Video over HTTP

mobile native application

UDP   TCP   HTTP

web browser
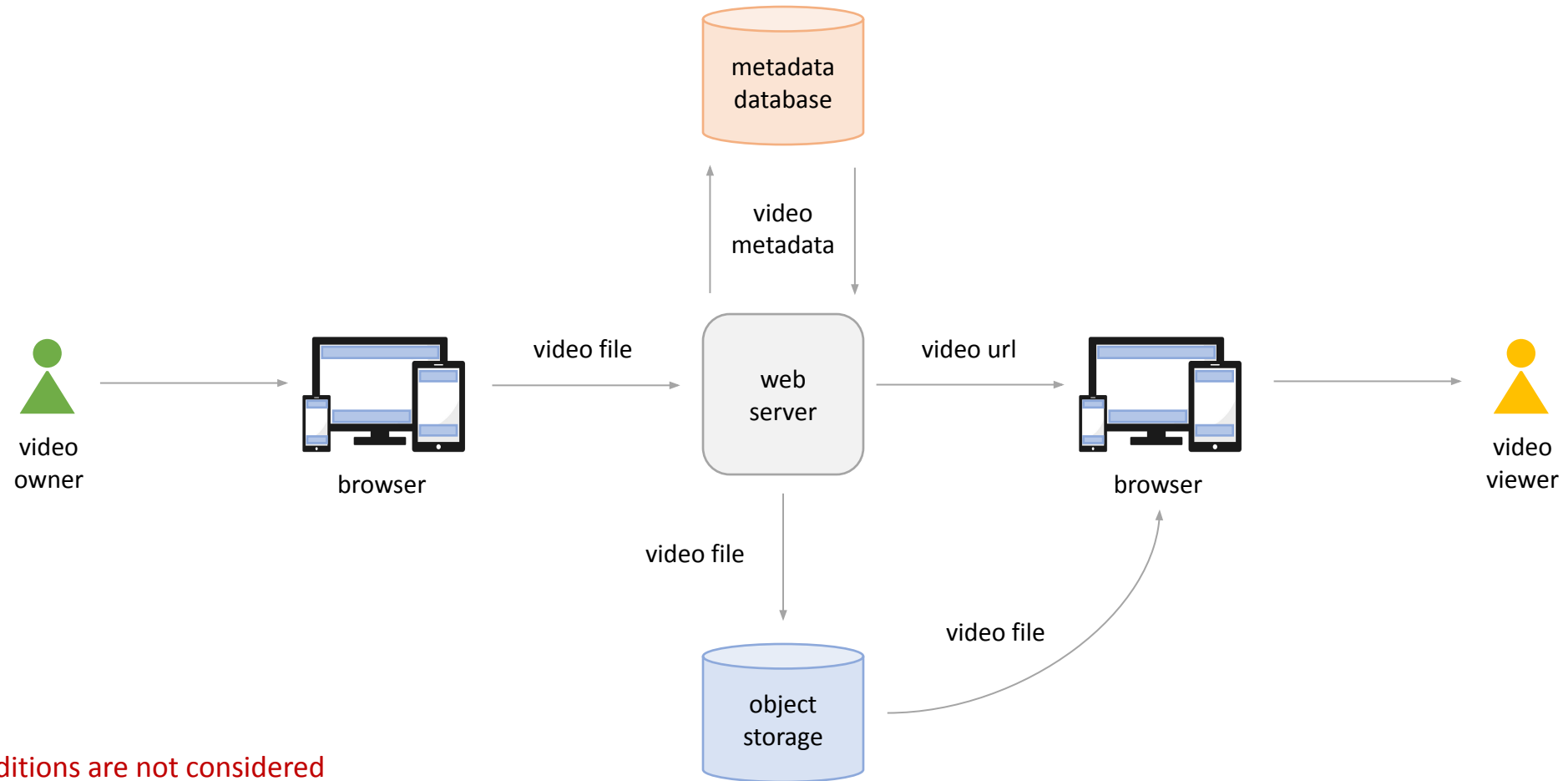
UDP   TCP   HTTP
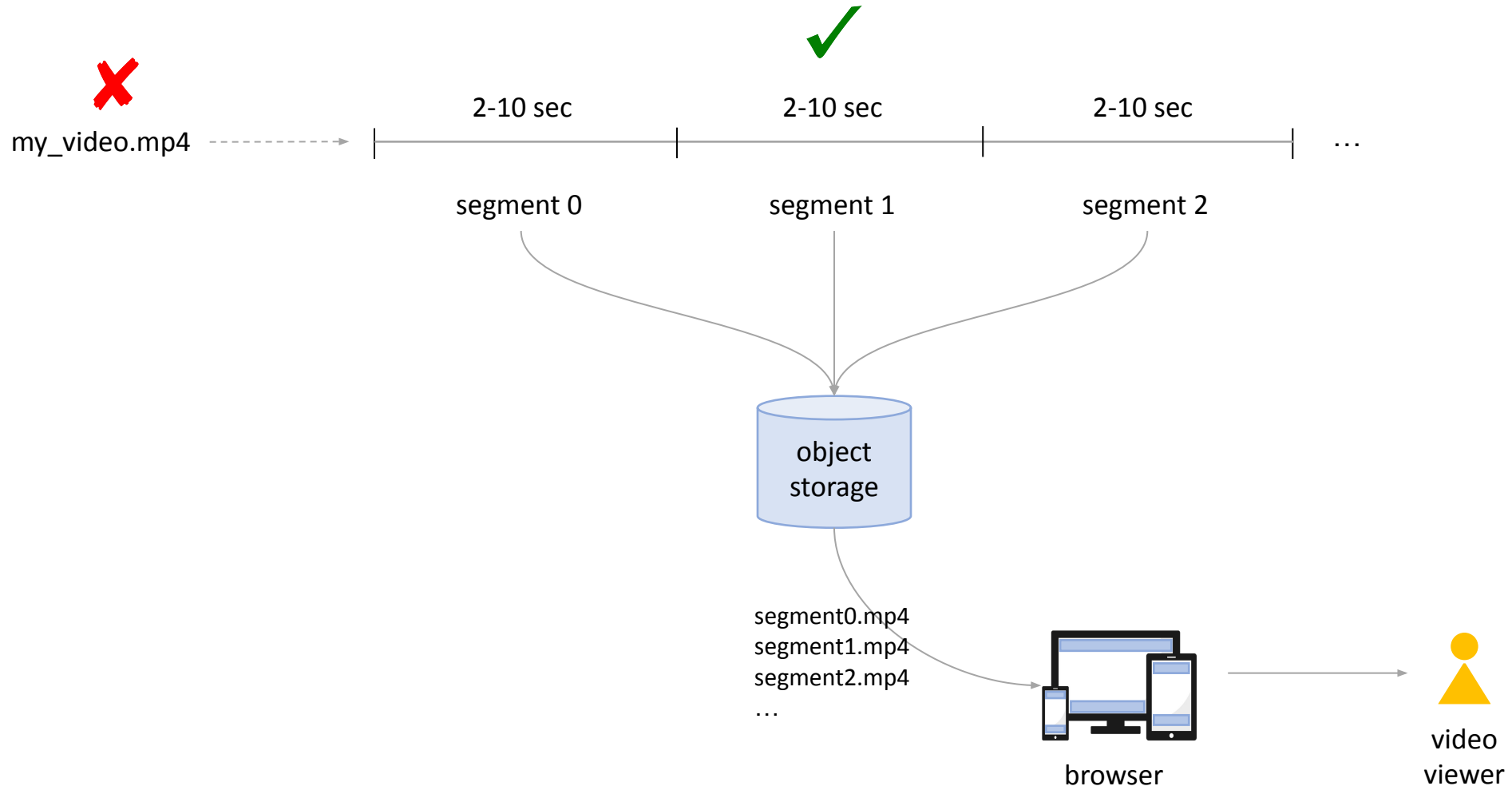
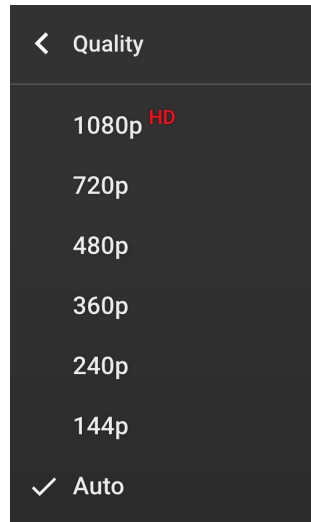WebRTC   WebSocket   Adaptive Streaming

Video over HTTP

- network conditions are not considered

- need a separate video file for every (resolution, language) combination

- need to re-download the video when user preferences change
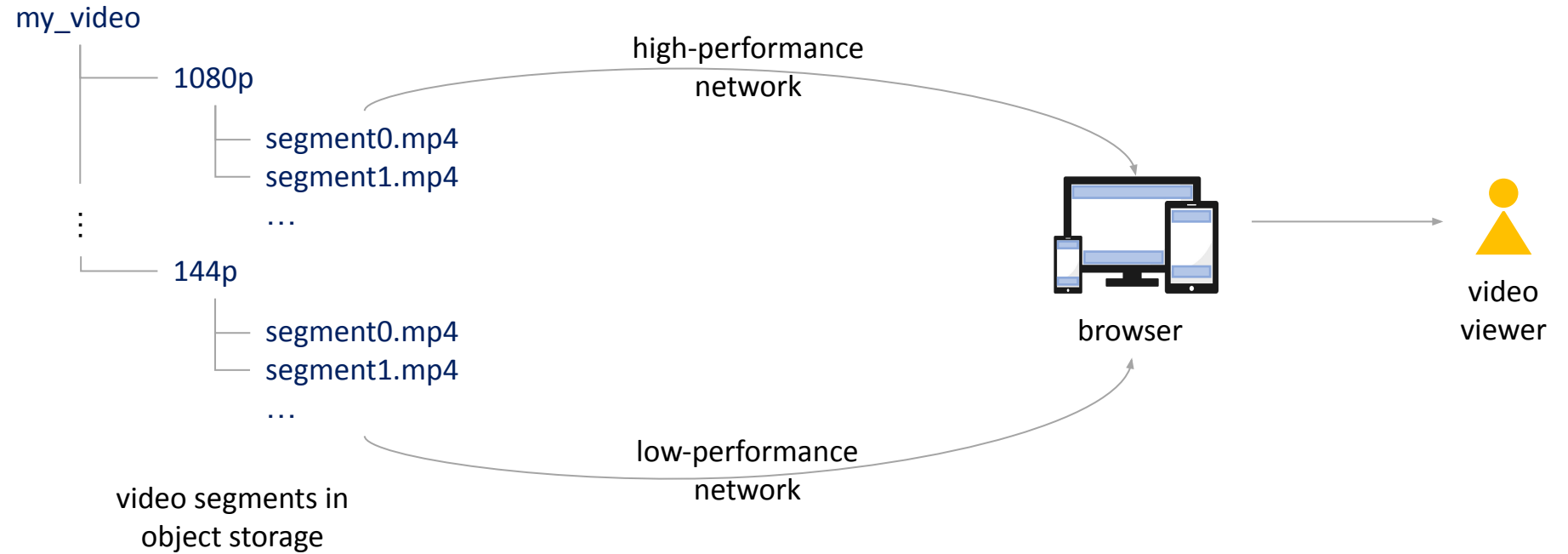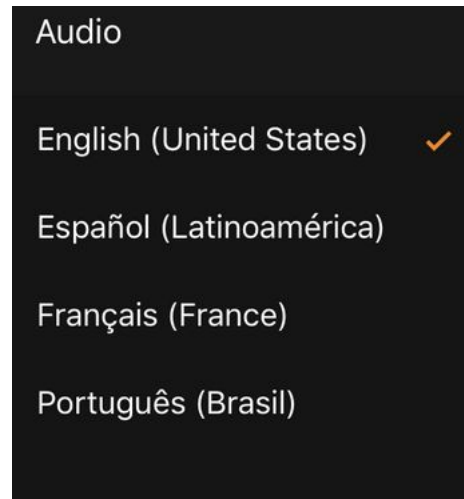
Video over HTTP

my_video.mp4

| 2-10 sec | 2-10 sec | 2-10 sec | ... |
| segment 0 | segment 1 | segment 2 | |

object storage

segment0.mp4
segment1.mp4
segment2.mp4
...

browser

video viewer

Video over HTTP

adaptive streaming

YouTube Quality setting

my_video
├── 1080p
│   ├── segment0.mp4
│   └── segment1.mp4
│   …
⋮
├── 144p
│   ├── segment0.mp4
│   └── segment1.mp4
│   …

video segments in object storage

Quality menu:
- < Quality
- 1080p HD
- 720p
- 480p
- 360p
- 240p
- 144p
- ✓ Auto

high-performance network

low-performance network

browser

video viewer

Video over HTTP

adaptive streaming

language setting in
Amazon Prime Video

```
my_audio
    ├─── english
    │         ├── segment0.mp4
    │         └── segment1.mp4
    ⋮         …
    └─── spanish
              ├── segment0.mp4
              └── segment1.mp4
              …
```
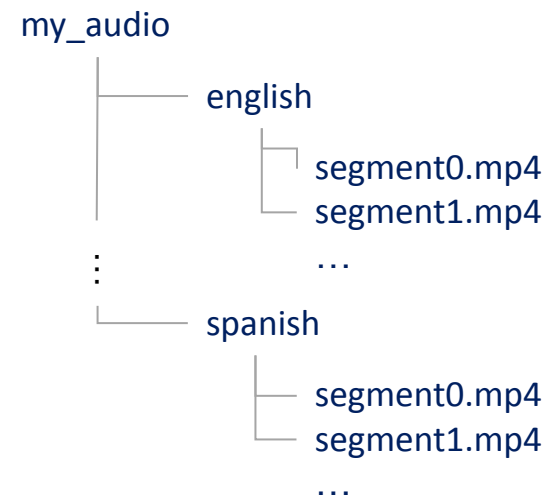
audio segments in
object storage

Video over HTTP