

## **Assignment**

Create an application that allows a user to slice up a video (sample video:

[http://grocchtdreis.de/fuerjsfiddle/video/sintel\\_trailer480.mp4](http://grocchtdreis.de/fuerjsfiddle/video/sintel_trailer480.mp4)) into clips.

As part of this application, use at least one of the following frameworks to facilitate development – however you may also use any other tools to help complete the project:

- AngularJS
- Angular 2
- Ember
- ReactJS
- AureliaJS

### **Mandatory Features**

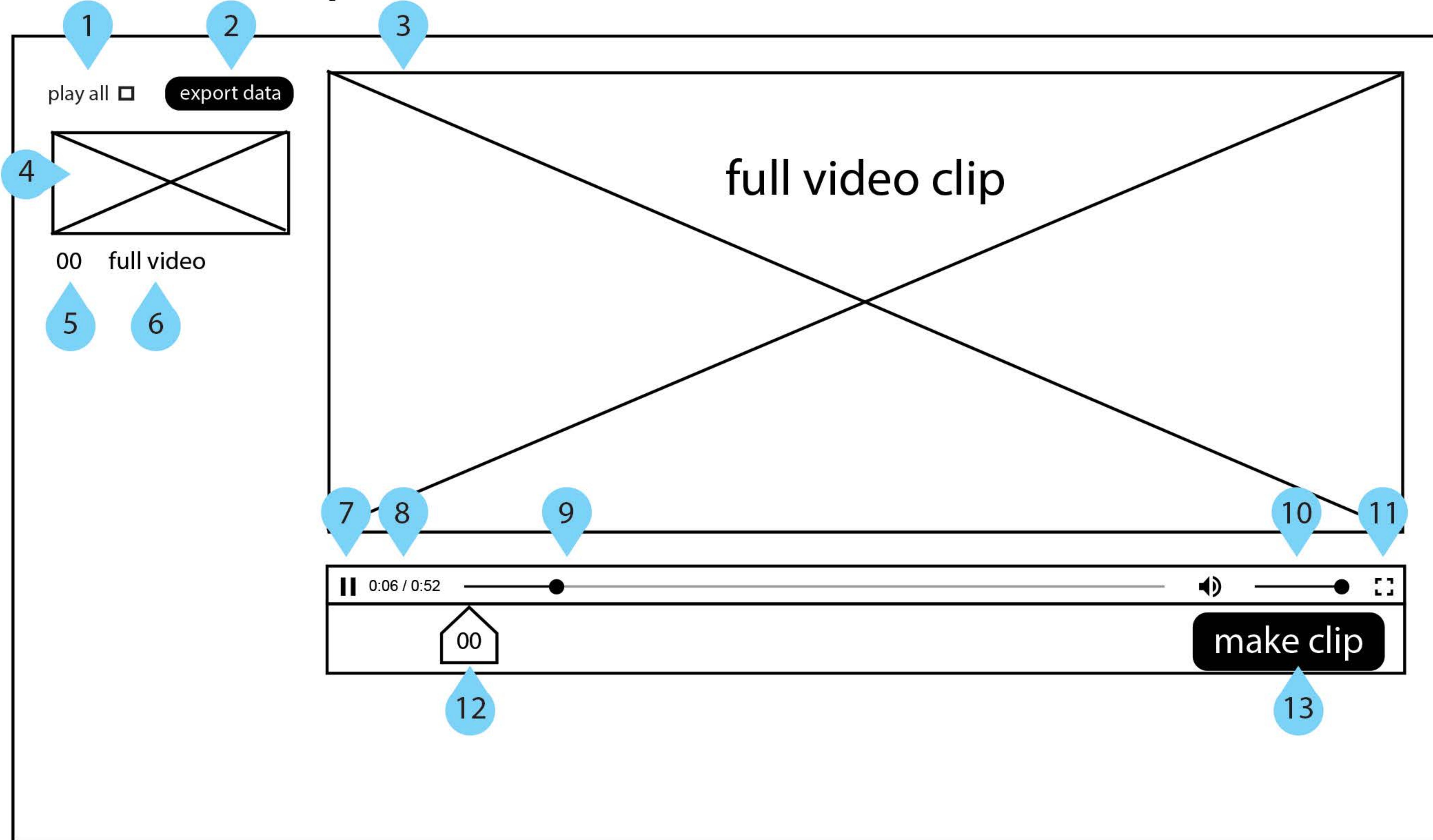
- An HTML5 video player that utilizes media fragments
- A list of clips to be played in the video player
- The first item in the list should be the full video
- An interface to add new clips to the list by specifying a name, start time, and end time
- The ability to delete clips from the list (excluding the full video item)
- The ability to edit existing clips in the list
- The ability to play clips in the video player

### **Bonus (Completed)**

- The ability to 'save' clips for persistent use.
- The ability to add arbitrary 'tags' to clips so that they can be filtered by the tag name.
- Markers on the video player timeline that denote where a clip starts.
- The ability to reuse the player and playlist on another page without the editing capabilities.

# Wire-frames

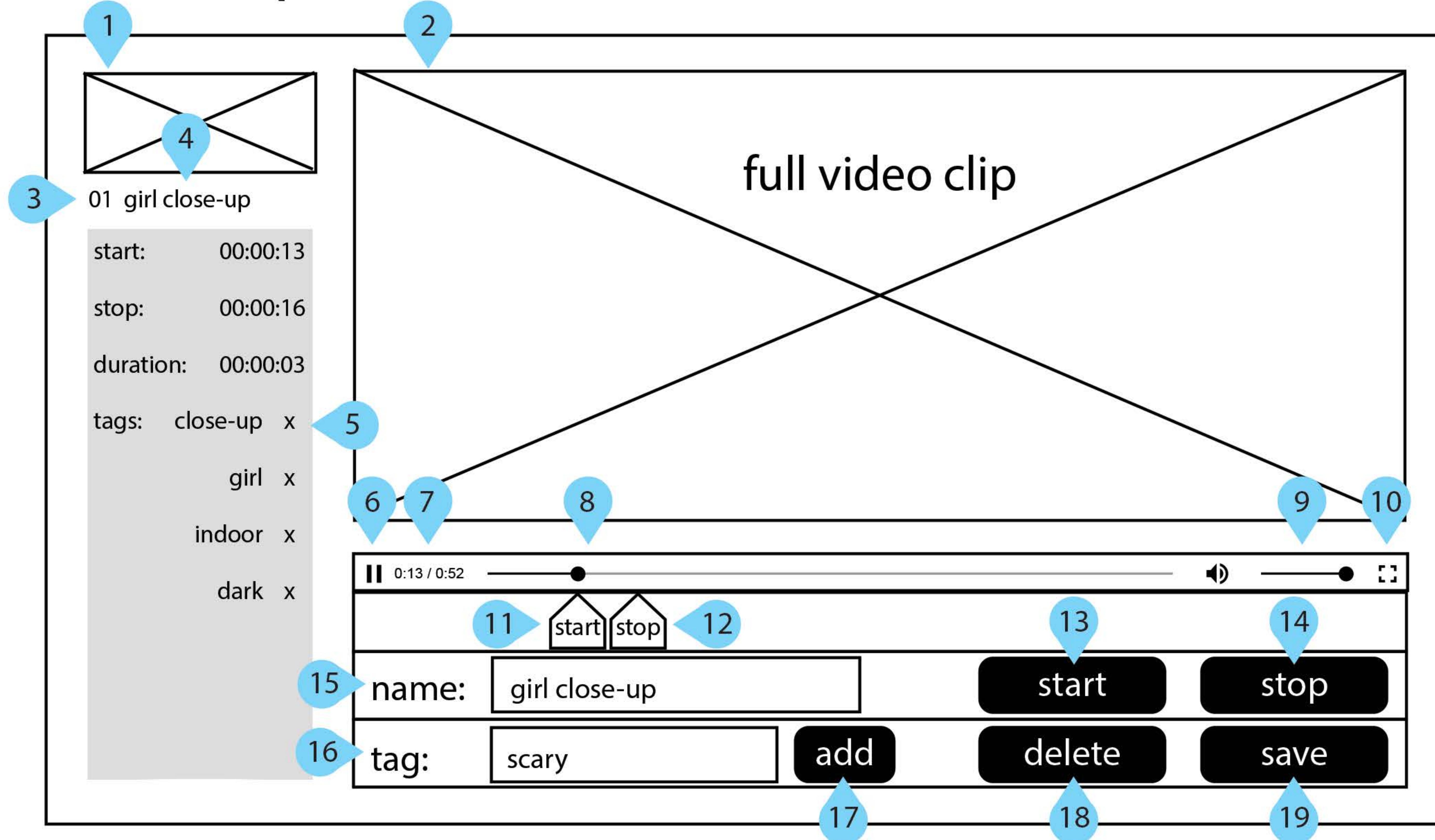
## initial state (no clips created)



- Use video player controls (7,9) to play full video clip.
- CLICK/TAP the 'make clip' button (13) to initiate the 'make/edit clip' state.
- CLICK/TAP 'play all' toggle (1) to have video clips play in sequence (hidden if only full video clip is shown)

- 1 play all toggle
- 2 export data button
- 3 video screen
- 4 full video thumbnail image
- 5 video clip number
- 6 video clip title
- 7 play/pause button
- 8 current time/total length
- 9 progress bar
- 10 volume slider
- 11 full screen button
- 10 clip start marker - number indicates clip
- 12 make clip button
  - CLICK/TAP here initiates the make/edit clip state

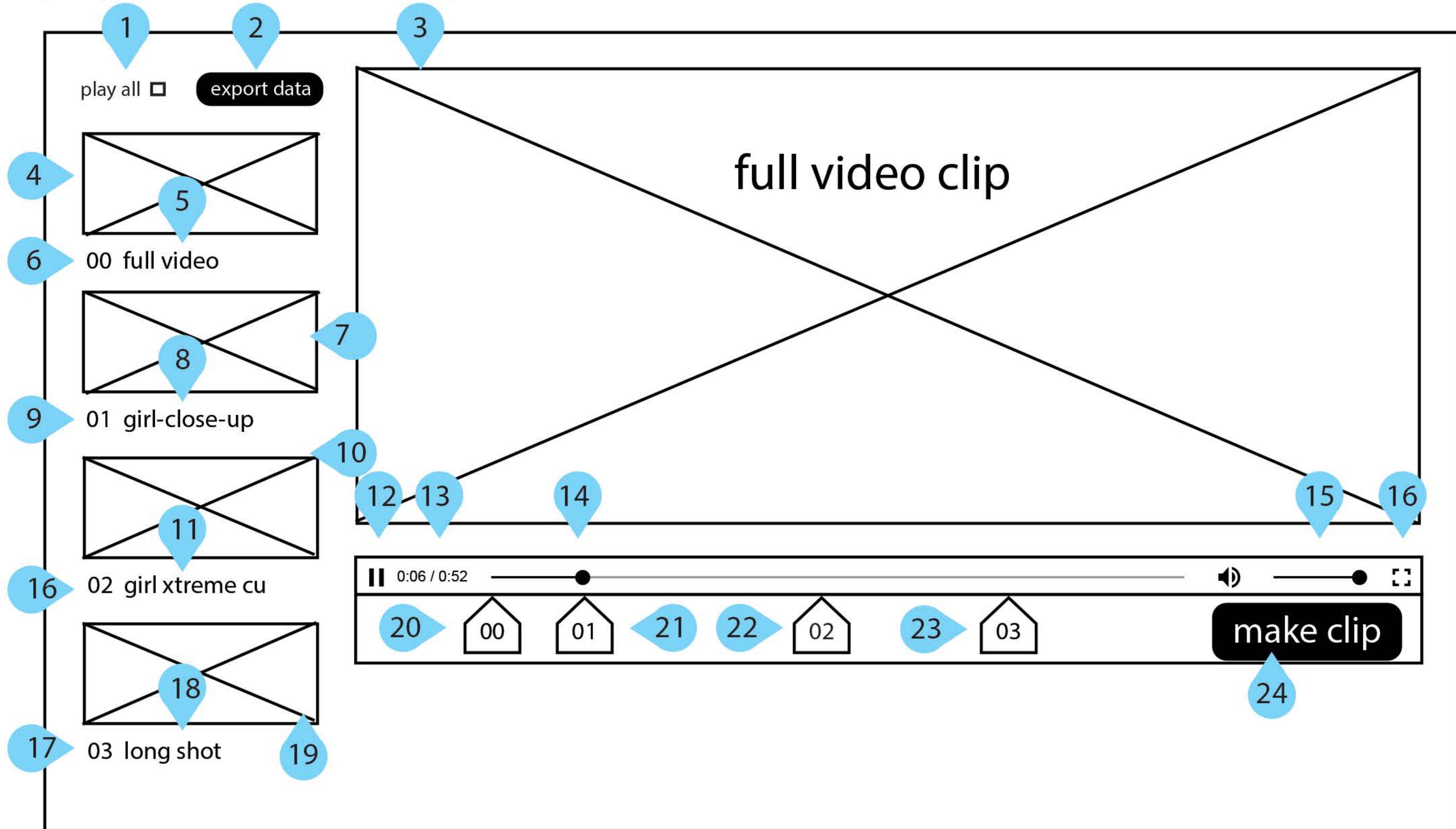
## make/edit clip state



- Use video play/pause (6) button to play full video to the start point of your video clip.
- CLICK/TAP the 'start'button (13) to mark and store the start point of your video clip.
- Use video play/pause (6,8) controls to play full video to the end point of your video clip.
- CLICK/ TAP the 'stop'button (14) to mark and store the start point of your video clip.
- Type a name for the clip in the 'name' field (15).
- Type a tag in the 'add tags' field (16) and click the 'add' button (17) to add a tag;
- CLICK/TAP the 'x'(5) next to a tag in the details block to remove the tag;
- CLICK/ TAP the 'save' button (19) to save the clip and return to the 'player state'.
- To delete the current clip and return to the 'player state' CLICK/TAP the 'delete' button (18).

- 1 thumbnail image for this clip (from start time)
- 2 video screen
- 3 video clip number
- 4 video clip title
- 5 CLICK/TAP 'x' to remove tag
- 6 play/pause button
- 7 current time/total length
- 8 progress bar
- 9 volume slider
- 10 full screen button
- 11 clip start marker
- 12 clip stop marker
- 13 'start'button; CLICK/TAP to set clip start time
- 14 'stop'button; CLICK/TAP to set clip stop time
- 15 name input field
- 16 tag input field
- 17 "add tag" button
- 18 "delete" clip button
- 19 'save' clip button

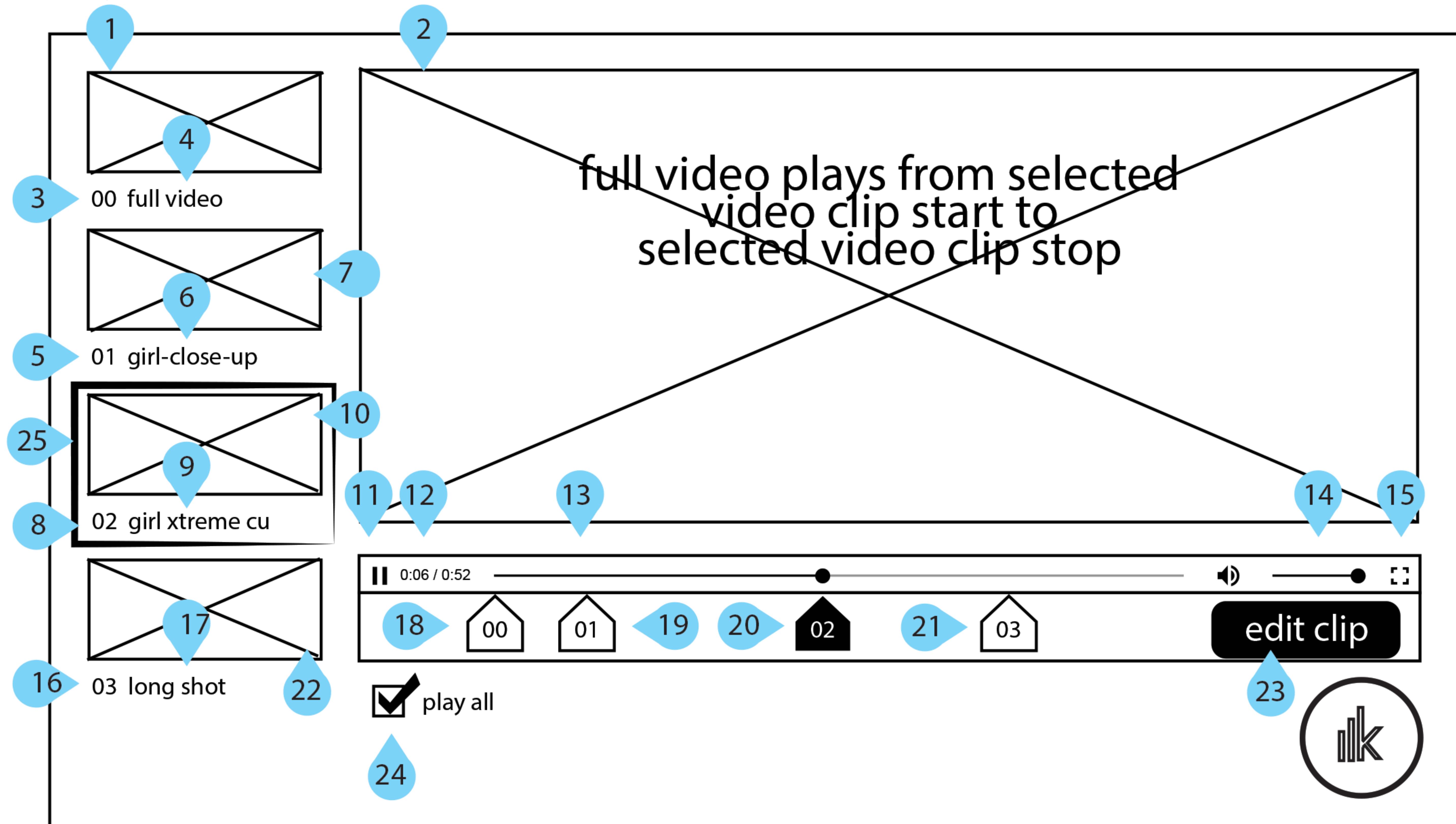
## player state (several clips created, none selected)



- Use video play/pause (12) button to play full video.
- CLICK/TAP the 'make clip' button (24) to make a new video clip and initiate the 'make/edit clip' state
- CLICK/TAP the 'play all' (1) checkbox to toggle play all clips in sequence setting on/off

- 1 play all toggle
- 2 export data button
- 3 video screen
- 4,7,10,19 thumbnail images the clips
- 6,9,16,17 video clip numbers
- 5,8,11,18 video clip titles
- 12 play/pause button
- 13 current time/total length
- 14 progress bar
- 15 volume slider
- 16 full screen button
- 20,21,22,23 clip start markers
- 24 'make clip' button; CLICK/TAP to make a new video clip

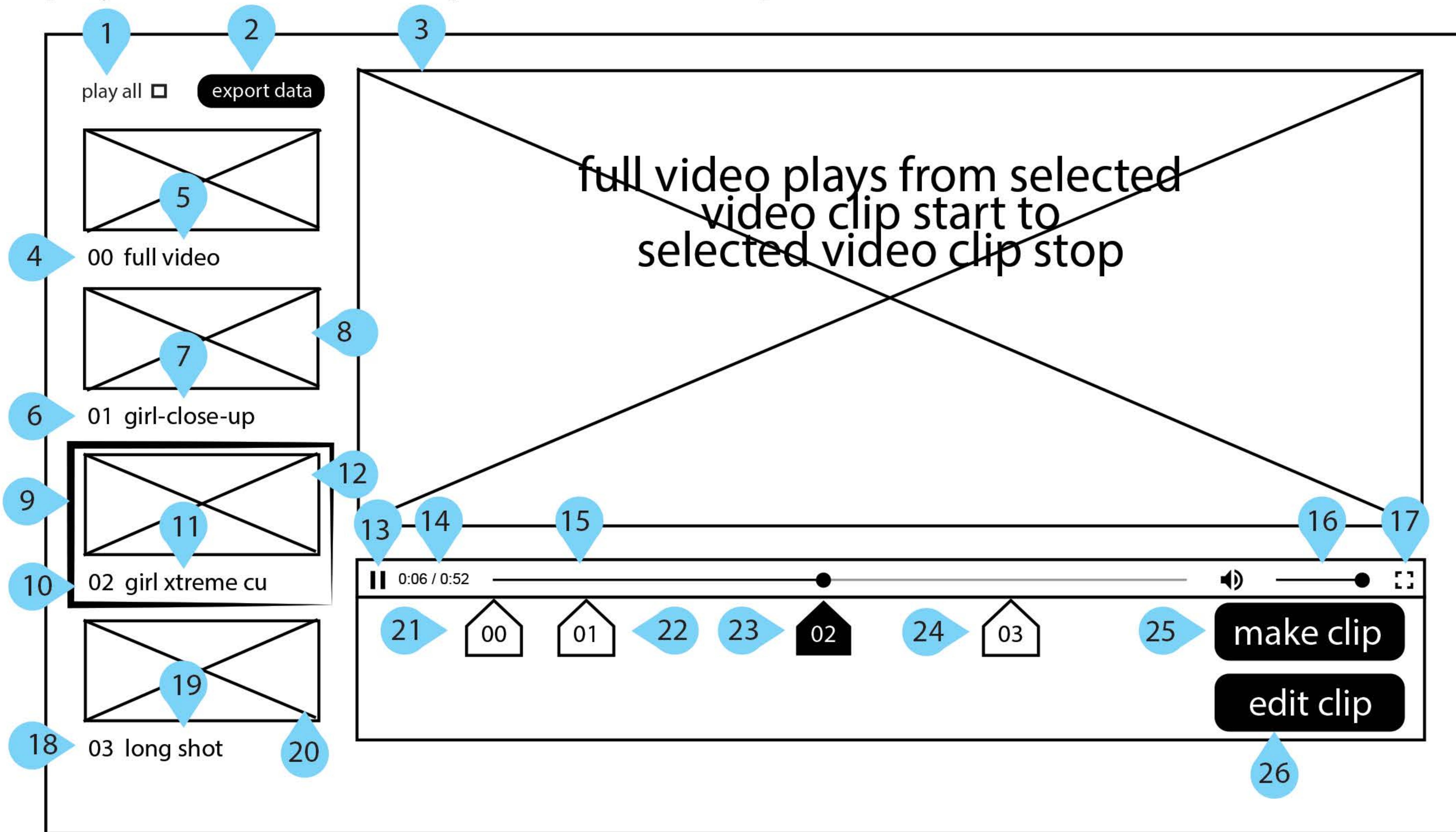
## player state (several clips created, one selected)



- CLICK/TAP thumbnail image (1,7,10,22) of video clip you wish to play
- selected video clip indicator (25) will display
- full video will jump to and play from 'start' point of selected video clip
- CLICK/TAP the 'edit clip' button (23) to edit the details of this video clip and initiate the 'make/edit clip' state
- CLICK/TAP the 'play all' checkbox (24) to toggle play all clips in sequence setting on/off

- 1,7,10,22 thumbnail images the clips
- 2 video screen
- 3,5,8,16 video clip numbers
- 4,6,9,17 video clip titles
- 11 play/pause button
- 12 current time/total length
- 13 progress bar
- 14 volume slider
- 15 full screen button
- 18,19,200,21 clip start markers
- 20 marker of selected video clip is in 'selected' state
- 23 'make clip' button; CLICK/TAP to make a new video clip
- 24 'play all' checkbox; CLICK /TAP to toggle play all clips in sequence setting on/off
- 25 selected video clip indicator

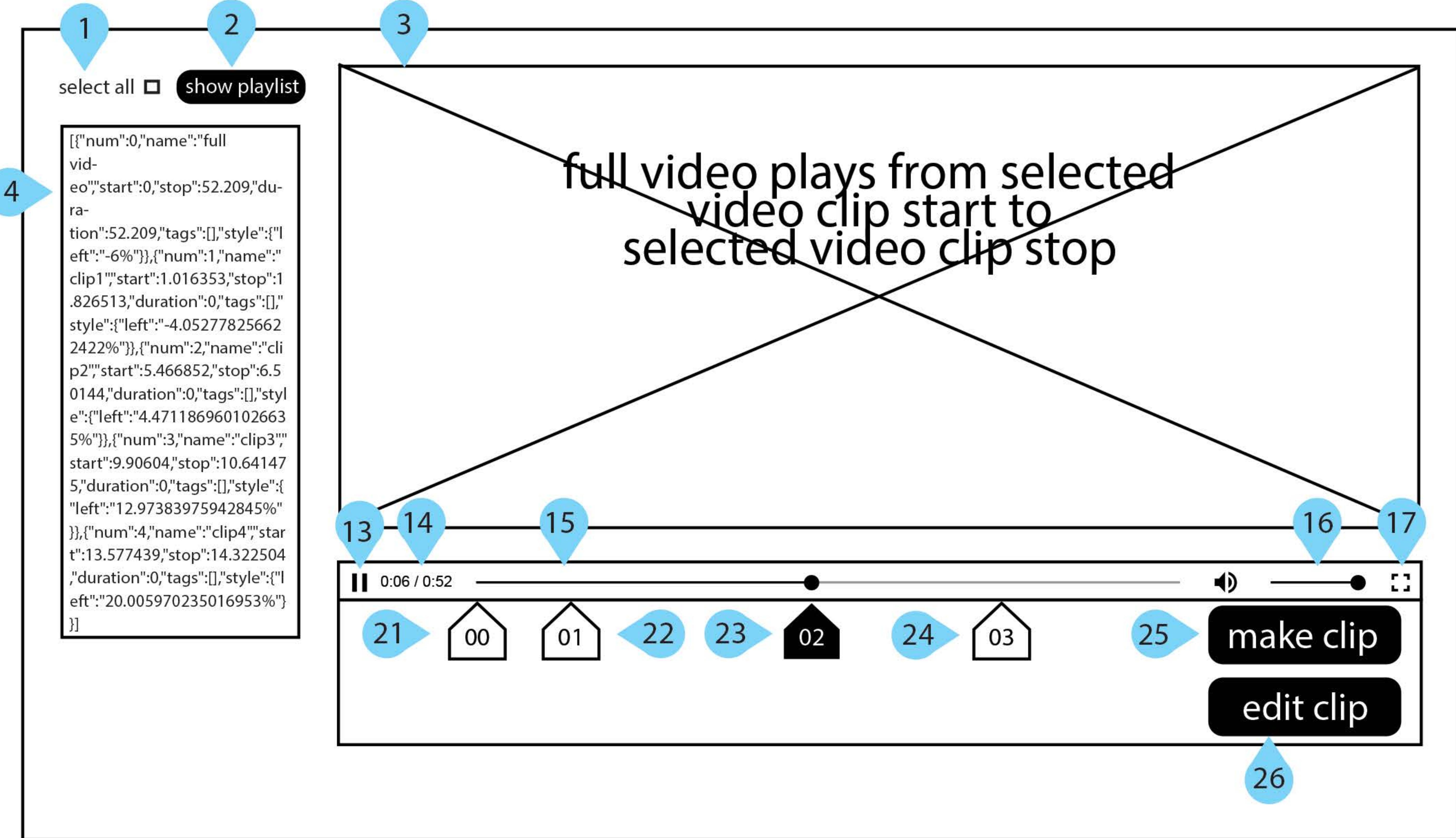
## player state (several clips created, one clip selected)



- CLICK/TAP thumbnail image (1,7,10,22) of video clip you wish to play
- selected video clip indicator (25) will display
- full video will jump to and play from 'start' point of selected video clip
- CLICK/TAP the 'edit clip' button (23) to edit the details of this video clip and initiate the 'make/edit clip' state
- CLICK/TAP the 'play all' checkbox (24) to toggle play all clips in sequence setting on/off

- 1 play all toggle
- 2 export data button
- 3 video screen
- 8,12,20 thumbnail images the clips
- 4,6,10,18 video clip numbers
- 5,7,11,19 video clip titles
- 13 play/pause button
- 14 current time/total length
- 15 progress bar
- 16 volume slider
- 17 full screen button
- 21,22,23,24 clip start markers
- 23 marker of selected video clip is in 'selected' state
- 25 'make clip' button; CLICK/TAP to make a new video clip
- 26 'edit clip' button; CLICK/TAP to edit selected video clip
- 9 selected video clip indicator

## player state (several clips created, export data clicked)



- CLICK/TAP the 'select all' checkbox (1) to select the clip data so you can copy and paste.
- CLICK/TAP the 'show playlist' button (2) to show the current video playlist.
- CLICK/TAP the 'make clip' button (25) to initiate the 'make/edit clip' state.
- CLICK/TAP the 'edit clip' button (26) to edit the details of this video clip and initiate the 'make/edit clip' state

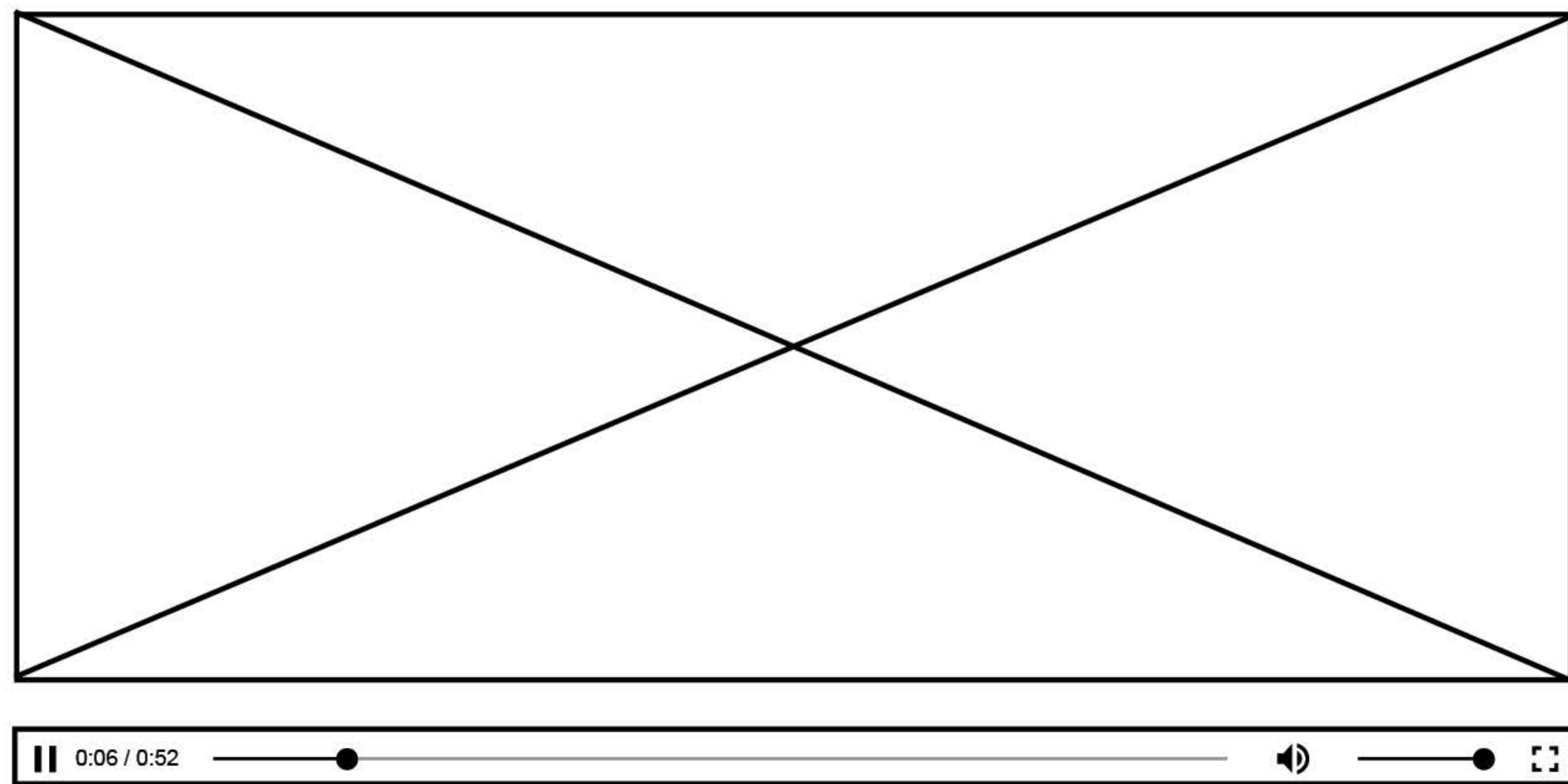
- 1 select all toggle
- 2 show playlist button
- 3 video screen
- 4 video clip data
- 13 play/pause button
- 14 current time/total length
- 15 progress bar
- 16 volume slider
- 17 full screen button
- 21,22,23,24 clip start markers
- 23 marker of selected video clip is in 'selected' state
- 25 'make clip' button; CLICK/TAP to make a new video clip
- 26 'edit clip' button; CLICK/TAP to edit selected video clip

# Software Architecture

## Data model

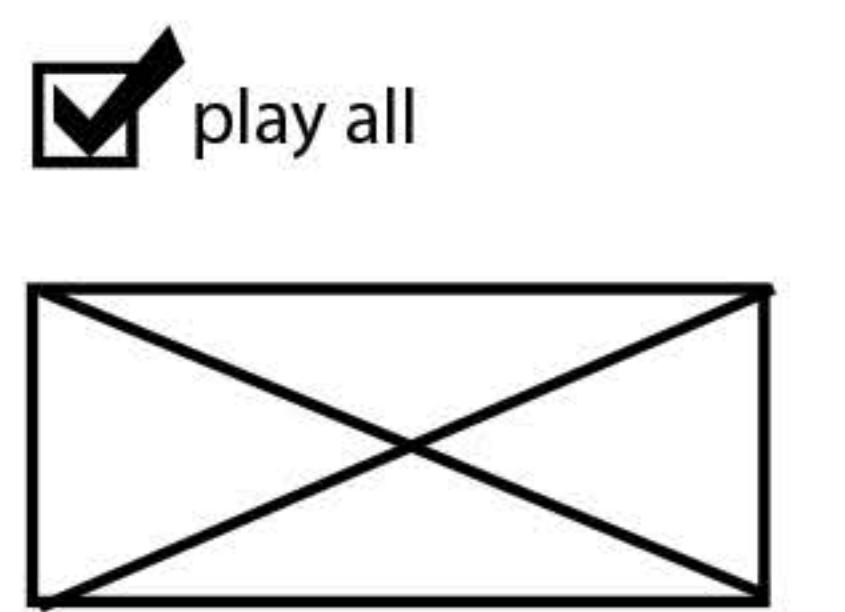
```
{  
  "srcfile" : "http://grochtdreis.de/fuer-jsfiddle/video/sintel_trailer-480.mp4",  
  "videoMarkers" : {  
    "buttoncopy" : [  
      "make clip",  
      "edit clip"  
    ]  
  },  
  "videoMakeclip" : {  
    "buttoncopy" : [  
      "start",  
      "stop",  
      "add",  
      "delete",  
      "save"  
    ],  
    "markers" : [  
      {  
        "num": 0,  
        "label": "stop",  
        "style": {"left": '-6%'}  
      },  
      {  
        "num": 1,  
        "label": "start",  
        "style": {"left": '-6%'}  
      }  
    ]  
  },  
  "videoThumbs" : {  
    "buttoncopy" : [  
      "play all",  
      "select all",  
      "export data",  
      "show playlist"  
    ]  
  },  
  "clips" : [  
    {  
      "num": 0,  
      "name": "full video",  
      "start": 0,  
      "stop": 0,  
      "duration": 0,  
      "tags": [],  
      "style": {"left": '-6%'}  
    }  
  ]  
}
```

# HTML5 native video player

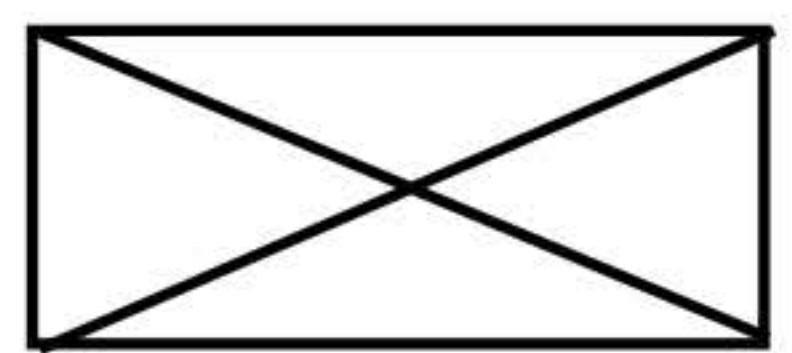


## Angular Directives

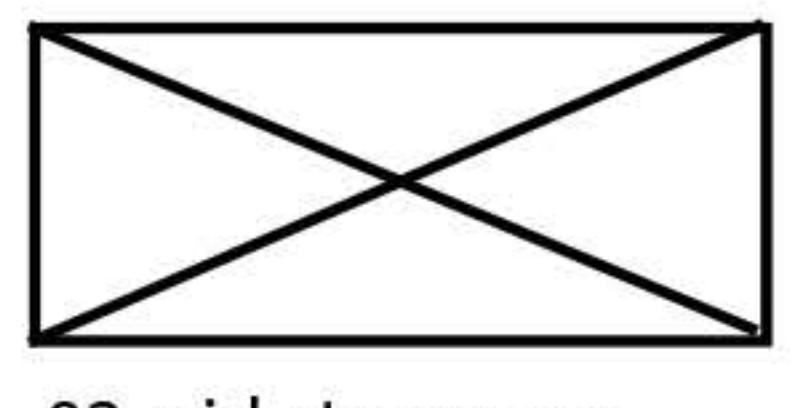
<video-thumbs></video-thumbs>  
video-thumbs.html



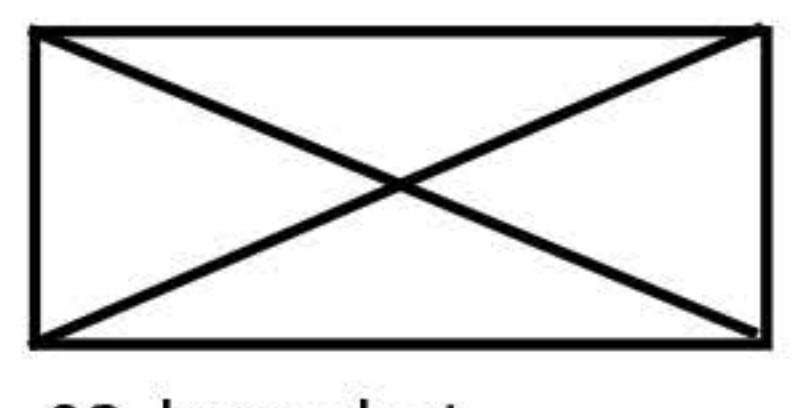
00 full video



01 girl-close-up

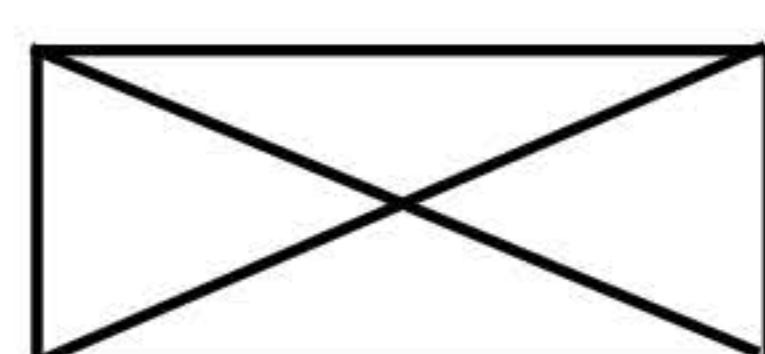


02 girl xtreme cu



03 long shot

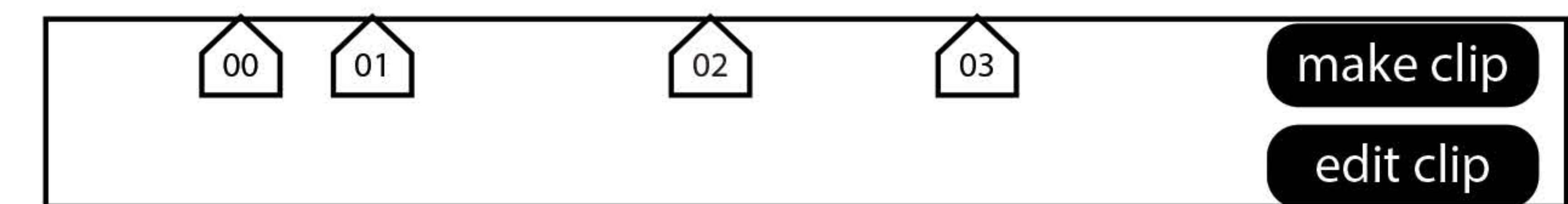
<video-clipinfo></video-clipinfo>  
video-clipinfo.html



01 girl close-up

start: 00:00:13  
stop: 00:00:16  
duration: 00:00:03  
tags: close-up x  
girl x  
indoor x  
dark x

<video-markers></video-markers>  
video-markers.html

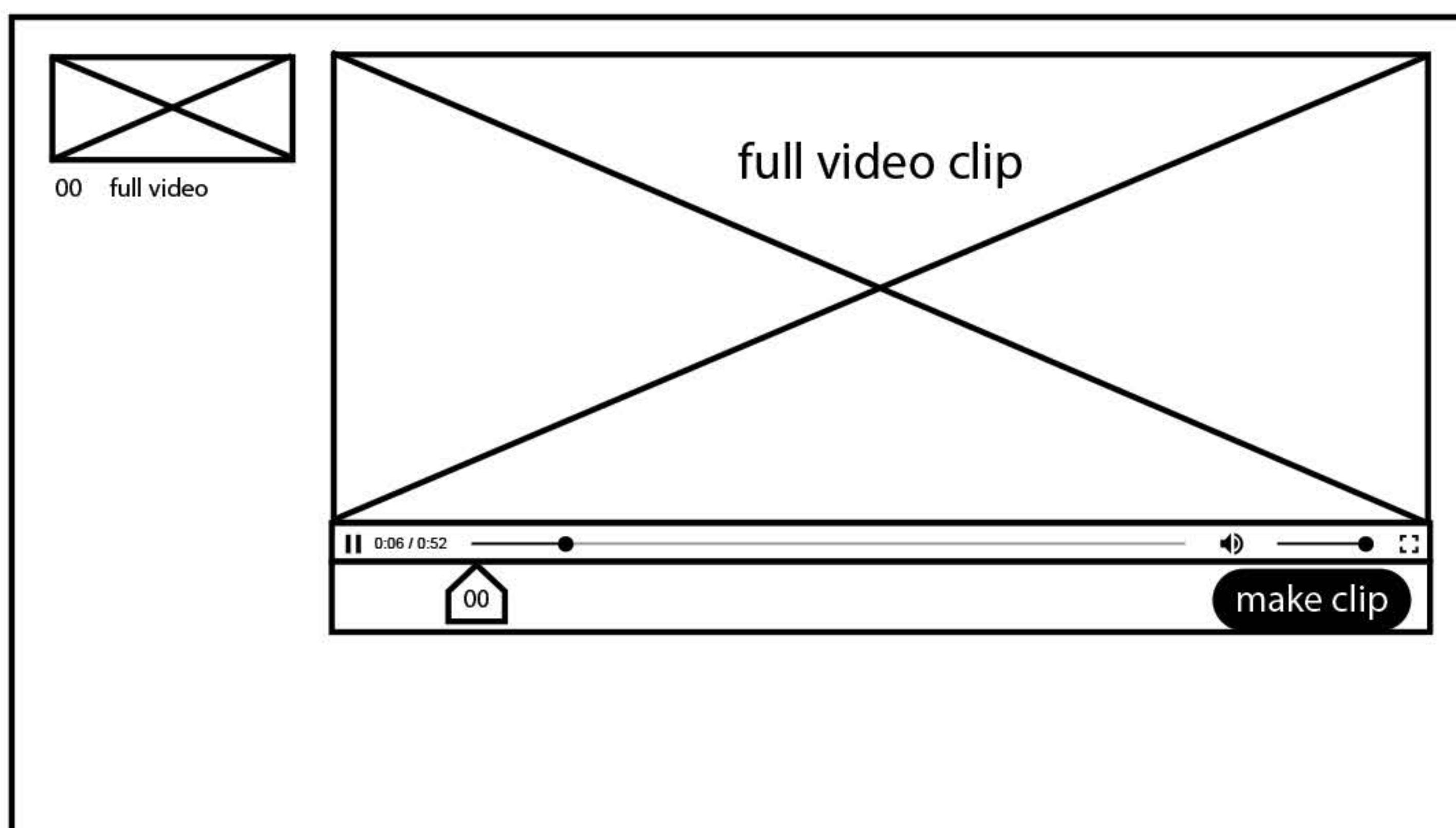
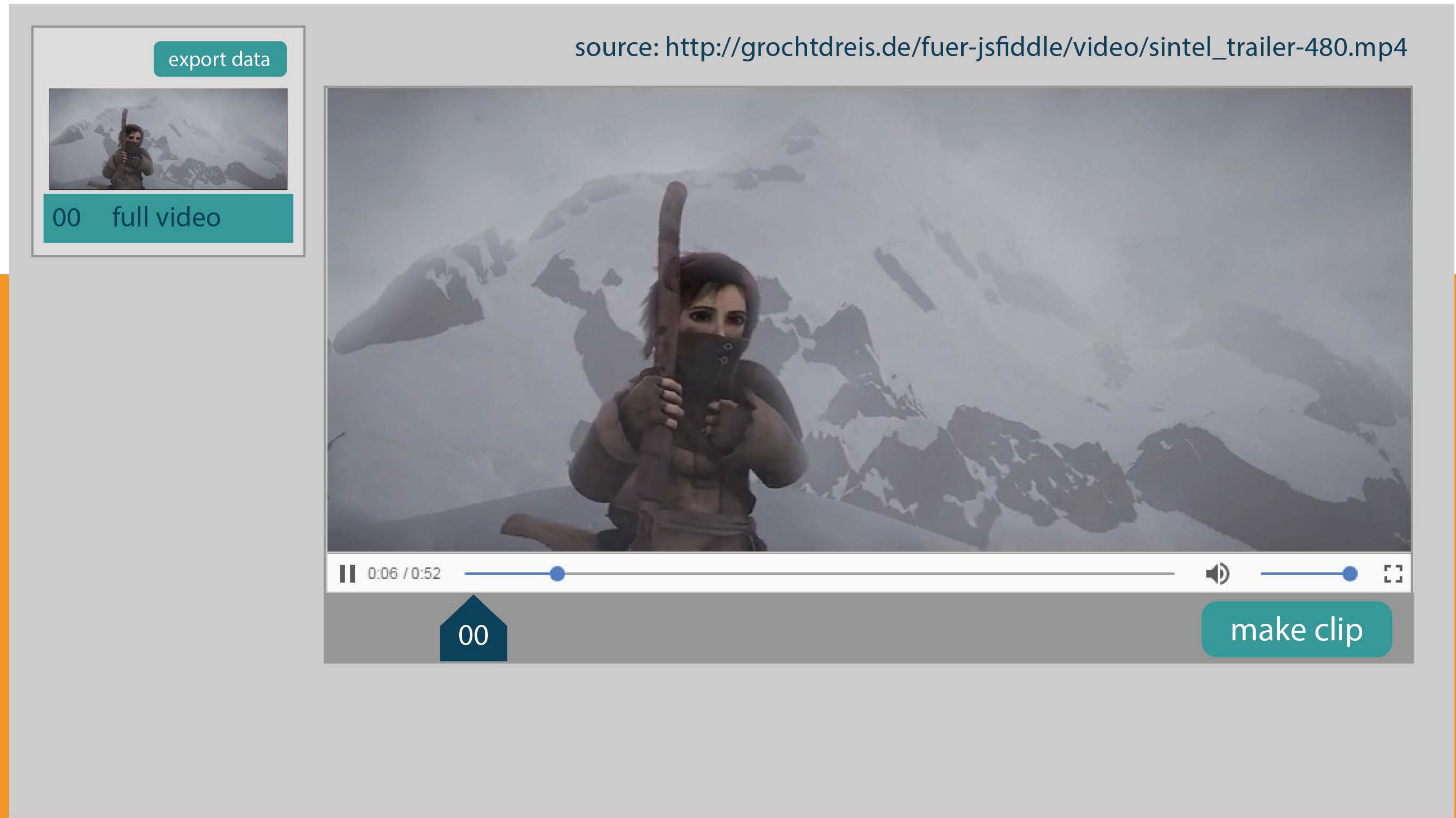


<video-makeclip></video-makeclip>  
video-makeclip.html

start	stop		
name:	girl close-up	start	stop
add tags:	close-up, girl, indoor, dark	delete	save

# Design

## initial state (no clips created)



source: [http://grochtdreis.de/fuer-jsfiddle/video/sintel\\_trailer-480.mp4](http://grochtdreis.de/fuer-jsfiddle/video/sintel_trailer-480.mp4)

00 make clip

#ffffff #dddcd8 #969696 #ef4a24 #f29625 #58b058 #349898 #0d425b

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## make/edit clip state

source: [http://grochtdreis.de/fuer-jsfiddle/video/sintel\\_trailer-480.mp4](http://grochtdreis.de/fuer-jsfiddle/video/sintel_trailer-480.mp4)

01 girl close-up

start: 00:00:13

stop: 00:00:16

duration: 00:00:03

tags:

- close-up ✘
- girl ✘
- indoor ✘
- dark ✘

name: girl close-up

add tags: light

start stop

start stop

add delete save

01 girl close-up

start: 00:00:13

stop: 00:00:16

duration: 00:00:03

tags: close-up ✘  
girl ✘  
indoor ✘  
dark ✘

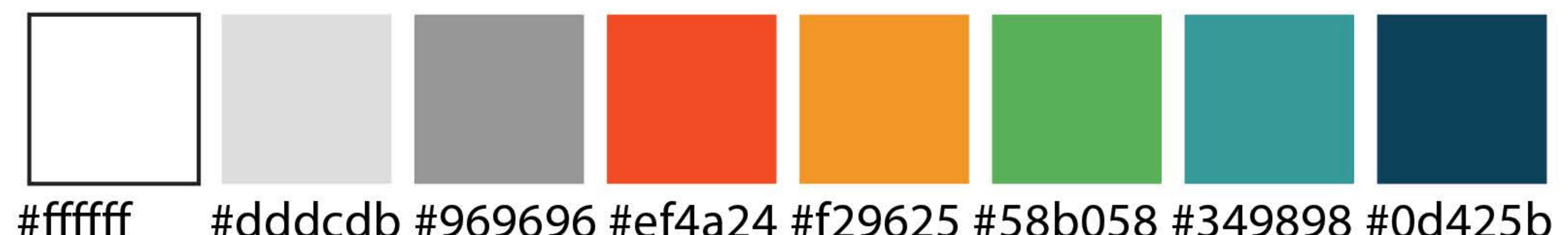
name: girl close-up

add tags: close-up, girl, indoor, dark

start stop

start stop

add delete save



Font Arial 20px #646564

## make/edit clip state error message

source: [http://grocchtdreis.de/fuer-jsfiddle/video/sintel\\_trailer-480.mp4](http://grocchtdreis.de/fuer-jsfiddle/video/sintel_trailer-480.mp4)

The screenshot shows a video player interface with a frame showing a girl with red hair. Below the video are controls for play/pause, volume, and seek. A large black error bubble is overlaid on the interface, containing the text "Stop time must be greater than Start time." in white. At the bottom, there is a "close tags" button and a "Save" button.

01 girl close-up

start: 00:00:13

stop: 00:00:16

duration: 00:00:03

tags:

- close-up ✘
- girl ✘
- indoor ✘
- dark ✘

The screenshot shows a video player interface with a large "X" drawn across the frame. Below the video are controls for play/pause, volume, and seek. A large black error bubble is overlaid on the interface, containing the text "Stop time must be greater than Start time." in white. At the bottom, there is a "close tags" button and a "Save" button.

01 girl close-up

start: 00:00:13

stop: 00:00:16

duration: 00:00:03

tags: close-up ✘  
girl ✘  
indoor ✘  
dark ✘



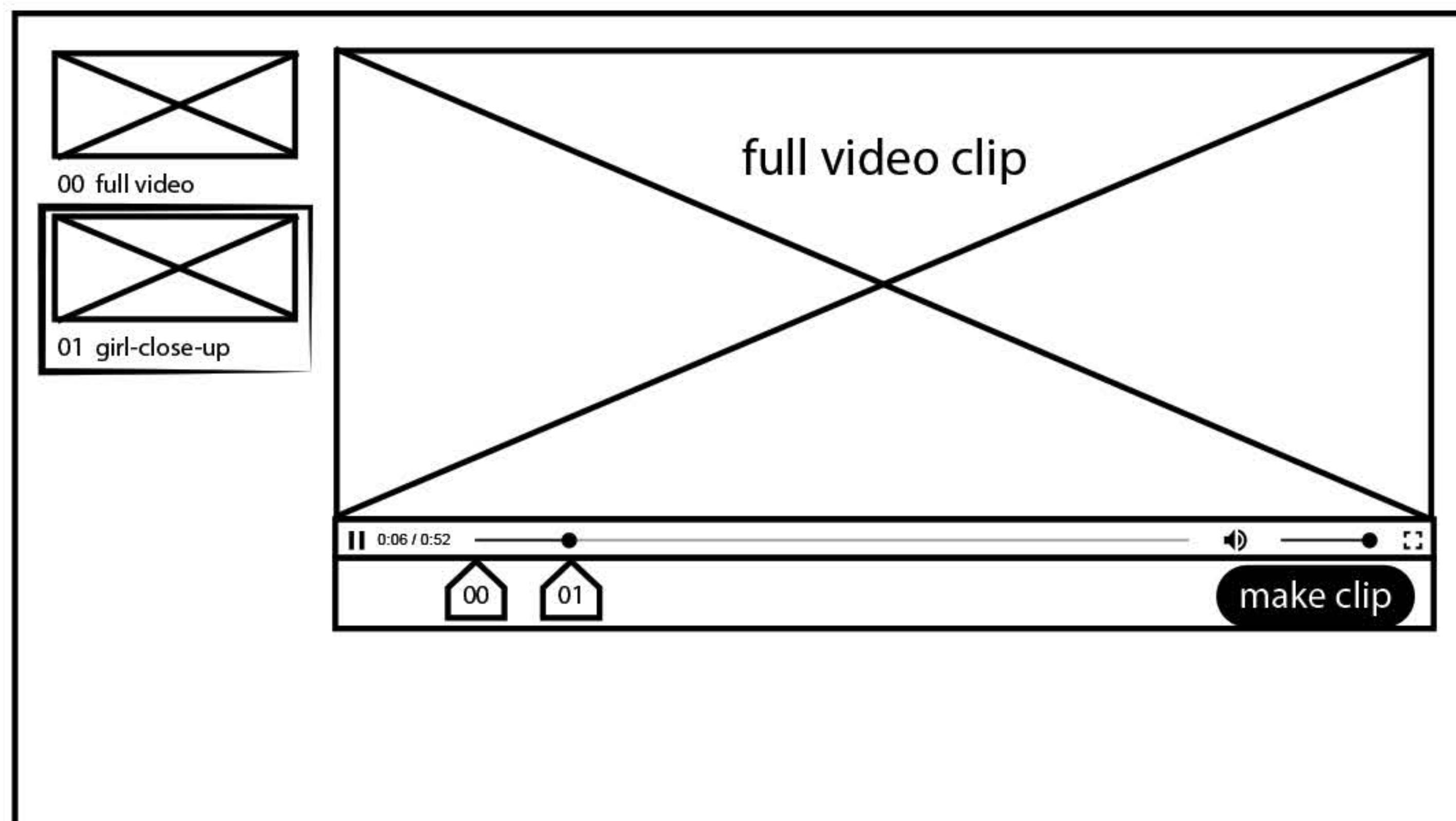
Font Arial 20px #646564

## player state (several clips created, full video selected)

source: [http://grochtdreis.de/fuer-jsfiddle/video/sintel\\_trailer-480.mp4](http://grochtdreis.de/fuer-jsfiddle/video/sintel_trailer-480.mp4)

The screenshot shows a video player interface with the following elements:

- Top Bar:** "play all" with a checkbox and "export data" button.
- Clip List:** A vertical list of five items:
  - 00 full video (selected, highlighted in teal)
  - 01 girl close-up
  - 02 girl xtreme cu
  - 03 long shot
- Video Preview:** A large preview window showing a close-up of a character with red hair and freckles, looking surprised. The video is at 0:06 / 0:52.
- Control Bar:** Includes a play/pause button, a progress bar with markers for each clip (00, 01, 02, 03), a volume icon, and a "make clip" button.



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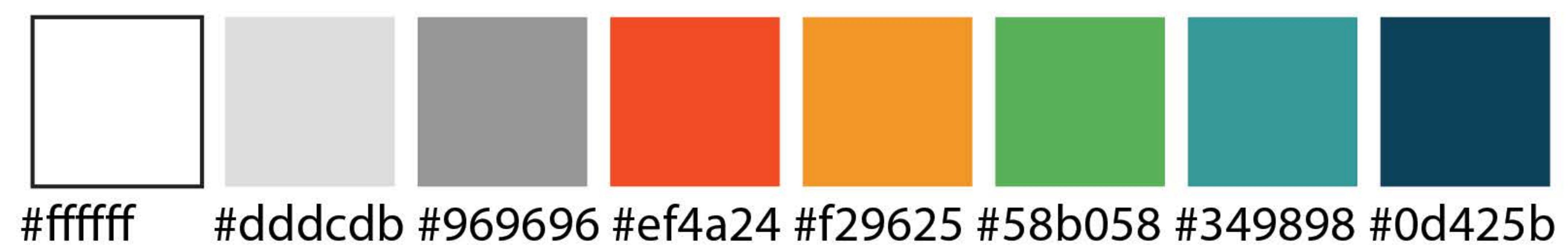
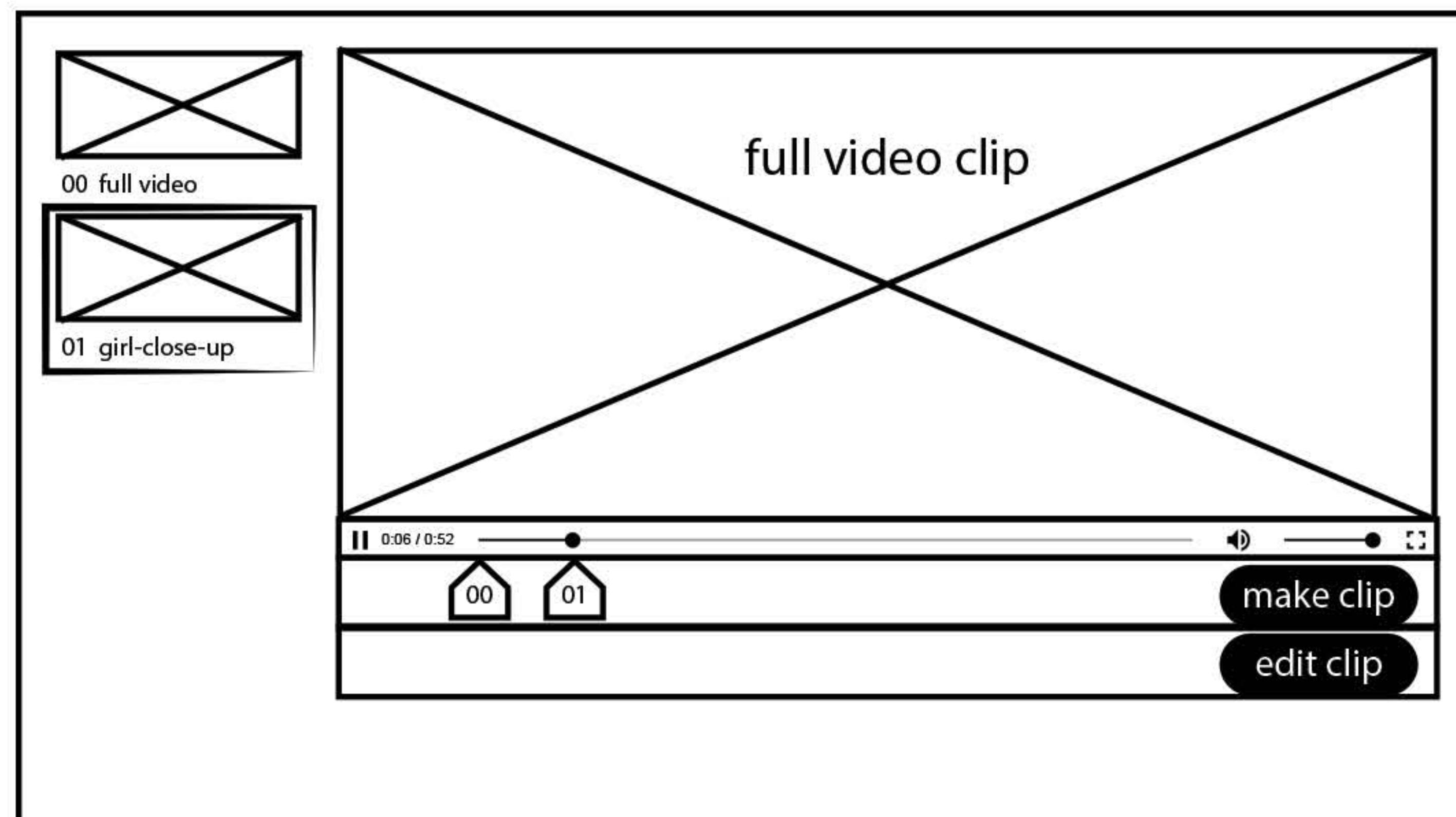
## player state (several clips created, one selected)

source: [http://grocchtdreis.de/fuer-jsfiddle/video/sintel\\_trailer-480.mp4,#t=13.0,15.4](http://grocchtdreis.de/fuer-jsfiddle/video/sintel_trailer-480.mp4,#t=13.0,15.4)

The interface shows a list of four video clips on the left and a large preview window on the right.

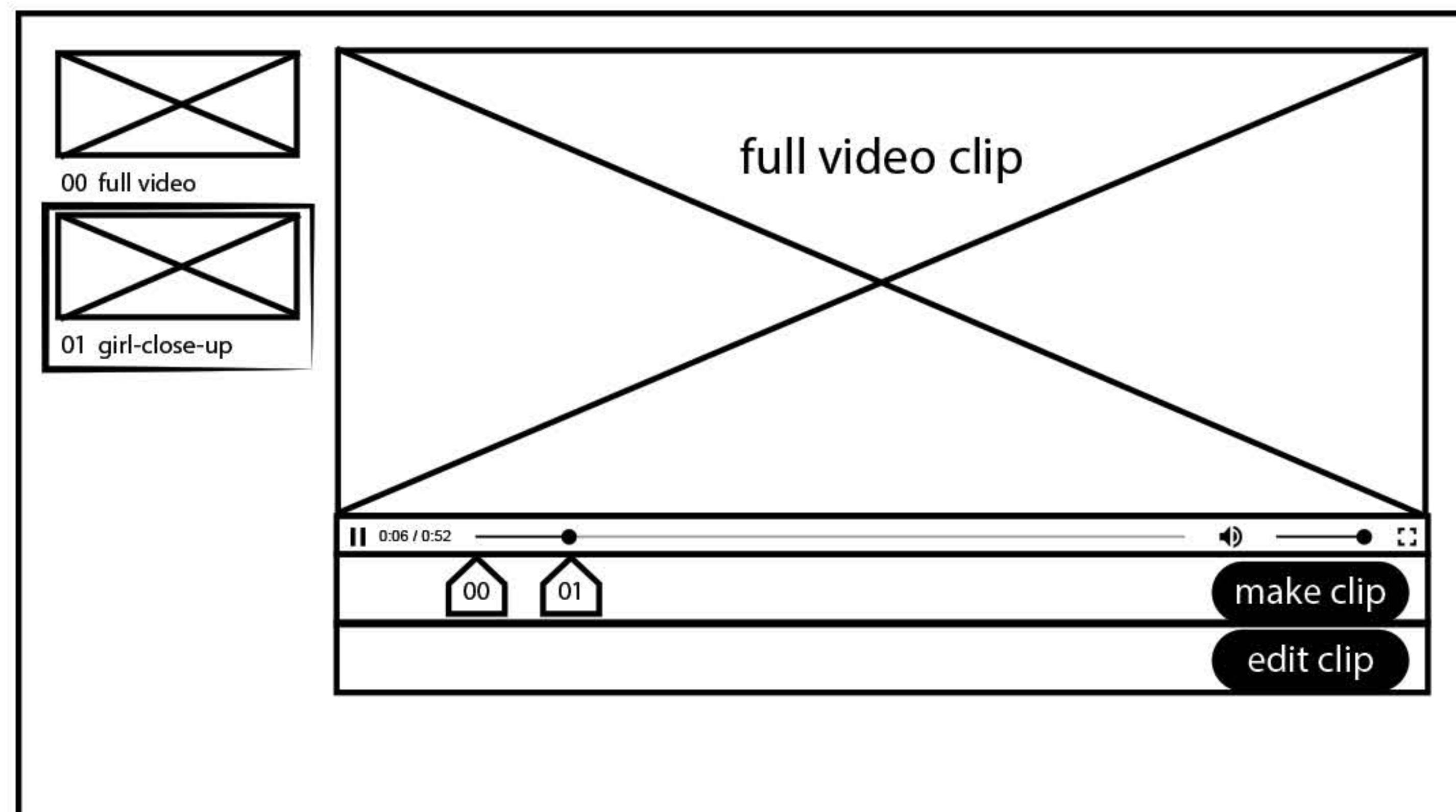
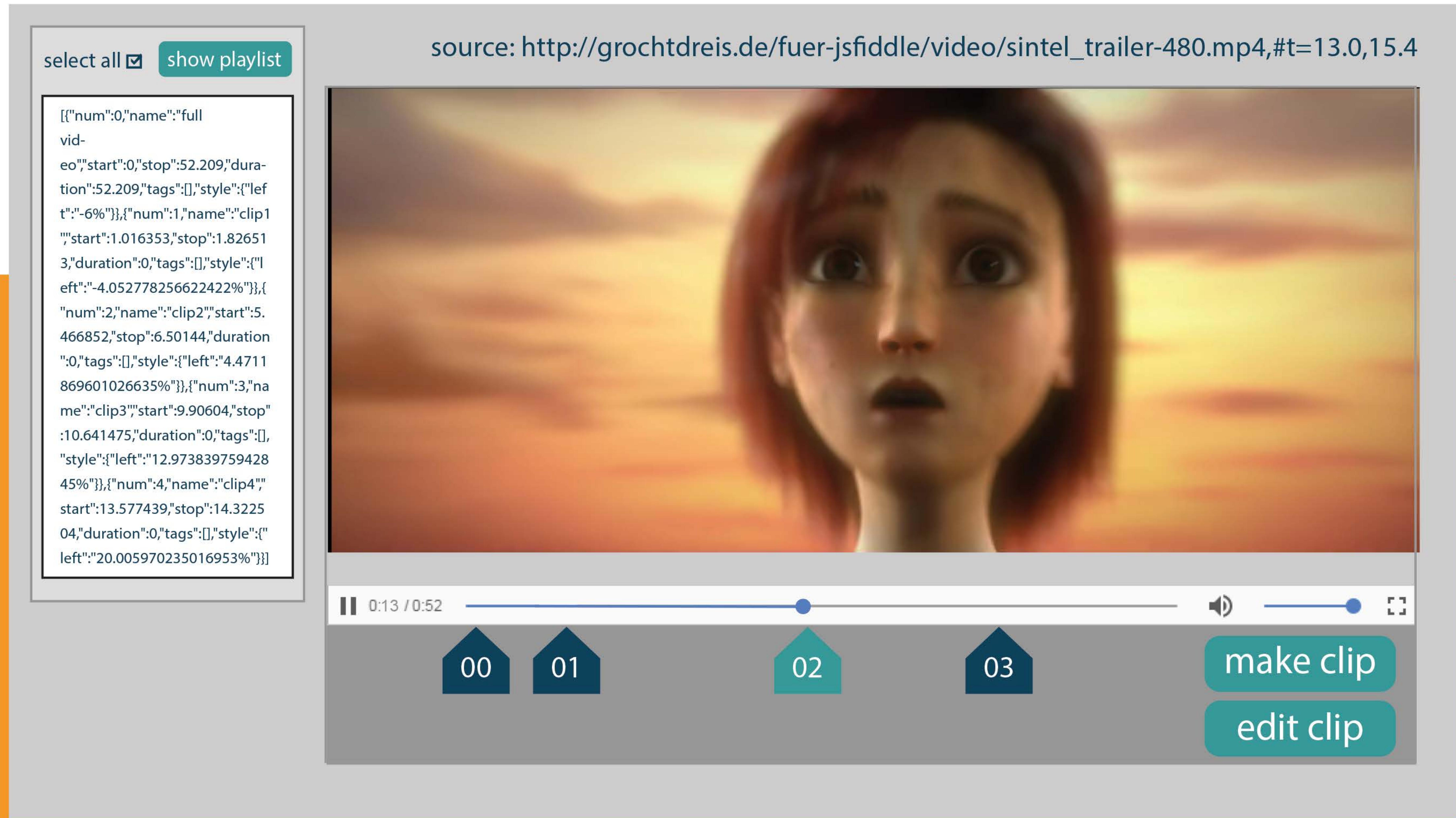
- 00 full video
- 01 girl close-up
- 02 girl xtreme cu (selected)
- 03 long shot

Below the preview window are playback controls: a timeline showing 0:13 / 0:52, volume, and zoom controls. Below the timeline are four numbered buttons (00, 01, 02, 03) corresponding to the clips. To the right are "make clip" and "edit clip" buttons.



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## player state (export data button clicked)



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