Device Enumeration

Proposal

- Provide a means to enumerate devices

  {Video,Audio}StreamSource.getDevices()

- Produces a list of device identifiers
  - Identifiers are stable across visits to a site
  - Identifiers are reset when cookies are cleared
- A new constraint to select a device by identifier: "sourceId"
- Allows sites to save an identifier and select the same device in subsequent sessions

Concerns

- Fingerprinting surface increased over a device count?

  - Not true: fingerprinting surface is identical

- What about screen capture, file sources, … ?

  - Proposal: these are not enumerated

  - Different constraints can be used to specify a desire to acquire these sources (e.g., sourceType)

Synchronous getUserMedia

Is not really synchronous any more

- A template stream configuration is provided to getUserMedia

- Constraints can be imprecisely specified:

    var constraints = {audio: {sourceId: "…", …}};
    nav.getUserMedia(constraints, gotStream, error);

- Or attached to tracks:

    var constraints = {sourceId: "…", …};
    var track = new AudioStreamTrack(constraints);
    var stream = new MediaStream([track]);
    nav.getUserMedia(stream, gotStream, error);

Advantages of Template Method

- Templates allow for
  - Creation of SDP that allows for the potential existence of media
  - Constraints are attached to the track directly
  - Multiple streams of the same type without resorting to scary "ask twice in a row" hacks

Advantages of Contraints Overload

- Makes safe code the lazy path
  - Hopefully avoids programmer error
- "Backward" compatible