

## Understanding `navigator` and `navigator.mediaDevices` (Web APIs)

What is `navigator`?

`navigator` is a built-in object in the browser that gives information about the user's browser and device.

Example:

```
console.log(navigator.userAgent);
```

What is `navigator.mediaDevices`?

This provides access to media devices like:

- Microphone
- Camera
- Audio output devices

Most Important Method: `getUserMedia()`

Used for:

- Video calling
- Screen recording
- Audio capture

Example:

```
navigator.mediaDevices.getUserMedia({ video: true, audio: true })  
  
  .then((stream) => {  
  
    const videoElement = document.querySelector('video');  
  
    videoElement.srcObject = stream;  
  
    videoElement.play();  
  
  })
```

```
.catch((err) => {  
  console.error('Error accessing media devices.', err);  
});
```

Explanation:

- `{ video: true, audio: true }`: Asks for camera and mic access
- `.then((stream) => {...})`: Handles the allowed stream
- `videoElement.srcObject`: Displays live video

Notes:

- Permission is required
- Works only on HTTPS or localhost
- Returns a stream (can be viewed or recorded)

Other useful `navigator` properties:

- `navigator.userAgent`: Browser info
- `navigator.language`: Preferred language
- `navigator.onLine`: Online/offline status
- `navigator.geolocation`: Location access (with permission)
- `enumerateDevices()`: Lists available input/output devices

MDN Docs:

- <https://developer.mozilla.org/en-US/docs/Web/API/Navigator>
- <https://developer.mozilla.org/en-US/docs/Web/API/MediaDevices>
- <https://developer.mozilla.org/en-US/docs/Web/API/MediaDevices/getUserMedia>

WebRTC Tip:

`getUserMedia()` is the first step to capture user media for video chat apps. The stream is then shared peer-to-peer via WebRTC.