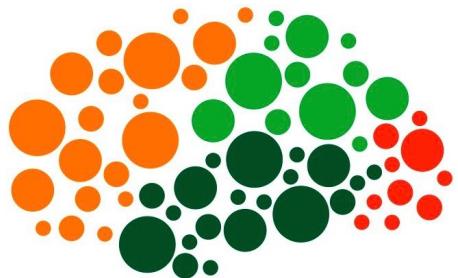


Etat des lieux outils d'expérimentation en ligne



Objectif de la mission

- Etat des lieux des outils pour l'expérimentation en ligne.
- Choix d'un outil.
- Crédit à une banque de tests.

Etat des lieux

- La jungle de l'expérimentation en ligne



PsychoPy
Now running studies online



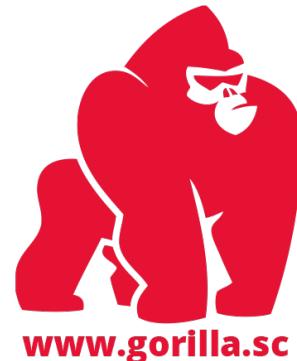
Cognition.

qualtrics^{XM}

Prolific

amazon
mechanical turk

TESTABLE



INQUISIT
by millisecnd

nodeGame 7.1.0



Questions soulevées

- Quels besoins ?
- Quelles contraintes ?
- Quel langage de programmation ?

Les besoins

- Pouvoir effectuer les paradigmes majeurs utilisés dans l'équipe,
- Bénéficier d'un outil adaptable,
- Garantir une certaine pérennité de l'outil.

Les besoins

- *Sonic interaction design (Franinovic, Serafin; 2012)*

<https://nubo.ircam.fr/index.php/s/aPorzEz9g546PyS>

- *Measurement with persons : Theory, Methods and Implementation Areas (Berglund, B. Rossi, T. Townsend, R. Pendrill; 2011)*

<https://nubo.ircam.fr/index.php/s/9eK2y3pFGYCJiXR>

Les besoins

Table 5.1 Examples of questions answered with the methods described in this chapter.

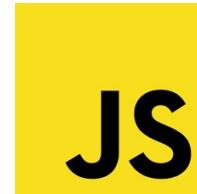
Section: Method	Examples of answered questions
5.3: Psychophysical methods	<ul style="list-style-type: none">– Can the user perceive each of the configurations of a sonic interaction?– Can the user differentiate between configurations?
5.4: Identification and categorization	<ul style="list-style-type: none">– What naturalistic object is recognized in each of the configurations?– What emotional category is recognized in a sonic artefact?
5.5: Scaling and rating	<ul style="list-style-type: none">– How does perceived effort vary between sonic feedbacks for robotic surgery applications?– How should the user-controlled gain for sound level vary so as to produce a linear increase in perceived loudness?
5.6: Dissimilarity estimation	<ul style="list-style-type: none">– Which properties of a complex sonic interaction are most relevant to the user?– Do different individuals focus on different attributes of the sensory events?
5.7: Sorting	<ul style="list-style-type: none">– How many categories of perceived materials can a sound synthesis algorithm reproduce?– What is the most typical configuration for each of the material categories?
5.8: Verbalization	<ul style="list-style-type: none">– What are the relevant semantic descriptors to describe the sound properties of a sonic interaction?– What are the individual interactive strategies? Are there problems in the prototype design?
5.9: Semantic differential	<ul style="list-style-type: none">– Which configuration has the highest aesthetic and functional value?– How do preference, perceived sound brightness and perceived efficiency covary for these particular sonic interactions?
5.10: Preference estimation	<ul style="list-style-type: none">– Which configuration of a sonic feedback system do users prefer the most?– Which configuration is the least annoying?
5.11: Continuous evaluation	<ul style="list-style-type: none">– Do users gesture map onto changes in the perceptual attributes of the sonic events?– How does the emotional response to a complex sound vary in time?
5.12: Multisensory contexts	<ul style="list-style-type: none">– What influences most strongly preference for cars? The sound of its doors closing or their felt weight?– Do sonic feedbacks significantly shorten the time required for parking a car?

Les contraintes

- Conserver la précision permise en laboratoire,
- Mesure précise des conditions expérimentales.

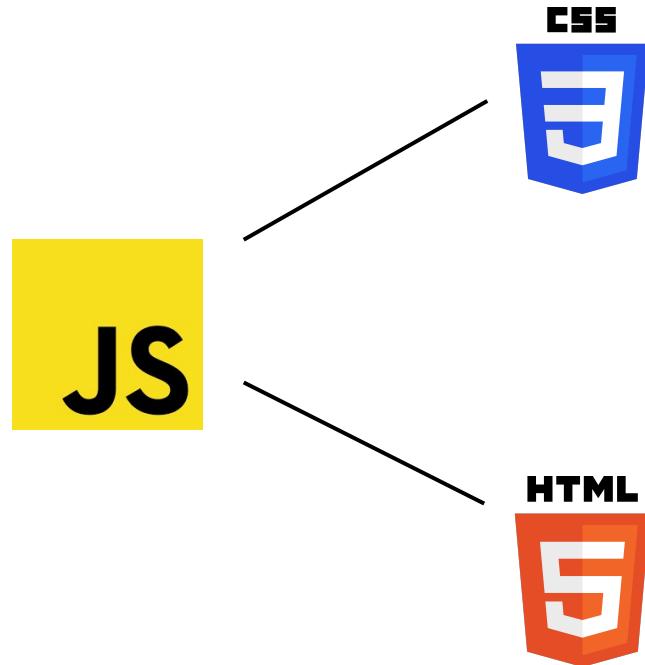
Le langage de programmation

- Quel langage est le plus adapté au besoin ?

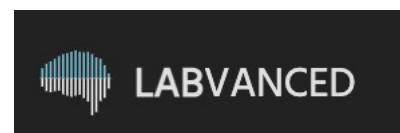


Le langage de programmation

- Quel langage est le plus adapté au besoin ?



Etat des lieux



nodeGame 7.1.0



Expilab



PsychoPy
Now running studies online



Cognition.

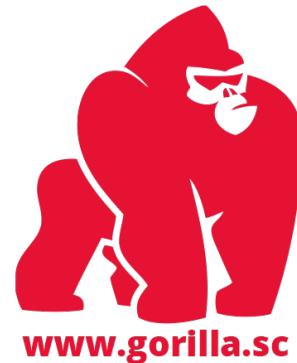


Prolific

qualtrics^{XM}

amazon
mechanical turk

TESTABLE



www.gorilla.sc



JATOS

Just Another Tool for Online Studies

INQUISIT
by millisecnd

Etat des lieux

nodeGame 7.1.0



Cognition.



Etat des lieux

nodeGame 7.1.0



Cognition.

Etat des lieux

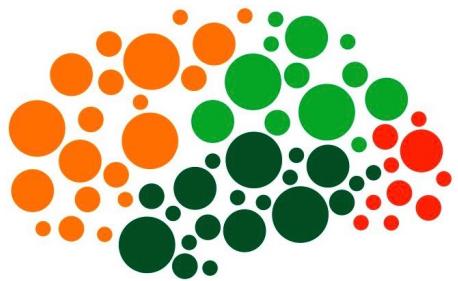


Cognition.

Etat des lieux



Comparaison outils d'expériences en ligne



jsPsych



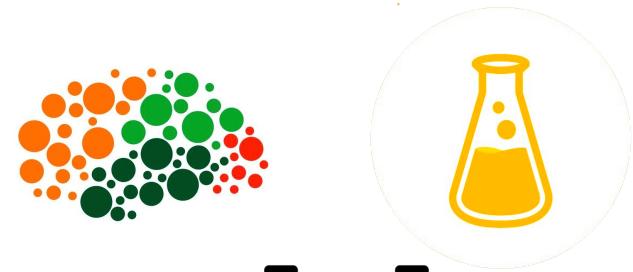
lab.js

Résumé

- Choix du language javascript
- Réduction de fait à deux outils : jsPsych / lab.js
- Comparer ces deux outils sur différents critères :
 - Facilité de prise en main
 - Modularité
 - Capacité à produire les principaux paradigmes expérimentaux qui intéressent l'équipe

Facilité de prise en main

- Deux approches différentes



lab.js :

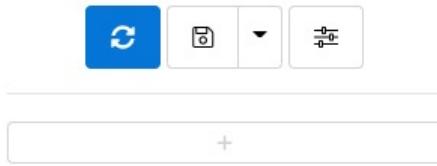
Builder

jsPsych :

Librairie seule



lab.js



Interface graphique *user-friendly*

Welcome!

Thank you for using **lab.js**!
We hope you find it useful, and that
you enjoy using it as much as we did building it.

Get started	Learn more	Find support
-------------	------------	--------------

lab.js



Blue circular button with a white refresh symbol

Icons: save, download, settings

- Welcome
- Instructions
- Loop
- Iteration
- Fixation cross
- Task2
- Gap
- Bilan

Instructions

Content

Dans cette expérience, un cercle va apparaître au centre de l'écran.
Si le cercle est Bleu appuyez sur la lettre F sur votre clavier aussi vite que vous le pouvez.
Si le cercle est Orange appuyez sur la lettre J aussi vite que vous le pouvez.

A large blue circle labeled "Appuyez la lettre F" and a large orange circle labeled "Appuyez la lettre J".

Bottom text: Appuyez sur une touche pour commencer.

Toolbars: +, trash, up, down, right, x, y, C, angle, width, height, orientation, rotation, color.

Possibilité d'éditer du javascript sans utiliser une ligne de code



lab.js

Loop 

Content Behavior Scripts     

position	A ▾	color	A ▾	fixation	② ▾	touche	A ▾	+
225		blue		250		f		
-225		orange		500		j		
225		blue		750				
-225		orange		1000				
225		blue		1250				
-225		orange		1500				
225		blue		1750				
-225		orange		2000				
+								
Sample	ⓘ	20		Sampled with replacement				

Further options



lab.js

Bilan

Content Behavior Scripts ⌂ ⌂ ⌂ ⌂ ⌂ ⌂ ⌂

Timeline Beta

0ms 100ms 200ms 300ms 400ms 500ms 600ms 700ms 800ms 900ms 1000ms 1100ms

Please add or select a timeline item

+ ⌂ ⌂ ⌂ ⌂

Timeout ⓘ Never ms

Responses

label ⓘ action · event ⓘ target ⓘ filter · key/button ⓘ

☰ none (inactive) ↴ window any ⌂

+

Correct response ⓘ Undefined

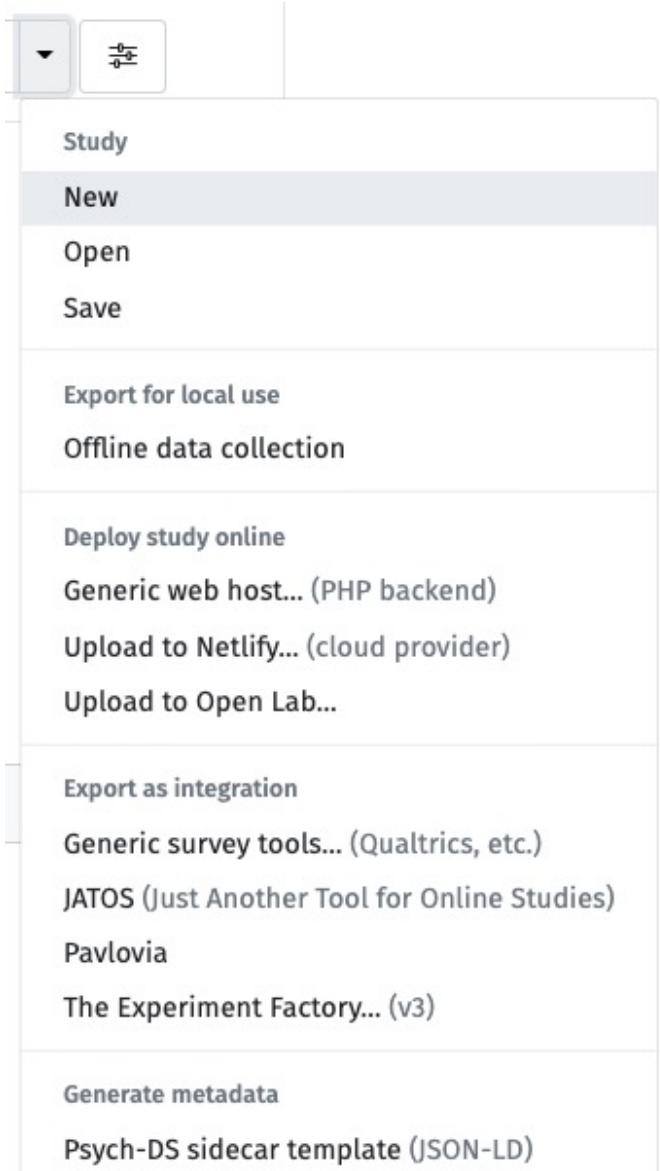
Meta

Skip ⓘ \${ optional condition }

Tardy ⓘ



lab.js



Mise en ligne simplifiée



jsPsych

- Absence d'interface utilisateur

```
experience3.html
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>My experiment</title>
5     <script src="https://unpkg.com/@spysy/plugin-html-keyboard-response@1.0.0"></script>
6     <script src="https://unpkg.com/@spysy/plugin-image-keyboard-response@1.0.0"></script>
7     <script src="https://unpkg.com/@spysy/plugin-preLoad@1.0.0"></script>
8     <link href="https://unpkg.com/@spysy/css/jspysy.css" rel="stylesheet" type="text/css" />
9   </head>
10  <body></body>
11  <script>
12
13    /* Je lance jsPsych et je lui dit de me montrer les data à la fin */
14    var jsPsych = initJsPsych({
15      on_finish: function() {
16        jsPsych.data.displayData();
17      }
18    });
19
20    /* Je crée la timeline de l'expérience */
21    var timeline = [];
22
23    /* On va précharger les média pour éviter la latence dans le navigateur */
24    var preload = {
25      type: jsPsychPreload,
26      images: ['img/blue.png', 'img/orange.png']
27    };
28    timeline.push(preload);
29
30    /* Je définie le message d'accueil comme un trial */
31    var welcome = {
32      type: jsPsychHtmlKeyboardResponse,
33      stimulus: "Bienvenue dans l'expérience test. Appuyez sur une touche pour commencer."
34    };
35    timeline.push(welcome);
36
37    /* On montre les instructions */
38    var instructions = {
39      type: jsPsychHtmlKeyboardResponse,
40      stimulus:
41        <p>Dans cette expérience, un cercle va apparaître au centre de l'écran.</p><p>Si le cercle est <strong>Bleu</strong>,</p>
42        <p>Si le cercle est <strong>Orange</strong>, appuyez sur la lettre J aussi vite que vous le pouvez.</p>
43        <div style='width: 700px;'>
44          <div style='float: left;'><img src='img/blue.png'></img>
45          <div style='float: right;'><img src='img/orange.png'></img>
46          <div style='clear: both;'><strong>Appuyez la lettre J</strong></div>
47        </div>
48        <p>Appuyez sur une touche pour commencer.</p>
49
50      ,
51      post_trial_gap: 2000
52    };
53    timeline.push(instructions)
54
55    /* On défini une variable de timeline les stimulus */
56
57    var test_stimuli = [
58      { stimulus: "<div style='float: right;'><img src='img/blue.png'></img>", correct_response: 'f' },
59      { stimulus: "<div style='float: right;'><img src='img/orange.png'></img>", correct_response: 'j' }
60    ];
61
62    /* Maintenant on ajoute une croix de fixation entre les présentations */
63
64    var fixation = {
65      type: jsPsychHtmlKeyboardResponse,
66      stimulus: "<div style='font-size:60px;'>&amplt/div>",
67      choices: "NO_KEYS",
68      trial_duration: function(){
69        return jsPsych.randomization.sampleWithoutReplacement([250, 500, 750, 1000, 1250, 1500, 1750, 2000], 1)[0];
70      },
71      data: [
72        { stimulus: "<div style='font-size:60px;'>&amplt/div>" }
73      ]
74    };
75
76    timeline.push(fixation);
77
78  
```



jsPsych

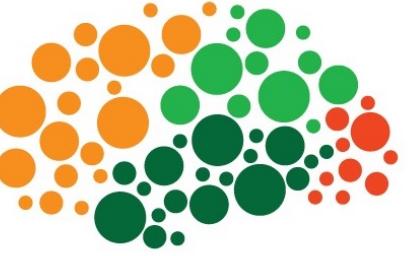
Untitled Experiment

Untitled Timeline

Width: 1472 Height: x 739 Zoom: 100%

Sign Up/Log In

New Timeline New Trial Delete Duplicate X

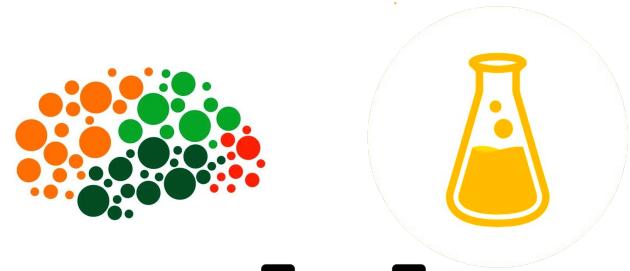


jspsych

A screenshot of the jsPsych experiment builder interface. The top navigation bar includes a menu icon, search, file, and cloud icons, along with a sign up/login button. The main workspace shows a blank timeline with dimensions of 1472x739 pixels at 100% zoom. On the left, there are buttons for creating a new timeline, trial, or deleting/duplicating existing ones. A large green 'X' button is also present. The bottom of the workspace features standard browser navigation controls (back, forward, search, etc.).

Facilité de prise en main

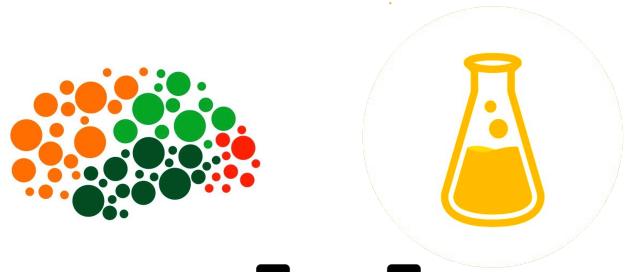
- lab.js est plus simple à prendre en main lorsque l'on ne maîtrise pas le javascript.
- Néanmoins si le projet de GUI utilisant jsPsych s'avère fonctionnel, le problème semble contournable au moins en partie.



0	1
---	---

Modularité

- Quel outil répond de la façon la plus adéquate au besoin de modularité, afin de permettre le partage au sein de l'équipe et entre chercheurs, des éléments communs aux différentes expériences ?



0	1
---	---



lab.js

- Facilité pour l'importation / l'exportation des expériences réalisées sur le builder.
 - Téléchargeables en *.json*
 - Expériences de références disponibles sur le site de l'outil.
- Négatif : peu de plugins sont disponibles de façon native, aucun d'eux n'est orienté audio.

jsPsych

- Librairie basée entièrement sur les plugins.
- Beaucoup de plugins disponibles, donc plusieurs dédiés à l'audio.
- Possibilité d'utiliser des extensions qui s'interfacent avec un plugin existant, pour élargir les possibilités.

*Des templates sont disponibles pour coder des plugins et extensions.
Reste à évaluer la difficulté que cela représente.*

List of Plugins

These are the plugins that are included in the jsPsych release.

Additional plugins may be available in the [jsPsych plugin repository](#).

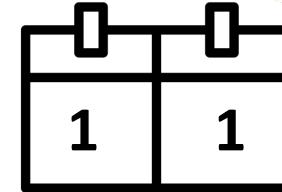
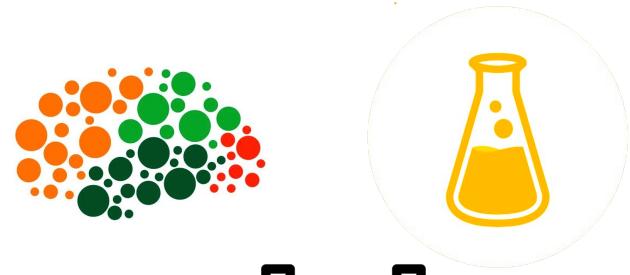
For an overview of what plugins are and how they work, see our [plugin overview](#).



Plugin	Description
animate	Shows a sequence of images at a specified frame rate. Elements are processed (including being made visible) based on the subject's visible items among the animation.
audio-button-response	Play an audio file and allow the subject to respond by clicking a button to click. The button can be numbered incrementally e.g., using images in place of standard buttons.
audio-keyboard-response	Play an audio file and allow the subject to respond by pressing a key.
audio-slider-response	Play an audio file and allow the subject to respond by moving a slider to indicate a value.
call-function	Executes an arbitrary JavaScript call. Useful for applying an effect to the subject, and for subject to usually assume that this plugin has been executed. It's useful for performing tasks in a specified location during the experiment, such as saving data.
camera-button-response	Shows a stimulus on a <code>HTML canvas element</code> , and record a button click response. Useful for displaying dynamic, parametrically defined graphics, and for controlling the production of multiple graphical elements (images, text, image).
camera-keyboard-response	Shows a stimulus on a <code>HTML canvas element</code> , and record a key press response. Useful for displaying dynamic, parametrically defined graphics, and for controlling the production of multiple graphical elements (images, text, image).
camera-slider-response	Shows a stimulus on a <code>HTML canvas element</code> , and ask the subject to respond by moving a slider to indicate a value. Useful for displaying dynamic, parametrically defined great axes, and for controlling the production of multiple graphical elements (images, text, image).
calculator-animation	The subject responds to a calculation and can give feedback about their response.
calculator-key	The subject responds to a call that formats a calculation using the keyboard and can give feedback about the correctness of their response.
calculator-image	The subject responds to a image using the keyboard and can give feedback about the correctness of their response.
clutter	Plugins for displaying a clutter item and identifying participant responses against a correct solution.
colorblind	Displays an image on a <code>HTML page</code> (such as a command line) and lets the subject respond to it using the keyboard or mouse. Plugins can validate the response, which is useful for reading out that a subject has performed correctly during the experiment.
count	Displays a set of images on the screen in random locations. Subjects are asked to step the images to move them around the screen. Records all the moves made by the subjects; the sequence of moves can be recorded from this data.
fallacies	Triggers the experiment in several fallacies mode.
fixed-position-response	Display an HTML-formatted stimulus and allows the subject to respond by clicking a button to click. The button can be numbered incrementally e.g., using images in place of standard buttons.
fixed-slider-response	Display an HTML-formatted stimulus and allows the subject to respond by pressing a key.
fixed-slide-response	Display an HTML-formatted stimulus and allows the subject to respond by moving a slider to indicate a value.
get-failed	The implicit association task, using HTML-formatted stimuli.
get-image	The implicit association task, using images as stimuli.
image-button-response	Display an image and allow the subject to respond by clicking a button to click. The button can be numbered incrementally e.g., using images in place of standard buttons.
image-keyboard-response	Display an image and allow the subject to respond by pressing a key.
image-slider-response	Display an image and allow the subject to respond by moving a slider to indicate a value.
image-slide-response	For displaying test actions for the subject. Allows the subject to navigate between pages of a stimulus or fallacies.
recall	Displays a set of alternatives for the subject to select from for exclusion/reclusion. Options are listed in text or based on a particular schema (e.g., implement, preference, similarity). The participant is prompted to select one radio button corresponding to an alternative to look at left and right response columns.
perceived	This plugin loads images, audio, and video files into the browser's memory before they are needed in the experiment, in order to improve stimulus and response loading, and to avoid occupying the free space of the experiment.
recall-action	The subject interacts with a stimulus by modifying a parameter of the stimulus, and observing the change in the stimulus in real-time.
size	Calibrate the display so that materials display with a known physical size.
size-difference-test	A same-different judgment task. An HTML-formatted stimulus is shown, followed by a test page, and then another stimulus in either. The subject indicates whether the stimulus are the same or different.
size-difference-image	A same-different judgment task. Images in sizes, followed by sizes and then another stimulus in either. The subject indicates whether the stimulus are the same or different.
size-difference-size	A set of images are displayed on the screen and one of them changes size. The subject presses a key that corresponds to the different value (as fast as possible).
size-difference-size-reverse	A set of images are displayed on the screen and one of them changes value. The subject clicks the box that changed value as fast as possible.
survey-answers	Handles a certain HTML form, allows for mixing multiple kinds of answers.
survey-blank	Displays survey-style question(s).
survey-multi-choice	Displays multiple choice questions with one correct answer per question.
survey-multi-radio	Displays multiple choice questions with multiple correct answers per question.
survey-text	Shows a prompt with a text box. The subject writes a response and then submits by clicking a button.
video-slide-response	Displays a video file with many options for customization playback. Subject responds to the video by answering questions.

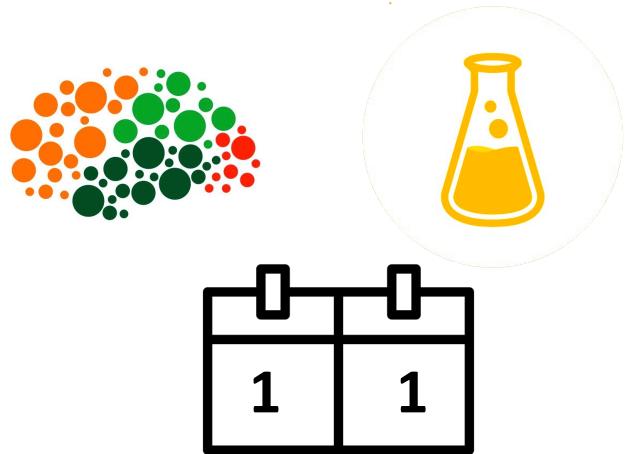
Modularité

- lab.js est modulaire, mais préférentiellement dans les limites de son builder.
- jsPsych est d'approche moins évidente, mais sa conception orientée plugins rend l'outil beaucoup plus modulaire.



Simplicité à produire les paradigmes classiques

- Les outils sont ils à même de fournir un cadre permettant de produire les paradigmes expérimentaux classiques nous intéressant ?



lab.js

La principale limitation est la contrepartie à la grande simplicité de l'outil, qui ne permet pas de façon directe de réaliser certaines expériences.

Cela reste en partie faisable, en rusant un peu sur l'outil.

Table 5.1 Examples of questions answered with the methods described in this chapter.

Section: Method	Examples of answered questions
5.3: Psychophysical methods	<ul style="list-style-type: none">– Can the user perceive each of the configurations of a sonic interaction?– Can the user differentiate between configurations?
5.4: Identification and categorization	<ul style="list-style-type: none">– What naturalistic object is recognized in each of the configurations?– What emotional category is recognized in a sonic artefact?
5.5: Scaling and rating	<ul style="list-style-type: none">– How does perceived effort vary between sonic feedbacks for robotic surgery applications?– How should the user-controlled gain for sound level vary so as to produce a linear increase in perceived loudness?
5.6: Dissimilarity estimation	<ul style="list-style-type: none">– Which properties of a complex sonic interaction are most relevant to the user?– Do different individuals focus on different attributes of the sensory events?
5.7: Sorting	<ul style="list-style-type: none">– How many categories of perceived materials can a sound synthesis algorithm reproduce?– What is the most typical configuration for each of the material categories?
5.8: Verbalization	<ul style="list-style-type: none">– What are the relevant semantic descriptors to describe the sound properties of a sonic interaction?– What are the individual interactive strategies? Are there problems in the prototype design?
5.9: Semantic differential	<ul style="list-style-type: none">– Which configuration has the highest aesthetic and functional value?– How do preference, perceived sound brightness and perceived efficiency covary for these particular sonic interactions?
5.10: Preference estimation	<ul style="list-style-type: none">– Which configuration of a sonic feedback system do users prefer the most?– Which configuration is the least annoying?
5.11: Continuous evaluation	<ul style="list-style-type: none">– Do users gesture map onto changes in the perceptual attributes of the sonic events?– How does the emotional response to a complex sound vary in time?
5.12: Multisensory contexts	<ul style="list-style-type: none">– What influences most strongly preference for cars? The sound of its doors closing or their felt weight?– Do sonic feedbacks significantly shorten the time required for parking a car?



jsPsych

Plus de possibilités au prix d'une plus grande difficulté de prise en main.

Certains plugins déjà existants permettent de faciliter la création de certains paradigmes.

Table 5.1 Examples of questions answered with the methods described in this chapter.

Section: Method	Examples of answered questions
5.3: Psychophysical methods	<ul style="list-style-type: none">– Can the user perceive each of the configurations of a sonic interaction?– Can the user differentiate between configurations?
5.4: Identification and categorization	<ul style="list-style-type: none">– What naturalistic object is recognized in each of the configurations?– What emotional category is recognized in a sonic artefact?
5.5: Scaling and rating	<ul style="list-style-type: none">– How does perceived effort vary between sonic feedbacks for robotic surgery applications?– How should the user-controlled gain for sound level vary so as to produce a linear increase in perceived loudness?
5.6: Dissimilarity estimation	<ul style="list-style-type: none">– Which properties of a complex sonic interaction are most relevant to the user?– Do different individuals focus on different attributes of the sensory events?
5.7: Sorting	<ul style="list-style-type: none">– How many categories of perceived materials can a sound synthesis algorithm reproduce?– What is the most typical configuration for each of the material categories?
5.8: Verbalization	<ul style="list-style-type: none">– What are the relevant semantic descriptors to describe the sound properties of a sonic interaction?– What are the individual interactive strategies? Are there problems in the prototype design?
5.9: Semantic differential	<ul style="list-style-type: none">– Which configuration has the highest aesthetic and functional value?– How do preference, perceived sound brightness and perceived efficiency covary for these particular sonic interactions?
5.10: Preference estimation	<ul style="list-style-type: none">– Which configuration of a sonic feedback system do users prefer the most?– Which configuration is the least annoying?
5.11: Continuous evaluation	<ul style="list-style-type: none">– Do users gesture map onto changes in the perceptual attributes of the sonic events?– How does the emotional response to a complex sound vary in time?
5.12: Multisensory contexts	<ul style="list-style-type: none">– What influences most strongly preference for cars? The sound of its doors closing or their felt weight?– Do sonic feedbacks significantly shorten the time required for parking a car?





jsPsych

- Quelques exemples visuels :

Low High

Is the pitch high or low?

```
var trial = {
  type: jsPsychAudioButtonResponse,
  stimulus: 'sound/tone.mp3',
  choices: ['Low', 'High'],
  prompt: "<p>Is the pitch high or low?</p>"
};
```



jsPsych

- Quelques exemples visuels :

Is the pitch high or low? Press 'e' for low and 'i' for high.

```
var trial = {
  type: jsPsychAudioKeyboardResponse,
  stimulus: 'sound/tone.mp3',
  choices: ['e', 'i'],
  prompt: "<p>Is the pitch high or low? Press 'e' for low and 'i' for high.</p>",
  response_ends_trial: true
};
```



jsPsych

- Quelques exemples visuels :

How funny is the joke?

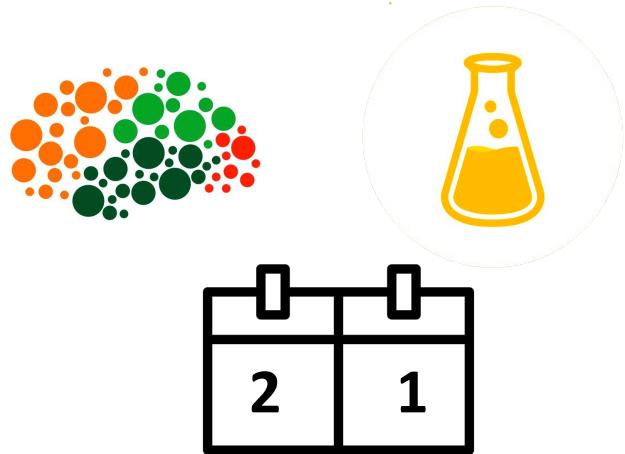
Not Funny Funny

Continue

```
var trial = {
  type: jsPsychAudioSliderResponse,
  stimulus: 'sound/speech_joke.mp3',
  labels: ['Not Funny', 'Funny'],
  prompt: '<p>How funny is the joke?</p>'
}
```

Simplicité à produire les paradigmes classiques

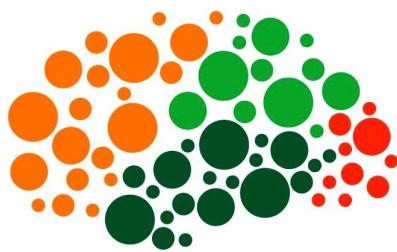
- jsPsych est plus complet pour mettre en place la plupart des paradigmes en première approximation.
- lab.js pourrait permettre de le faire, au prix de quelques détournements pour conserver la facilité de son interface.



Sélection d'un seul outil

- lab.js est un outil simple de prise en main, qui permet de réaliser très rapidement des expériences basiques.
- jsPsych est plus complexe de prime abord, mais permet des manipulations plus précises lorsqu'on le souhaite.

Sélection d'un seul outil





Cognition.run

Cognition.

Features FAQ

Go to Tasks

Run cognitive
experiments **online**.

Focus on science, not on IT.

Create an account

Features





Cognition.run

Link

Share this link with your participants.

<https://btbfhf5km5s.cognition.run>

Design

Edit your task paradigm, submit your stimuli and define the Informed Consent.

[Configuration](#) [Source code](#) [Informed consent](#) [Collaborators](#)

Data collection

Manage the data generated by runs.

There are no records to display. Once a participant visits the task's link, this is where you'll be able to see and download the data.



Cognition.run

Tasks / RAPPEL_ISE / Edit

Account

jsPsych version [?](#)

jsPsych library version: 7.2.1

External JS/CSS [?](#)

Upload files [Browse](#)

Stimuli

Upload files [Browse](#)

- 0_ACDC.mp3
- 1_ACDC.mp3
- 2_ACDC.mp3
- 400-hz-test-tone2.mp3
- 4_ACDC.mp3
- 5_ACDC.mp3
- 6_ACDC.mp3
- 7_ACDC.mp3
- 8_ACDC.mp3
- 9_ACDC.mp3
- sequence_0.wav
- sequence_1.mp3
- sequence_1.wav
- test_stereo2.mp3

Task Code [?](#)

```
1 //_
2 //CODE BELOW_
3 
4 /*
5 Si jamais quelque chose n'est pas clair, ne pas hésiter à
6 m'appeler ! :-)
7 M.
8 
9 */
10 /*
11 */
12 /*
13 Lancement jsPsych
14 
15 
16 /* Initialiser jsPsych */
17 var jsPsych = initJsPsych({
18   //show_progress_bar: true,
19   on_finish: function() {
20     // jsPsych.data.displayData();
21   },
22   on_trial_start: function() {
23 
24   },
25   on_trial_finish: function(){
26 
27   },
28 });
29 
30 /* création timeline */
31 
32 var timeline = [];
33 
34 /* Preload stimuli */
35 var preload = {
36 
37   type: jsPsychPreload,
38   audio: sounds
39 }
```

Task Preview [?](#)

Bienvenue dans cette expérience

Veuillez cliquer sur *Continuer* pour commencer.

[Continuer](#)

Disable preview Refresh Add url params Set condition

Recorded data [?](#)

success	timeout	failed_images	failed_audio	failed_video	trial_type	trial_index	time_elapsed	inten
true	false	[]	[]	[]	"preload"	0	2	"0.0

[Clear](#) [Download](#)

[Report a bug](#)



Cognition.run

Tasks / RAPPEL_ISE / Edit

Account

jsPsych version: 7.2.1

jsPsych library version: 7.2.1

External JS/CSS

Upload files Browse

Stimuli

Upload files Browse

0_ACDC.mp3
1_ACDC.mp3
2_ACDC.mp3
400-hz-test-tone2.mp3
4_ACDC.mp3
5_ACDC.mp3
6_ACDC.mp3
7_ACDC.mp3
8_ACDC.mp3
9_ACDC.mp3
sequence_0.wav
sequence_1.mp3
sequence_1.wav
test_stereo2.mp3

Task Code

```
1 //_
2 //CODE BELOW_
3
4 /*
5 Si jamais quelque chose n'est pas clair, ne pas hésiter à
6 m'appeler ! :-)
7 M.
8
9 */
10 /*
11 Lancement jsPsych
12
13 */
14
15 /* Initialiser jsPsych */
16 var jsPsych = initJsPsych({
17   //show_progress_bar: true,
18   on_finish: function() {
19     // jsPsych.data.displayData();
20   },
21   on_trial_start: function() {
22   },
23   on_trial_finish: function(){
24   },
25 });
26
27 },
28 });
29
30 /* création timeline */
31
32 var timeline = [];
33
34 /* Preload stimuli */
35 var preload = {
36   type: jsPsychPreload,
37   audio: sounds
38 }
```

Task Preview

Bienvenue dans cette expérience

Veuillez cliquer sur *Continuer* pour commencer.

Continuer

Disable preview Refresh Add url params Set condition

Recorded data

success timeout failed_images failed_audio failed_video trial

true	false	[]	[]	[]	"pre"
------	-------	----	----	----	-------

Clear Download

Report a bug

DevTools is now available in French!

Always match Chrome's language

Switch DevTools to French

Don't show again

top | Filter

Default levels ▾ [2 Issues: 2]

or.js:2) at l.ace.define.\$createWorkerFromOldConfig (editor.js:2) at new l (editor.js:2) at h.createWorker (editor.js:2) at p.\$startWorker (editor.js:2) at p.\$onChangeMode (editor.js:2) at p.<anonymous> (editor.js:2) at l.ace.define.t.loadModule (editor.js:2) at p.setMode (editor.js:2) at t.componentDidMount (editor.js:2) contentscript.js:3001 ► w.fn.init(1) contentscript.js:3127 49- code.js?id=1649663644:84 MWJ-650879003093 Mon code.js?id=1649663644:86 Apr 25 2022 11:30:03 GMT+0200 (heure d'été d'Europe centrale)

⚠ DevTools failed to load source map: Could not load content for chrome-extension://fpbdcofpbclblalghaepibbagkkgpkak/js/purify_min.js.map: HTTP error: status code 404, net::ERR_UNKNOWN_URL_SCHEME

⚠ DevTools failed to load source map: Could not load content for chrome-extension://fpbdcofpbclblalghaepibbagkkgpkak/js/tf_min.js.map: HTTP error: status code 404, net::ERR_UNKNOWN_URL_SCHEME



Cognition.run

- Facilité de prévisualisation
 - Facilité de debug
 - Code légèrement simplifié
-
- Possibilité d'ajout de librairie externes
 - Fonctionnel avec toutes les versions de jsPsych
 - Compatible avec Prolific



jsPsych en pratique

Exemple d'utilisation avec la BWS



jsPsych - BWS

- Besoin :
 - Faire écouter 4 sons par le sujet,
 - Puis questionnaire pour déterminer *Best / Worst*,



jsPsych - BWS

- Besoin :
 - Faire écouter 4 sons par le sujet, autant qu'il le veut,
 - Puis questionnaire pour déterminer *Best / Worst*,



jsPsych - BWS

- Besoin :
 - Faire écouter 4 sons par le sujet, autant qu'il le veut,
 - Puis questionnaire pour déterminer *Best / Worst*,
 - Recommencer avec 4 autres sons,



jsPsych - BWS

- Besoin :
 - Faire écouter 4 sons (de la première séquence) par le sujet, autant qu'il le veut,
 - Puis questionnaire pour déterminer *Best / Worst*,
 - Recommencer avec les 4 autres sons de la seconde séquence,



jsPsych - BWS

Expérience :

- Ecoute 4 sons,
- Questionnaire.



jsPsych - BWS

Expérience :

- Ecoute 4 sons *autant qu'il veut*

- Questionnaire



jsPsych - BWS

Expérience :

htmlButtonResponse 4 choix de sons

audioKeyboardResponse Lecture du son correspondant

- Questionnaire



jsPsych - BWS

Expérience :

htmlButtonResponse 4 choix de sons + *continuer*

audioKeyboardResponse Lecture du son correspondant *cond.*

- Questionnaire



jsPsych - BWS

Expérience :

htmlButtonResponse

4 choix de sons + *continuer*

audioKeyboardResponse

Lecture du son correspondant

cond.

- Questionnaire



jsPsych - BWS

Expérience :

htmlButtonResponse 4 choix de sons + *continuer*

audioKeyboardResponse Lecture du son correspondant *cond.*

surveyMultiChoice Deux questions.



jsPsych - BWS

Séquence .json

Expérience :

htmlButtonResponse 4 choix de sons + *continuer*

audioKeyboardResponse Lecture du son correspondant *cond.*

surveyMultiChoice Deux questions.



jsPsych - BWS

Séquence .json

Expérience :

htmlButtonResponse 4 choix de sons + *continuer*

audioKeyboardResponse Lecture du son correspondant *cond.*

surveyMultiChoice Deux questions.

htmlButtonResponse Message d'erreur *cond.*



jsPsych - BWS

Expérience :

htmlButtonResponse 4 choix de sons + *continuer*

audioKeyboardResponse Lecture du son correspondant *cond.*

surveyMultiChoice Deux questions.

htmlButtonResponse Message d'erreur *cond.*

Message de fin d'expérience etc.

Séquence .json

Data .json



jsPsych - psychoacoustique

- Plugin développé par un chercheur :

Kuroki, D. *A new jsPsych plugin for psychophysics, providing accurate display duration and stimulus onset asynchrony.* Behav Res 53, 301–310 (2021). <https://doi.org/10.3758/s13428-020-01445-w>

- Possibilité de contrôler précisément les temps de présentation,
- Possibilité de jouer plusieurs sons en même temps,
- ...



jsPsych - psychoacoustique

Expérience :

- ?



jsPsych - psychoacoustique

Expérience :

jsPsychPsychophysics

Jouer le stimulus + réponse



jsPsych - psychoacoustique

Expérience :

jsPsychPsychophysics

Jouer le stimulus + réponse

htmlKeyboardResponse

choices: [NOKEYS]



jsPsych - psychoacoustique

Expérience :

jsPsychPsychophysics

Jouer le stimulus + réponse

htmlKeyboardResponse

choices: [NOKEYS]

on_start: function() {

if(response = false) {



jsPsych - psychoacoustique

Expérience :

jsPsychPsychophysics

Jouer le stimulus + réponse

htmlKeyboardResponse

choices: [NOKEYS]

on_start: function() {

```
    if(response = false) {  
        stimulus = stimulus.up },  
    else if(response = true) {  
        stimulus = stimulus.down  
    }
```

};

on_trial: function() { ...

},



jsPsych – sorting / rating ...

- Plugin développé par une équipe :

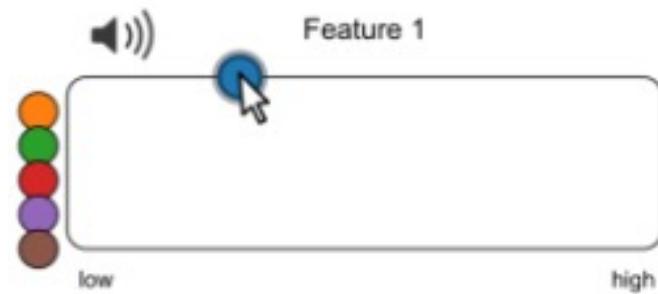
Donhauser, P., & Klein, D. (2021, October 16). Audio-Tokens: a toolbox for rating, sorting and comparing audio samples in the browser. <https://doi.org/10.31234/osf.io/3j58q>

- Association d'un son à une figure (un *token*),
- Possibilité de manipulation sur un espace visuel,
- Classement, échelles de notations etc.



jsPsych – sorting / rating ...

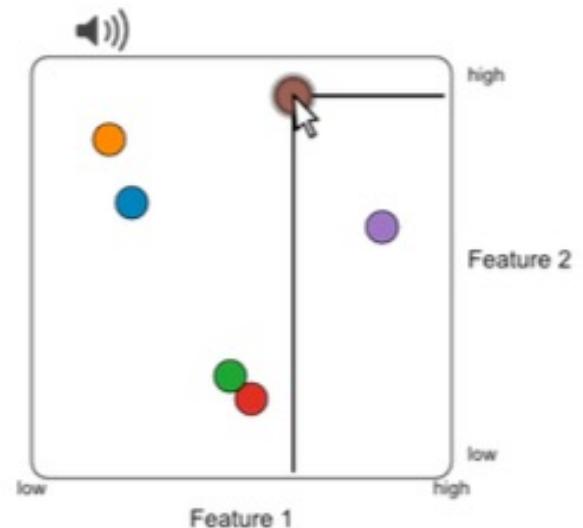
- Evaluation sur une échelle:





jsPsych – sorting / rating ...

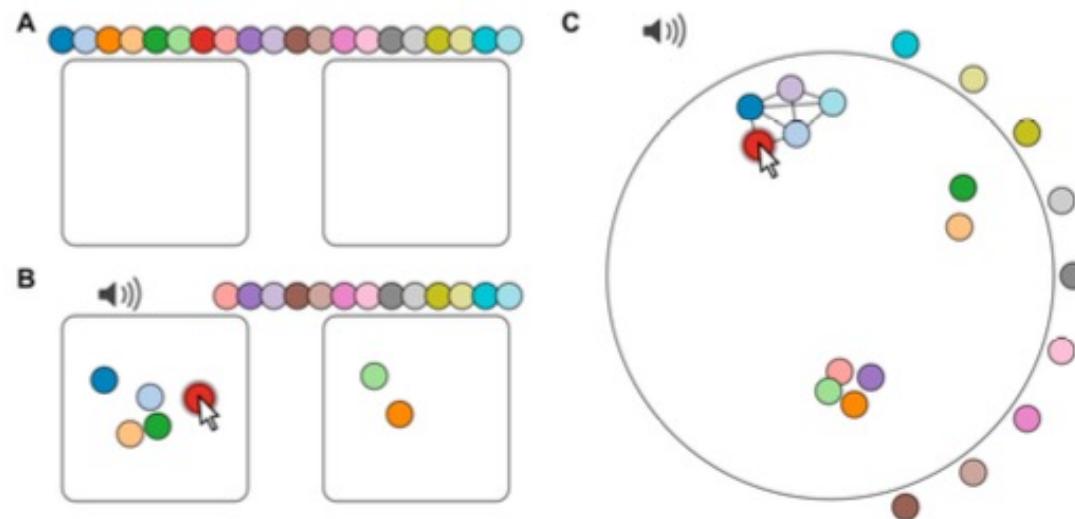
- Evaluation sur plusieurs échelles:





jsPsych – sorting / rating ...

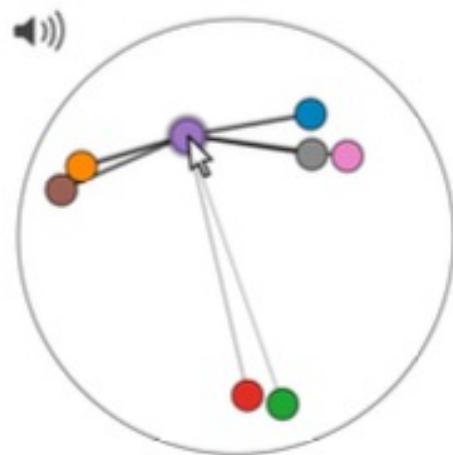
- Classement:





jsPsych – sorting / rating ...

- Similarité:





jsPsych – sorting / rating ...

Expérience :

- ?



jsPsych - psychoacoustique

Expérience :

jsPsychAudioTokens Jouer les stimulus + réponses

htmlButtonResponse

choices: [« continuer »]

data: {type : Tache 1 },

jsPsychAudioTokens Jouer les stimulus + réponses

htmlButtonResponse

choices: [« continuer »]

data: {type : Tache 2 },



jsPsych – Plugins

- Possibilité de modifier à sa guise :
 - Mise en forme (*modification des règles css etc.*),
 - Fonctionnalité pure,
 - Mise en forme des données.



jsPsych – Plugins

- Exemple:

Ecran 1

Ecoutez ces quatres sons.

[Son 1](#) [Son 2](#) [Son 3](#) [Son 4](#) [Continuer](#)

Ecran 2

Quel est le **plus** XXX*

- Son 1
- Son 2
- Son 3
- Son 4

Quel est le **moins** XXX*

- Son 1
- Son 2
- Son 3
- Son 4

[Continue](#)



jsPsych – Plugins

Veuillez appuyer sur **1**, **2**, **3** et **4**

pour écouter les différents sons.

- Exemple:

Quel est le son le **plus** amical?

Quel est le son le **moins** amical?

- +

Son **1**

Son **3**

Son **4**

Son **2**

Continuer



jsPsych – Plugins

Expérience :

htmlButtonResponse

« Bienvenue dans cette expérience »



jsPsych – Plugins

Expérience :

htmlButtonResponse

« Bienvenue dans cette expérience »

htmlButtonResponse

Instructions



jsPsych – Plugins

Expérience :

htmlButtonResponse

« Bienvenue dans cette expérience »

htmlButtonResponse

Instructions

CustomPlugin

Parameter 1:

Parameter 2:

prompt: « ... »

randomization: true

data: {

},



jsPsych – Plugins

Expérience :

htmlButtonResponse

« Bienvenue dans cette expérience »

htmlButtonResponse

Instructions

CustomPlugin

htmlKeyboardResponse

Inter trial

CustomPlugin

htmlKeyboardResponse

Inter trial



Approfondissement

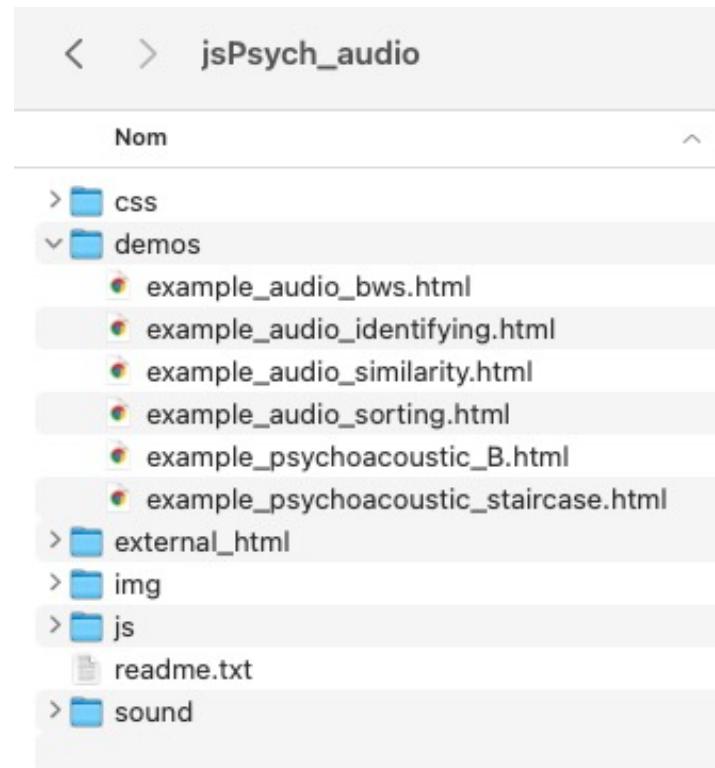
- Mise en place d'un dossier contenant des exemples fonctionnels de code pour chacun des paradigmes pouvant être pertinents.
 - Etape 1 : Utilisation de la librairie de base jsPsych et plugins codés,
 - Etape 2 : Développement d'une gamme de plugins dédiés à l'audio,



Approfondissement

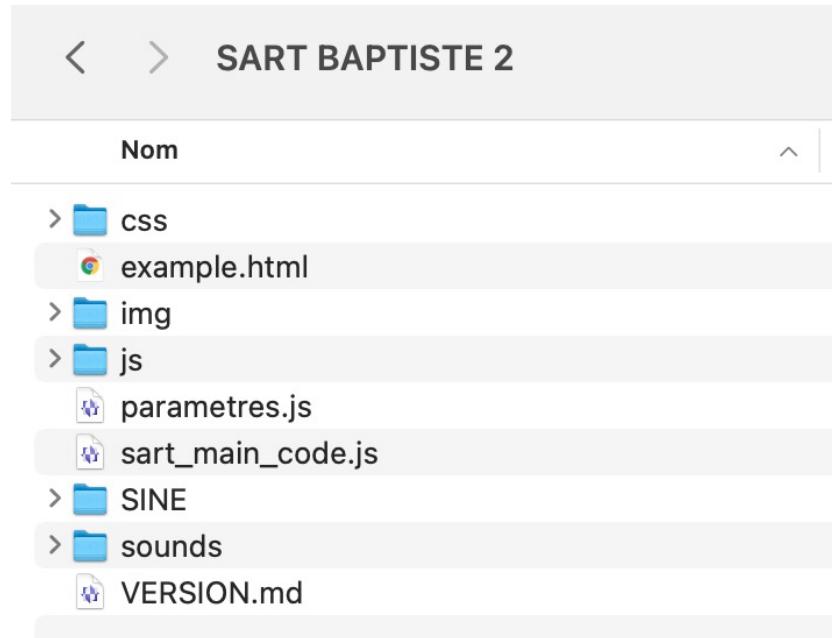
- Calqué sur le dossier *example* de jsPsych, créer un dossier pour l'audio.

- jsPsych_audio





- Deux façons de permettre l'adaptation des expériences.
 - Fichier *parametres.js*
 - Paramètres modifiables dans l'en-tête



```
// DEF VALEURS EXP
var stimuliTemps = 250;
var allowedTime = 900;
var numberPossible = 8;
var chooseTarget = "5,a";
var chooseTarget2 = ['5','A'];
var chooseProb = 5;

// DEF TEMPS SART (en minutes)
var timeSart1 = 0.5;
var timeSart2 = 0.5;
var timeSart3 = 1;
var timeSart4 = 1;

// SOUND USED
var soundForSartSlow = [
  "TEST2.wav",
];
var soundForSartFast = [
  "TEST1.wav",
];
var soundForLastSurvey = [
  "silence.mp3",
  "silence.mp3",
];

//CODE BELOW
```



Approfondissement

- Démonstrateur pour certaines taches :

<https://jqw93klkjx.cognition.run/>



Approfondissement

DEMONSTATEUR - JsPsych PDS ToolKit



Veuillez cliquer sur [Continuer](#) pour débuter.



Approfondissement

DEMO - JsPsych PDS ToolKit

Quelles démonstrations souhaitez-vous essayer ?

- BWS
- Adaptative Psychoacoustic
- Tache SART
- Tache Rappel libre

Continuer



Utilisation au sein de l'équipe

Baptiste :

- SART (*Sustained Attention to Response Task*)
- ISE ()

Victor :

- BWS (*Best/Worst Scaling*)

Nadia :

- Heart Rate perception in Voice.

Structure SART



htmlButtonResponse

Welcome

[Continuer]

htmlButtonResponse

Instructions

[Continuer]

Pre-test listening test

Loop 2

Loop 1

htmlKeyboardResponse

Stimulus

[SpaceBar]

htmlKeyboardResponse

Masque

[SpaceBar]

htmlKeyboardResponse

Feedback réponse

[NOKEYS]

htmlButtonResponse

Pause

[Continuer]

surveyHtmlForm

Survey

[...]

htmlButtonResponse

Fin expérience

[Continuer]



La suite

- Discuter des paradigmes manquants à ajouter,
- Mise au propre de la banque d'expériences,
- Ajout des éléments sur repo GitHub,
- Documentation pour faciliter la prise en main.

Merci