and `getVideoTracks()`.

The tracks of a `MediaStream` are stored in a **track set**. The track set **MUST** contain the `MediaStreamTrack` objects that correspond to the tracks of the stream. The relative order of the tracks in the set is user agent defined and the API will never put any requirements on the order. The proper way to find a specific `MediaStreamTrack` object in the set is to look it up by its `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 `track set` whose `kind` is equal to "audio". The conversion from the `track set` to the sequence is user agent defined and the order does not have to be stable between calls.

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

The `getTrackById()` method **MUST** return the first `MediaStreamTrack` object in this stream's `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.