HTML - JavaScript - CSS

HTML - JavaScript - CSS

Structure &
Glue

Programming

Layout
(Glitter)

HTML - JavaScript - CSS

JavaScript is not Java !!!

Programming

Structure &
Glue

Layout
(Glitter)

HTML

```
<!DOCTYPE html>
<html>

  <head>



  </head>

  <body>





  </body>

</html>
```

HTML

```
<!DOCTYPE html>
<html>

  <head>
      <title>ASSC23 Workshop</title>


  </head>

  <body>
      <h1>Hello ASSC23!</h1>




  </body>

</html>
```

http://assc23.jatos.org/code_snippets/ASSC23_html_css_js/html.html

HTML and CSS

http://assc23.jatos.org/code_snippets/ASSC23_html_css_js/html-css.html

```html
<!DOCTYPE html>
<html>

  <head>
      <title>ASSC23 Workshop</title>
      <link rel="stylesheet" href="workshop.css" />

  </head>

  <body>
      <h1 id="bigTitle">Hello ASSC23!</h1>




  </body>

</html>
```

addpath

```css
#bigTitle {
   color: firebrick;
   font-family: Sans-Serif;
   font-size: 100px;
   text-align: center;
}
```

HTML and CSS and JavaScript

```html
<!DOCTYPE html>
<html>

  <head>
      <title>ASSC23 Workshop</title>
      <link rel="stylesheet" href="workshop.css" />
      <script src="jquery-3.1.1.min.js"></script>
  </head>

  <body>
      <h1 id="bigTitle">Hello ASSC23!</h1>

      <script>
         $("#bigTitle").click(() => alert("Hello everybody!"));
      </script>
  </body>

</html>
```

http://assc23.jatos.org/code_snippets/ASSC23_html_css_js/html-css-js.html

```css
#bigTitle {
   color: firebrick;
   font-family: Sans-Serif;
   font-size: 100px;
   text-align: center;
}
```

Selectors

Programming

Structure &
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Selectors

HTML		JavaScript	CSS
`<h1>Hello ASSC23!</h1>`	⇐	`$("h1").click(() => {...})`	`h1 {...}`
`<h1 id="myId">Hello ASSC23!</h1>`	⇐	`$("#myId").click(() => {...})`	`#myId {...}`
`<h1 class="myClass">Hello ASSC23!</h1>`	⇐	`$(".myClass").click(() => {...})`	`.myClass {...}`

CSS Hands-on
with Binocular Rivalry

Take-Away CSS Hands-on

1. HTML tags
2. Selectors with classes and IDs
3. CSS Gradients
4. CSS Animations

Break

(with Snake)

https://assc23.jatos.ninja/publix/2/start?batchId=2&generalMultiple

Events and Listeners

HTML

Structure &
Glue

JS

Programming

CSS

Layout
(Glitter)

Events and Listeners

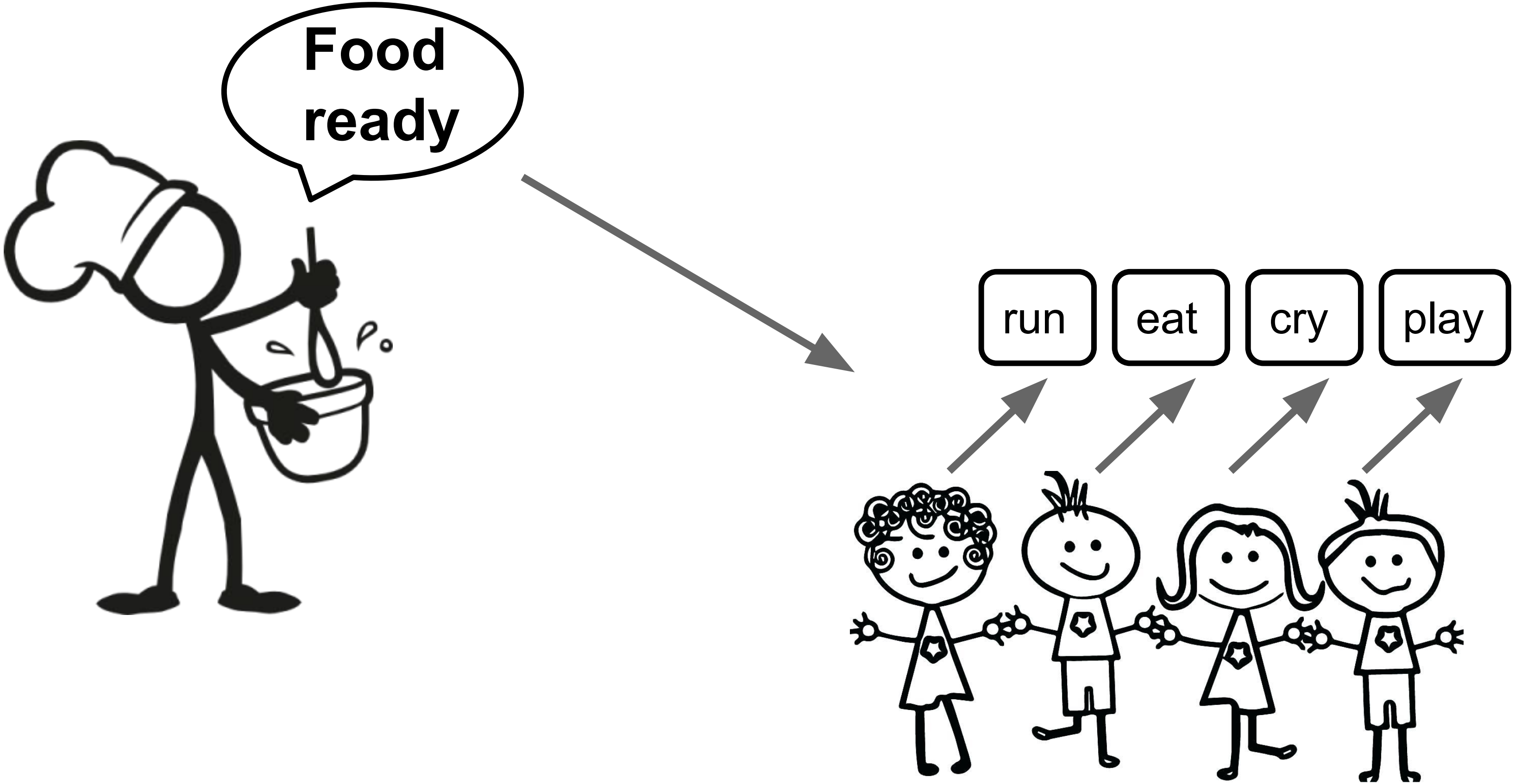
Matlab

show stimulus -> wait for response
show stimulus -> wait for response
show stimulus -> wait for response
…

JavaScript

is **event-driven**

Events and Listeners



Food ready

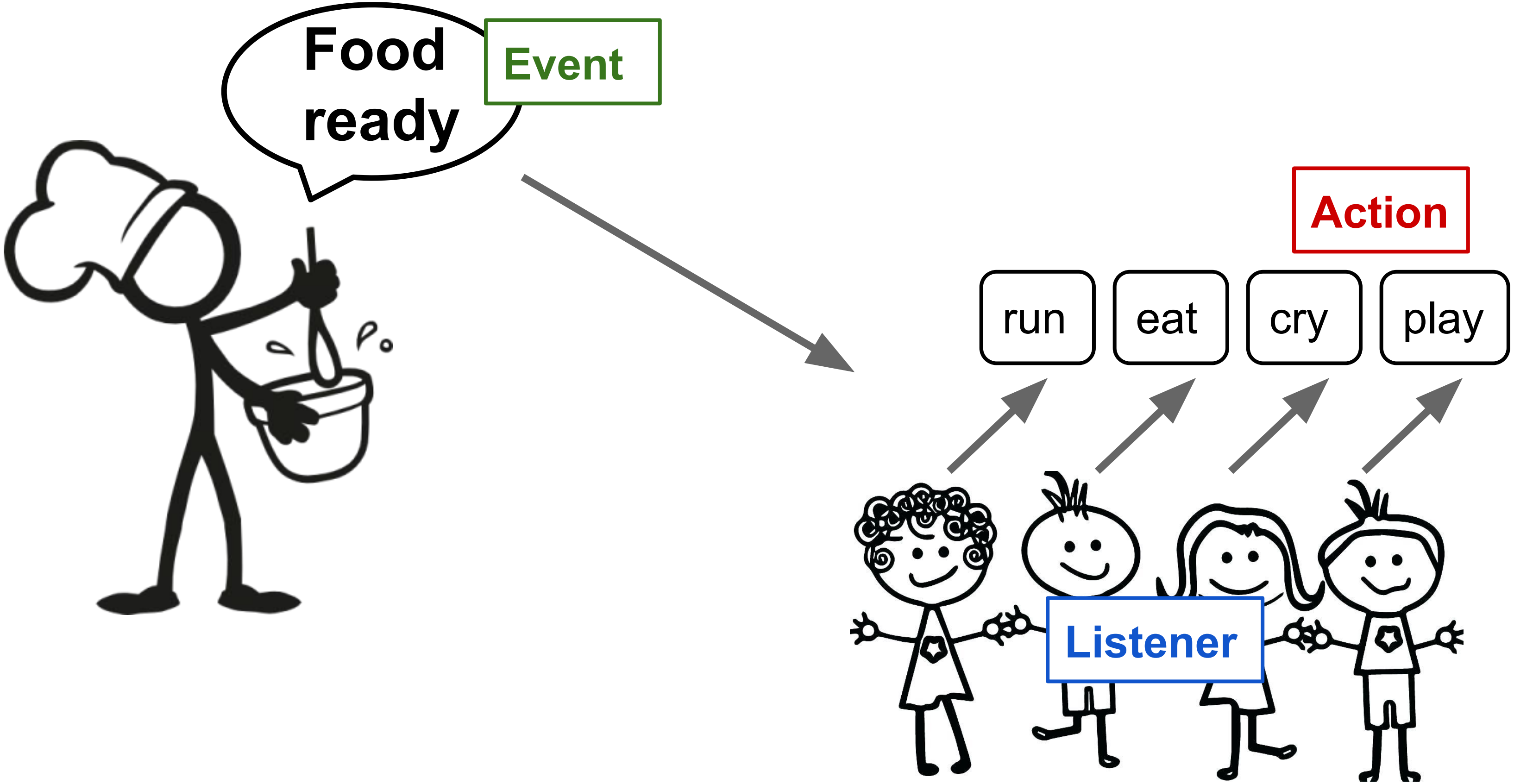
run

eat

cry

play

Events and Listeners



Food ready

Event

Action

run

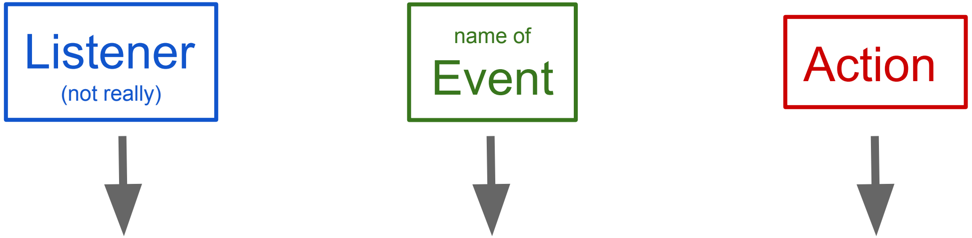
eat

cry

play

Listener

Events and Listeners



Listener

(not really)

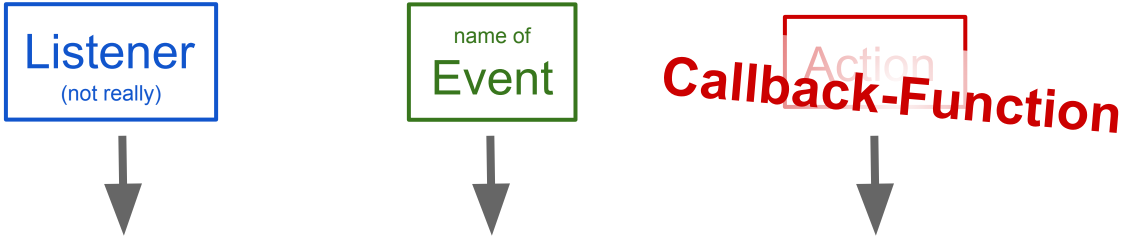
name of

Event

Action

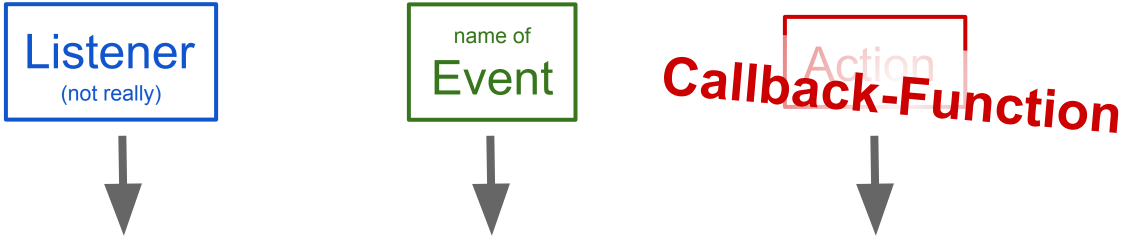
```
document.addEventListener("click", doSomething);
```

Events and Listeners



```
document.addEventListener("click", doSomething);

function doSomething() {
    console.log("user clicked");
}
```

Events and Listeners



Listener
(not really)

name of
Event

Action

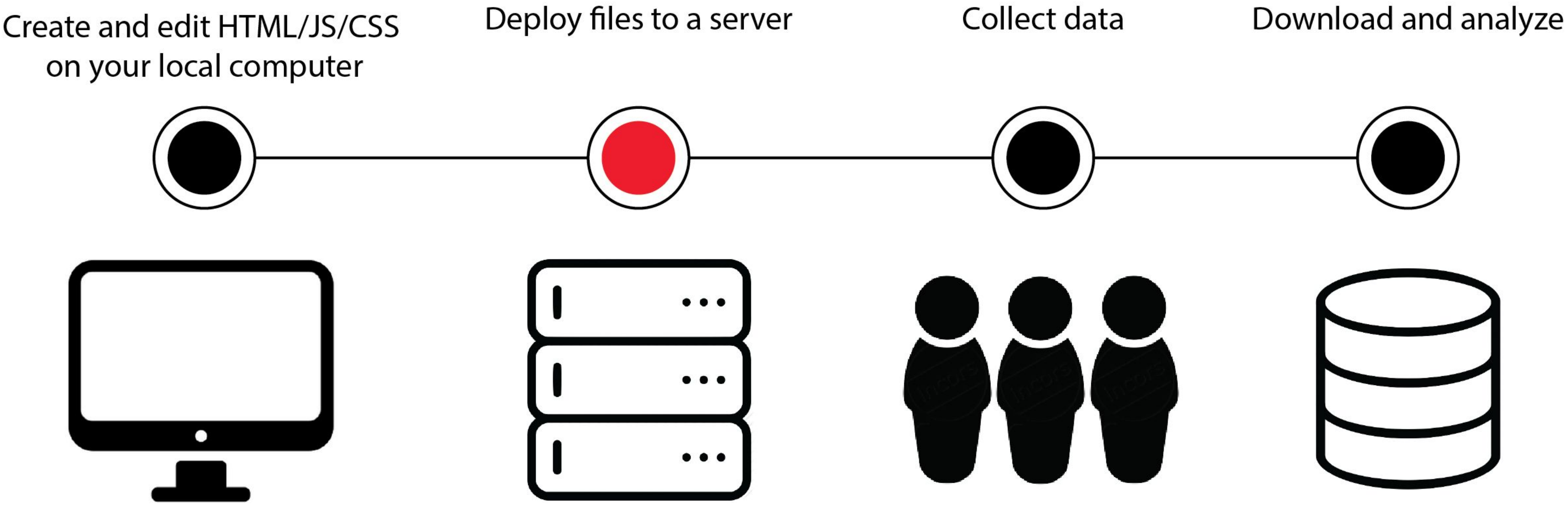
Callback-Function

```
document.addEventListener("click", doSomething);

function doSomething() {
    console.log("user clicked");
}

document.addEventListener("click", () => {
    console.log("user clicked");
});
```

JavaScript Hands-on with Binocular Rivalry

Take-Away JavaScript Hands-on

1. How to hide an element
2. How to use `setTimeout`
3. JavaScript and browsers are event-driven and have events & listeners
4. How to use `document.addEventListener`



Create and edit HTML/JS/CSS on your local computer

Deploy files to a server

Collect data

Download and analyze

Deploy to the Internet

Option A:
Qualtrics, SurveyMonkey etc. do it for you, but … limited

Option B:
DIY, but … complicated

Option C:
JATOS

Deploy to the Internet

Option A:
Qualtrics, SurveyMonkey etc. do it for you, but … limited

Option B:
DIY, but … complicated

Option C:
JATOS

Option C.1:
Convince your IT guys

Option C.2:
Be your own admin

aws
DigitalOcean
Azure
Google Cloud

JavaScript Object and JSON

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(Glitter)

JavaScript Object and JSON

=

JavaScript **O**bject **N**otation

Structure &
Glue

Programming

Layout
(Glitter)

JavaScript Object and JSON

```
{
    "id":"0001",
    "type":"donut",
    "name":"Cake",
    "image":{
        "url":"images/0001.jpg",
        "width":200,
        "height":200
    },
    "thumbnail":{
        "url":"images/thumb/0001.jpg",
        "width":32,
        "height":32
    },
    "filter":v => v % 3 === 0
}
```

struct

```
{
    "id":"0001",
    "type":"donut",
    "name":"Cake",
    "image":{
        "url":"images/0001.jpg",
        "width":200,
        "height":200
    },
    "thumbnail":{
        "url":"images/thumb/0001.jpg",
        "width":32,
        "height":32
    }
}
```

JavaScript Object and JSON

```
{
    "id":"0001",
    "type":"donut",
    "name":"Cake",
    "image":{
        "url":"images/0001.jpg",
        "width":200,
        "height":200
    },
    "thumbnail":{
        "url":"images/thumb/0001.jpg",
        "width":32,
        "height":32
    },
    "filter":v => v % 3 === 0
}
```

```
{
    "id":"0001",
    "type":"donut",
    "name":"Cake",
    "image":{
        "url":"images/0001.jpg",
        "width":200,
        "height":200
    },
    "thumbnail":{
        "url":"images/thumb/0001.jpg",
        "width":32,
        "height":32
    }
}
```

JSON is a string!

JavaScript Object and JSON

`JSON.stringify:`	Object -> JSON
`JSON.parse:`	JSON -> Object

JavaScript Object and JSON

```
[{"rt":934,"key_press":32,"trial_type":"text","trial_index":0,"time_elapsed":93
8,"internal_node_id":"0.0-0.0"},{"rt":5398,"key_press":32,"trial_type":"text","
trial_index":1,"time_elapsed":7340,"internal_node_id":"0.0-1.0"},{"rt":-1,"stim
ulus":"/study_assets/workshop_go_nogo/img/orange.png","key_press":-1,"response"
:"no-go","trial_type":"single-stim","trial_index":2,"time_elapsed":10850,"inter
nal_node_id":"0.0-2.0-0.0","correct":true},{"rt":327,"stimulus":"/study_assets/
workshop_go_nogo/img/blue.png","key_press":70,"response":"go","trial_type":"sin
gle-stim","trial_index":3,"time_elapsed":13130,"internal_node_id":"0.0-2.0-1.0"
,"correct":true},{"rt":676,"stimulus":"/study_assets/workshop_go_nogo/img/blue.
png","key_press":70,"response":"go","trial_type":"single-stim","trial_index":4,
"time_elapsed":15436,"internal_node_id":"0.0-2.0-2.0","correct":true},{"rt":-1,
"stimulus":"/study_assets/workshop_go_nogo/img/orange.png","key_press":-1,"resp
onse":"no-go","trial_type":"single-stim","trial_index":5,"time_elapsed":17838,"
internal_node_id":"0.0-2.0-3.0","correct":true},{"rt":322,"stimulus":"/study_as
sets/workshop_go_nogo/img/blue.png","key_press":70,"response":"go","trial_type"
:"single-stim","trial_index":6,"time_elapsed":18952,"internal_node_id":"0.0-2.0
-4.0","correct":true},{"rt":-1,"stimulus":"/study_assets/workshop_go_nogo/img/o
range.png","key_press":-1,"response":"no-go","trial_type":"single-stim","trial_
index":7,"time_elapsed":21995,"internal_node_id":"0.0-2.0-5.0","correct":true},
{"rt":-1,"stimulus":"/study_assets/workshop_go_nogo/img/orange.png","key_press"
```

JavaScript Object and JSON

```
[{"rt":934,"key_press":32,"trial_type":"text","trial_index":0,"time_elapsed":93
8,"internal_node_id":"0.0-0.0"},{"rt":5398,"key_press":32,"trial_type":"text","
trial_index":1,"time_elapsed":7340,"internal_node_id":"0.0-1.0"},{"rt":-1,"stim
ulus":"/study_assets/workshop_go_nogo/img/orange.png","key_press":-1,"response"
:"no-go","trial_type":"single-stim","trial_index":2,"time_elapsed":10850,"inter
nal_node_id":"0.0-2.0-0.0","correct":true},{"rt":327,"stimulus":"/study_assets/
workshop_go_nogo/img/blue.png","key_press":70,"response":"go","trial_type":"sin
gle-stim","trial_index":3,"time_elapsed":13130,"internal_node_id":"0.0-2.0-1.0"
,"correct":true},{"rt":676,"stimulus":"/study_assets/workshop_go_nogo/img/blue.
png","key_pr                                                          index":4,
"time_elapse                                                          {"rt":-1,
"stimulus":"                                                          ":-1,"resp
onse":"no-go                                                          d":17838,"
internal_nod                                                          "/study_as
sets/worksho                                                          rial_type"
:"single-sti                                                          ":"0.0-2.0
-4.0","corre                                                          nogo/img/o
range.png","                                                          n","trial_
index":7,"time_elapsed":21995,"internal_node_id":"0.0-2.0-5.0","correct":true},
{"rt":-1,"stimulus":"/study_assets/workshop_go_nogo/img/orange.png","key_press"
```

Use JSON Formatter

e. g.

https://jsonformatter.curiousconcept.com/

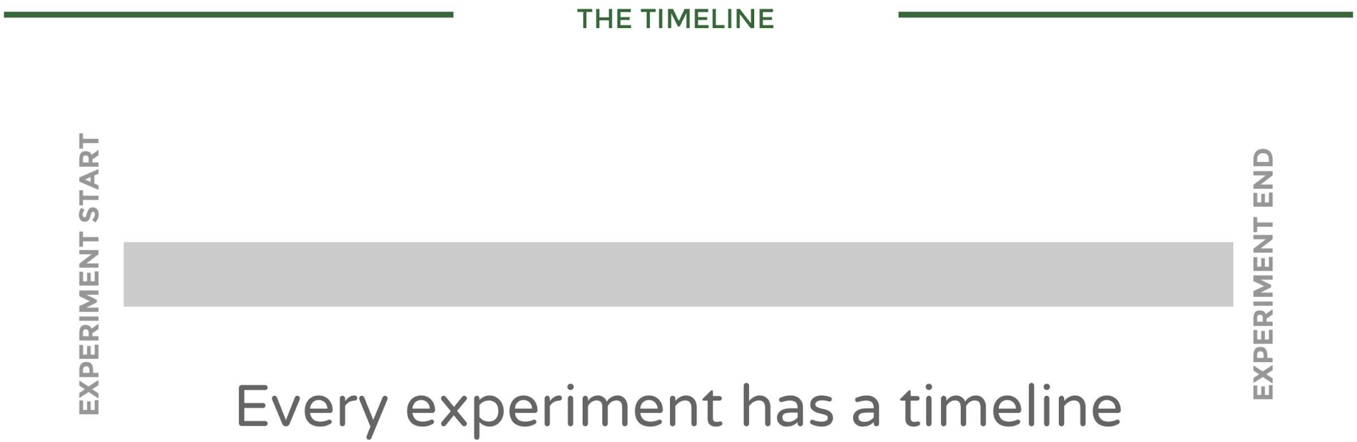
or

http://jsonformatter.org/

JavaScript Object and JSON

```
[
    {
        "rt":934,
        "key_press":32,
        "trial_type":"text",
        "trial_index":0,
        "time_elapsed":938,
        "internal_node_id":"0.0-0.0"
    },
    {
        "rt":5398,
        "key_press":32,
        "trial_type":"text",
        "trial_index":1,
        "time_elapsed":7340,
        "internal_node_id":"0.0-1.0"
    },
    {
```

Client-side toolbox: jsPsych

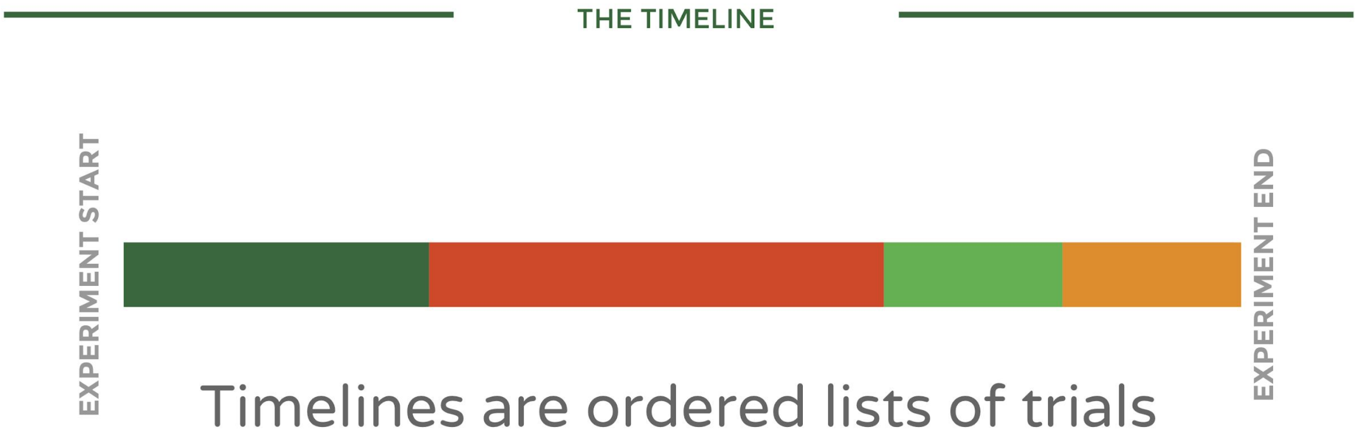


THE TIMELINE

Every experiment has a timeline

Source: https://tinyurl.com/y5wawfya

Client-side toolbox: jsPsych

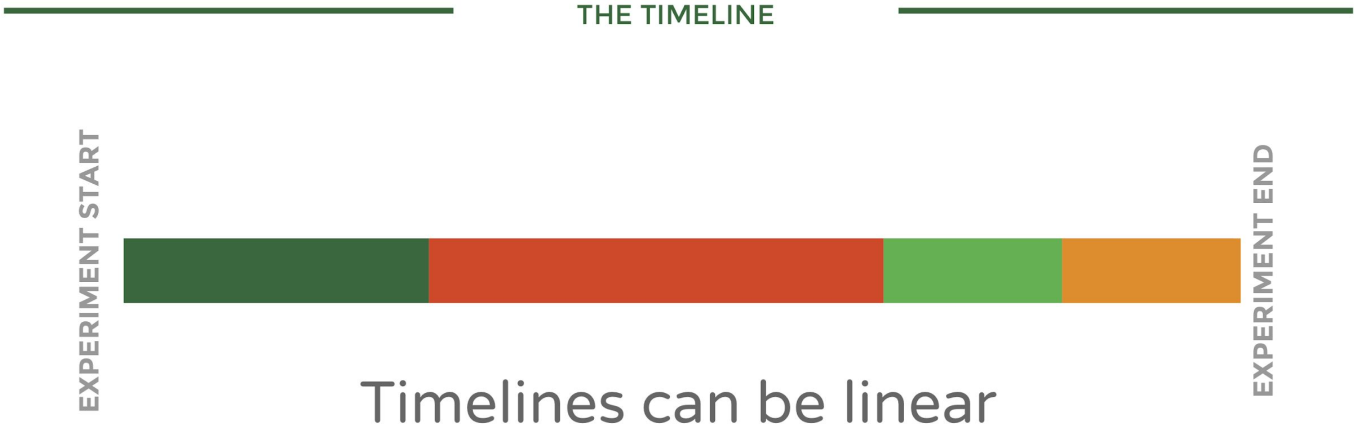


THE TIMELINE

Timelines are ordered lists of trials

Source: https://tinyurl.com/y5wawfya

Client-side toolbox: jsPsych



THE TIMELINE

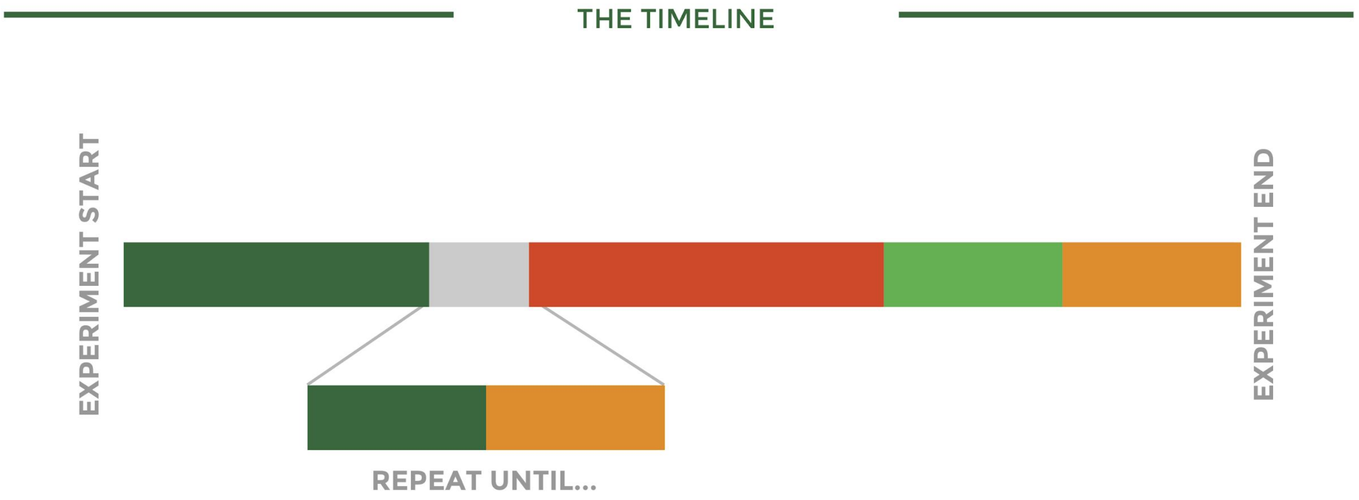
EXPERIMENT START

EXPERIMENT END

Timelines can be linear

Source: https://tinyurl.com/y5wawfya

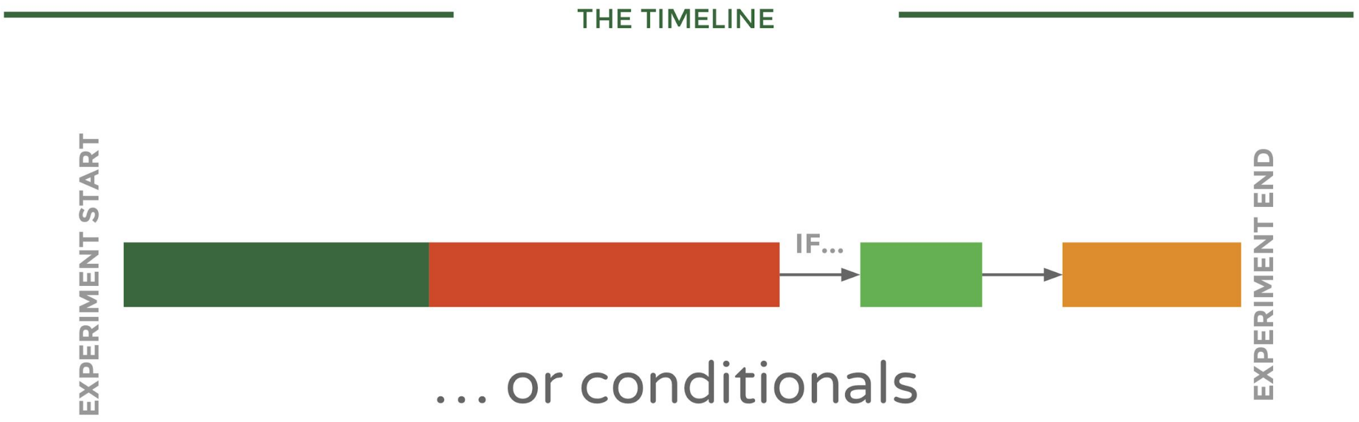
Client-side toolbox: jsPsych



or can contain loops, nested structures, ...

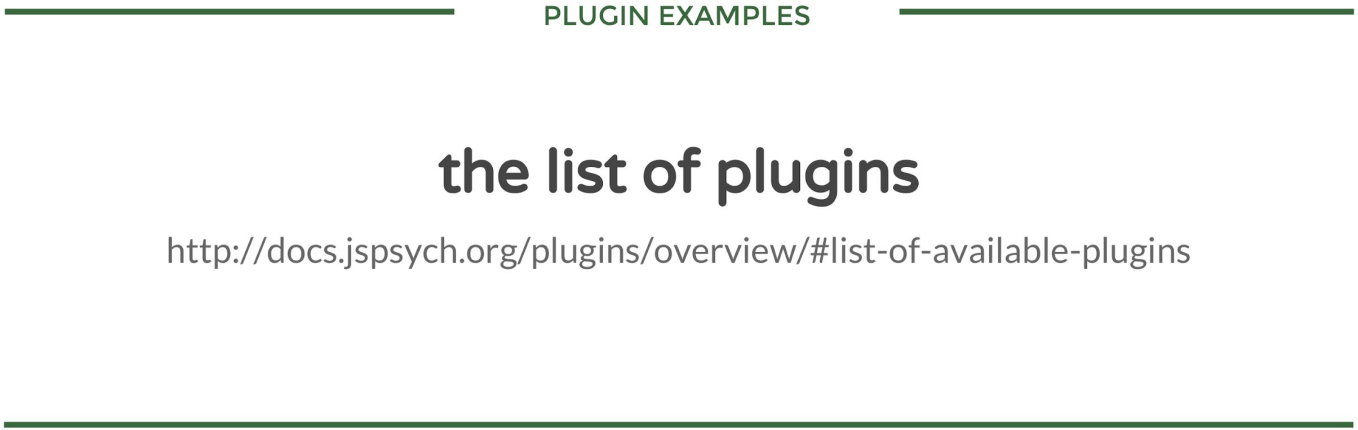
Source: https://tinyurl.com/y5wawfya

Client-side toolbox: jsPsych



Source: https://tinyurl.com/y5wawfya

Client-side toolbox: jsPsych



PLUGIN EXAMPLES

the list of plugins

http://docs.jspsych.org/plugins/overview/#list-of-available-plugins

Source: https://tinyurl.com/y5wawfya

jsPsych Hands-on

Take-Away jsPsych Hands-on

1. JSON and JavaScript Objects
2. Developer tools' console
3. How to add JavaScript libraries and CSS files
4. jsPsych: timeline, trials, plugins
5. How to add a jsPsych plugin
6. How to use `jatos.submitResultData` to save result data in JATOS