

WORKSHOP FOR ONLINE EXPERIMENTS

Go to www.jatos.org and download
jatos-2.2.1-beta_[mac/win/linux]_java.zip!

BEFORE WE START: WHO WE ARE

ELISA



COGNITIVE SCIENCE

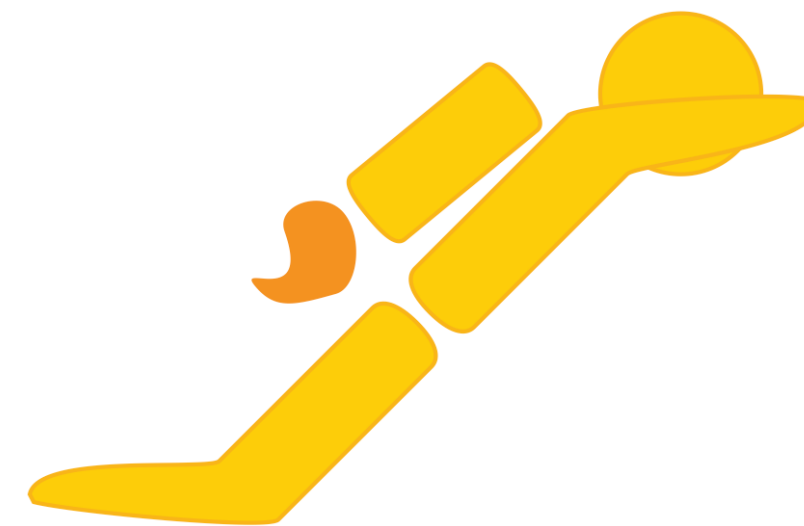
+

PROGRAMMING

=

JATOS

(JUST ANOTHER TOOL FOR ONLINE STUDIES)



KRISTIAN



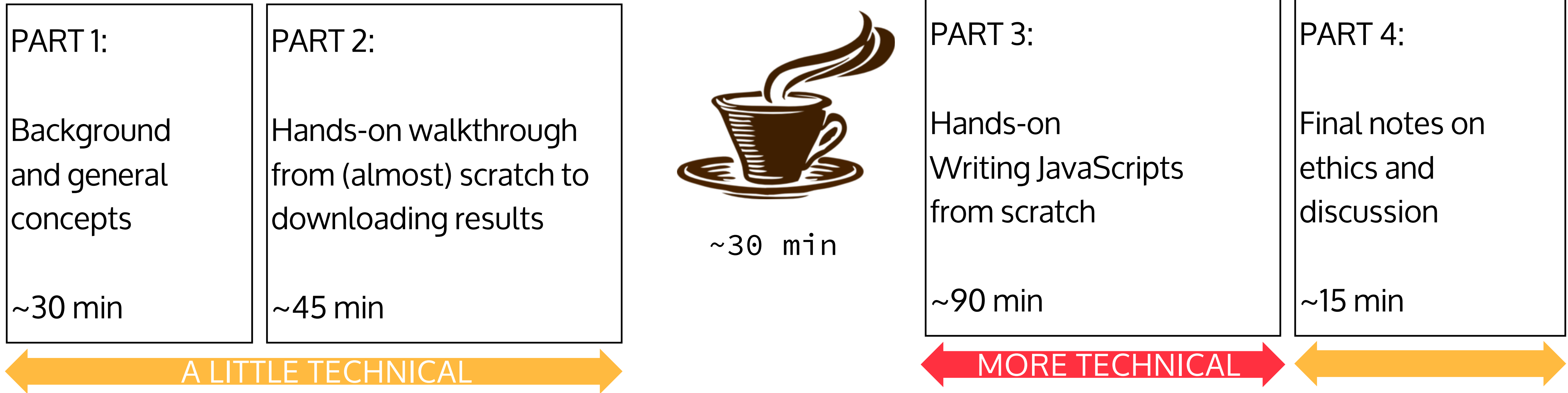
BEFORE WE START: WHO ARE YOU?



PREVIOUS CODING EXPERIENCE?

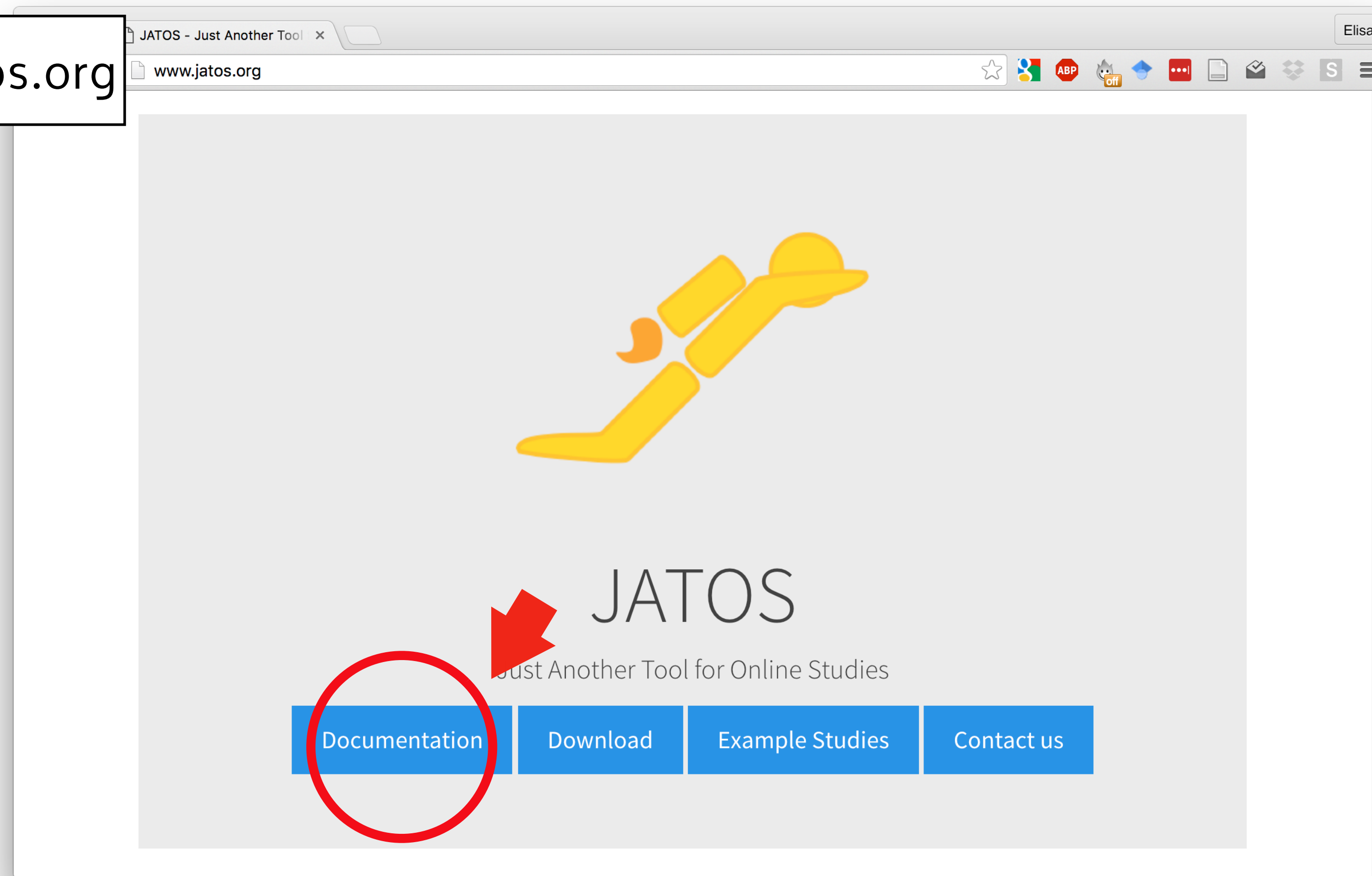
ANYTHING SPECIFIC THAT YOU'D LIKE TO GO THROUGH?

PLAN FOR TODAY



ALL THIS (AND MORE!) IS DOCUMENTED

www.jatos.org



Part 1: a bit of background

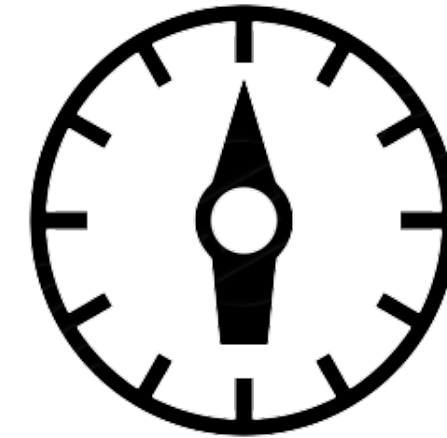


WITH ONLINE EXPERIMENTS YOU CAN:

COLLECT MORE DATA



(MUCH) FASTER



CHEAPER

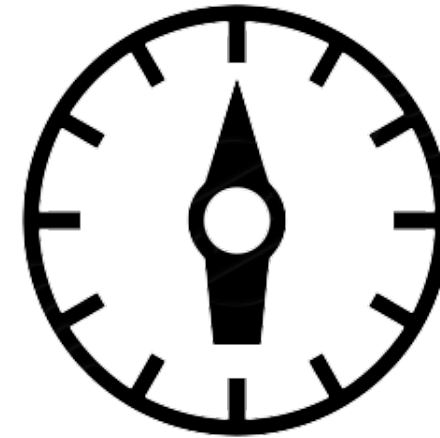


WITH ONLINE EXPERIMENTS YOU CAN:

COLLECT MORE DATA



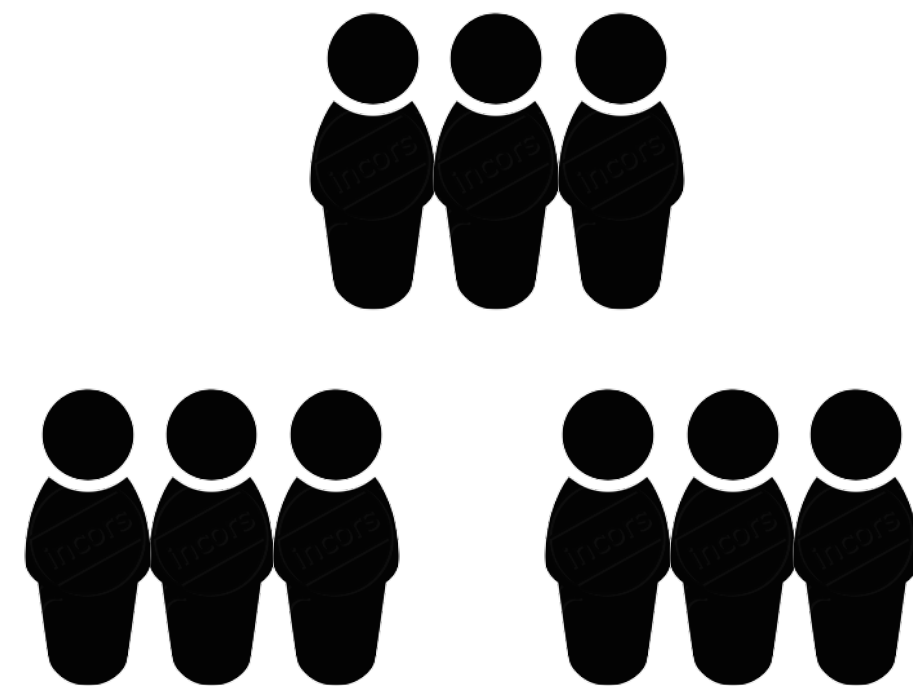
(MUCH) FASTER



CHEAPER



TEST GROUPS



USE (MANY!) JAVASCRIPT LIBRARIES



EXPERIMENTS RUN EVERYWHERE



```

1 function LinkedList() {
2   this.head = null;
3 };
4
5 LinkedList.prototype.add = function(value) {
6   var node = {
7     value: value,
8     next: null
9   };
10  var current;
11
12  if(this.head == null) {
13    this.head = node;
14  } else {
15    current = this.head;
16    while(current.next) {
17      current = current.next;
18    }
19    current.next = node;
20  }
21 }
    
```

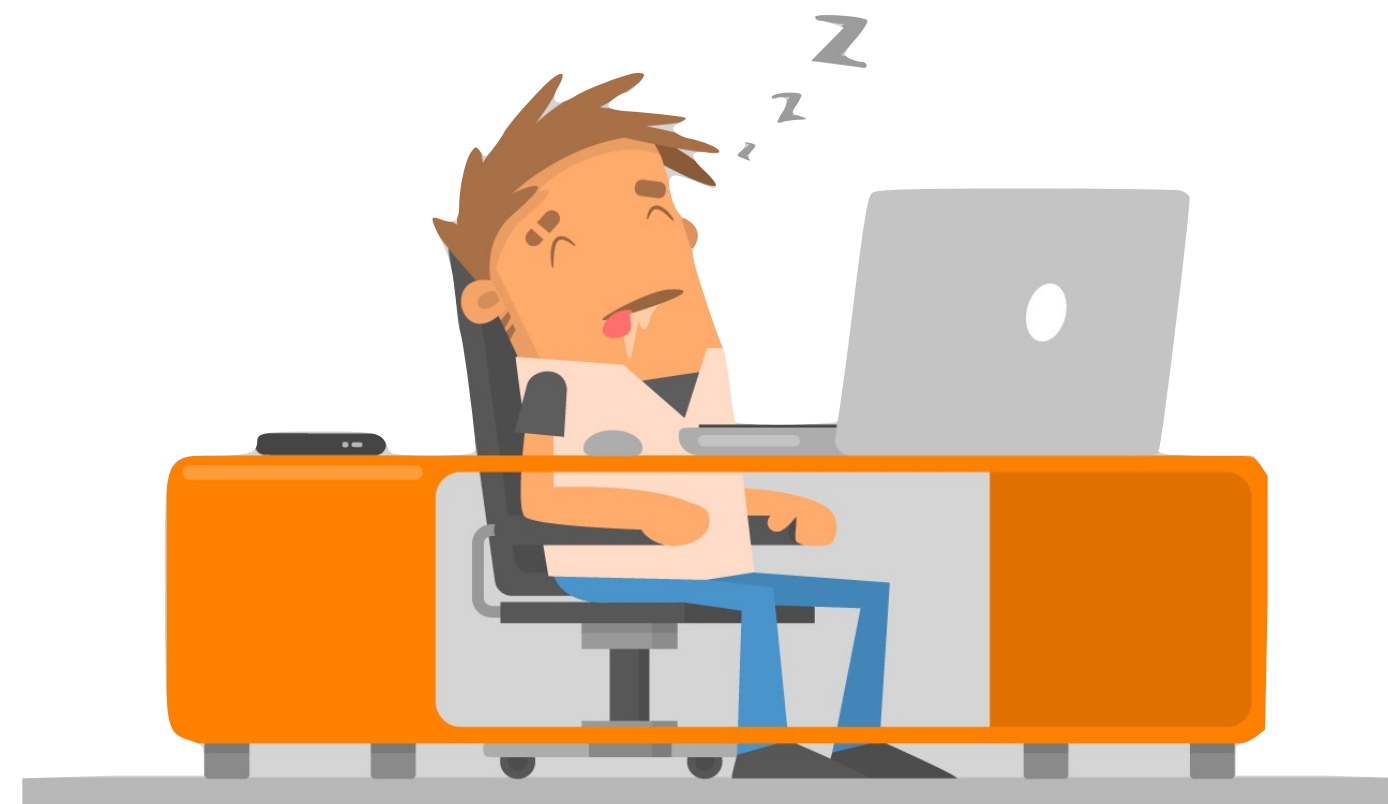

AT THE "ONLY" COST OF:

LOWER EXPERIMENTAL CONTROL



lost focus,
catch trials, ...

SHORTER EXPERIMENTAL DURATION



pool data from
many participants

LOOSER CONTROL OF TIMING AND LUMINANCE



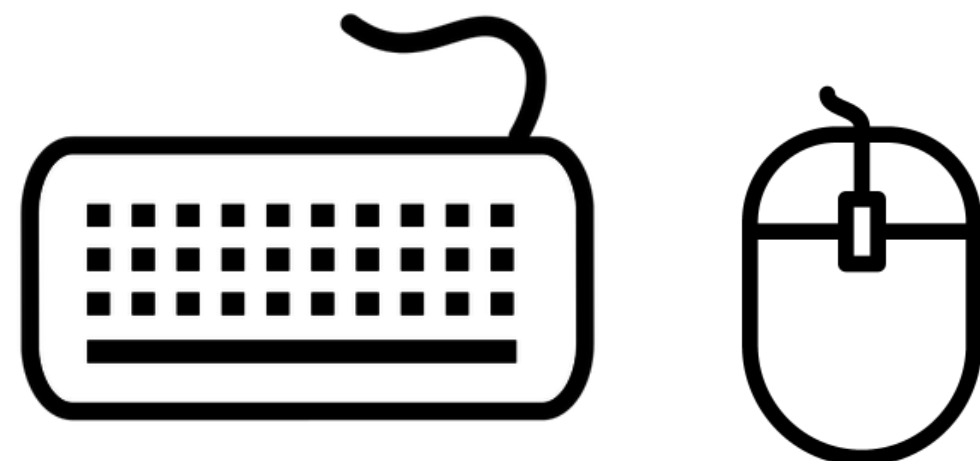
TIME PRECISION DEPENDS ON EACH WORKER'S SYSTEM



5 μ s
`performance.now();`

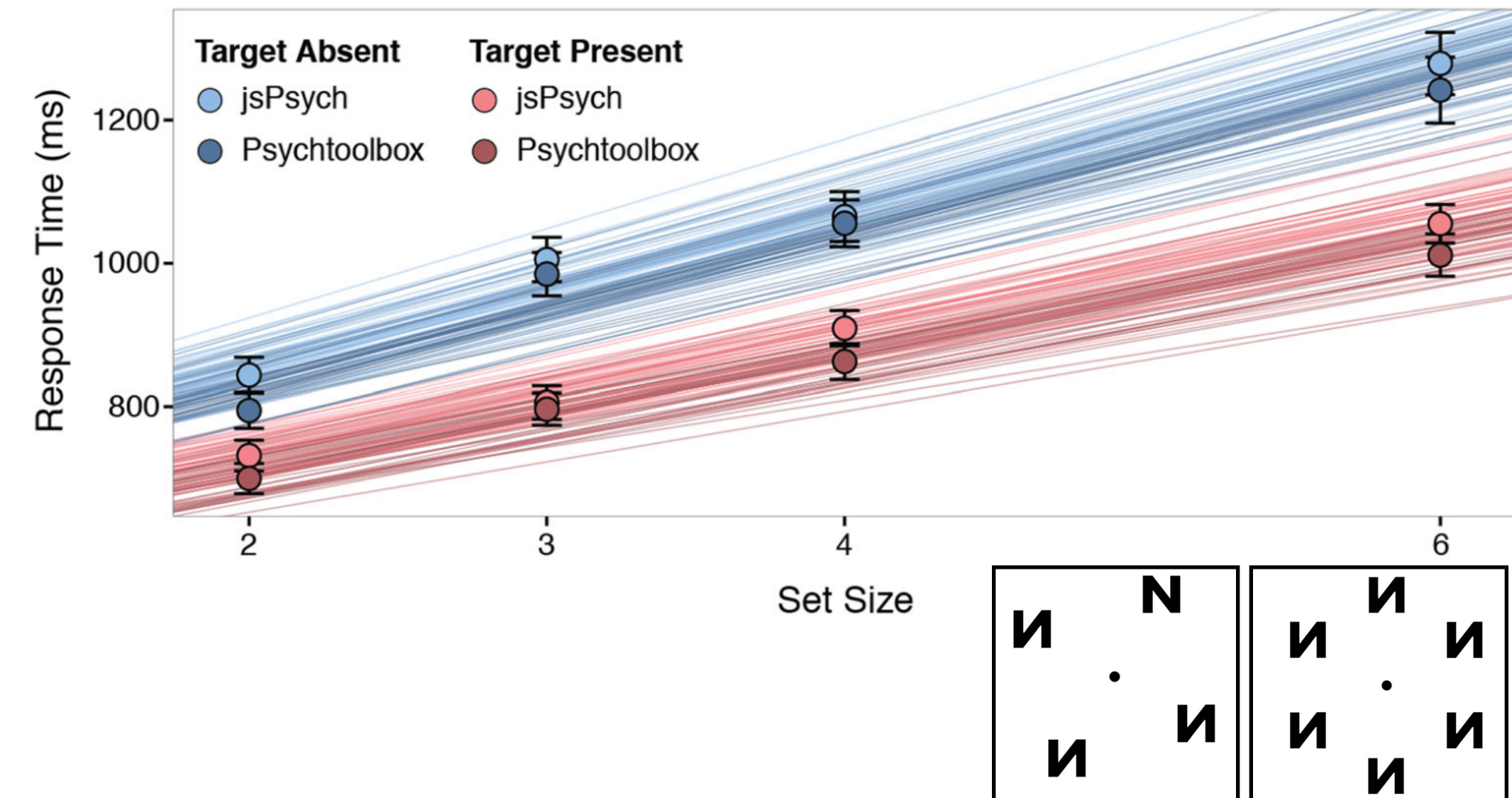
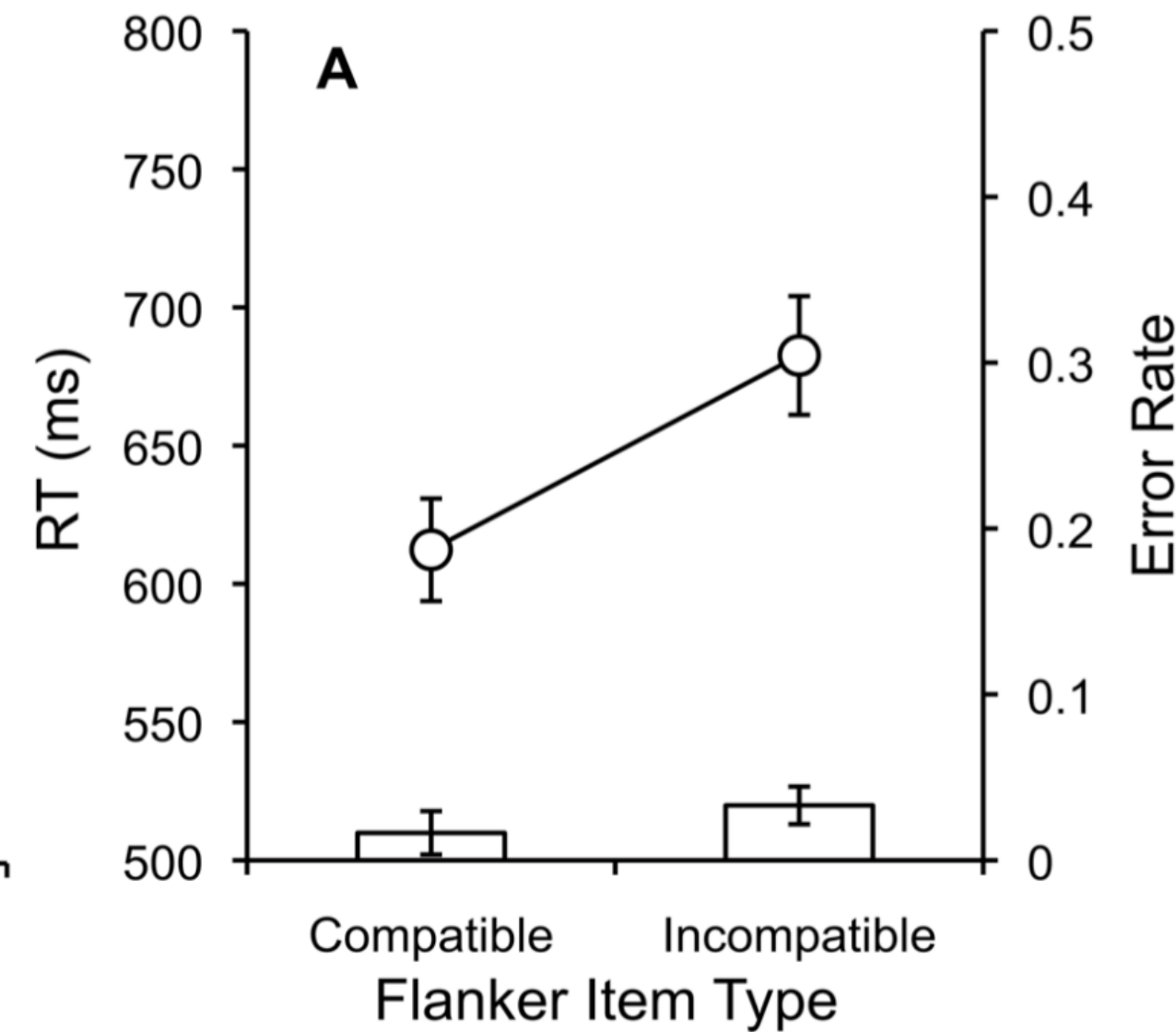
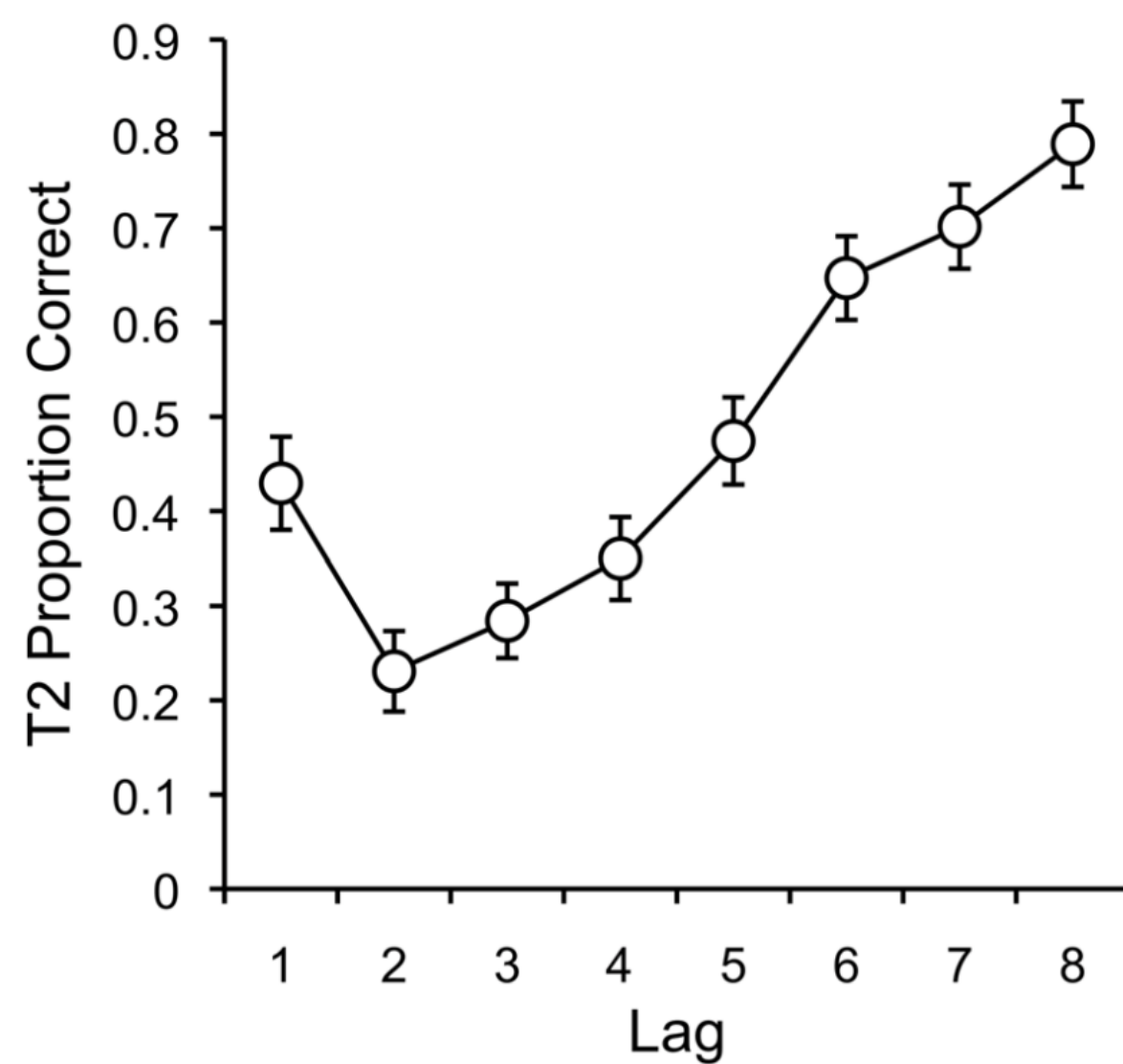


~17 ms
(standard 60 Hz)



8 ms
(standard 125 Hz USB sampling)

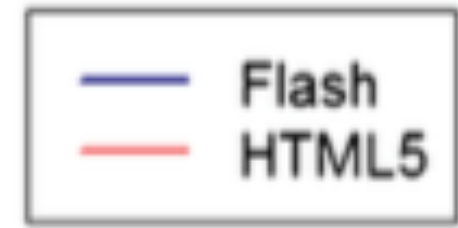
BUT "GOOD ENOUGH" TIMING IS POSSIBLE performance.now();



Crump, McDonnell & Gureckis, 2013

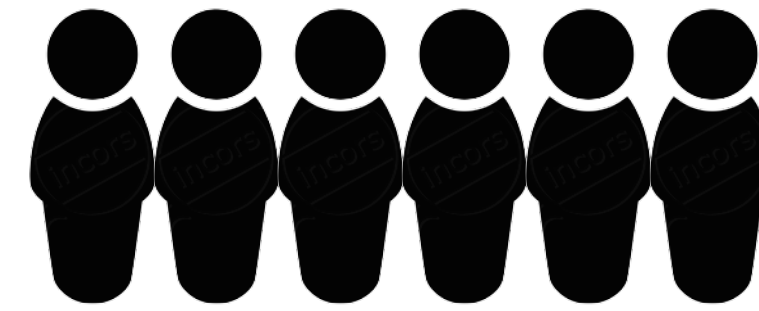
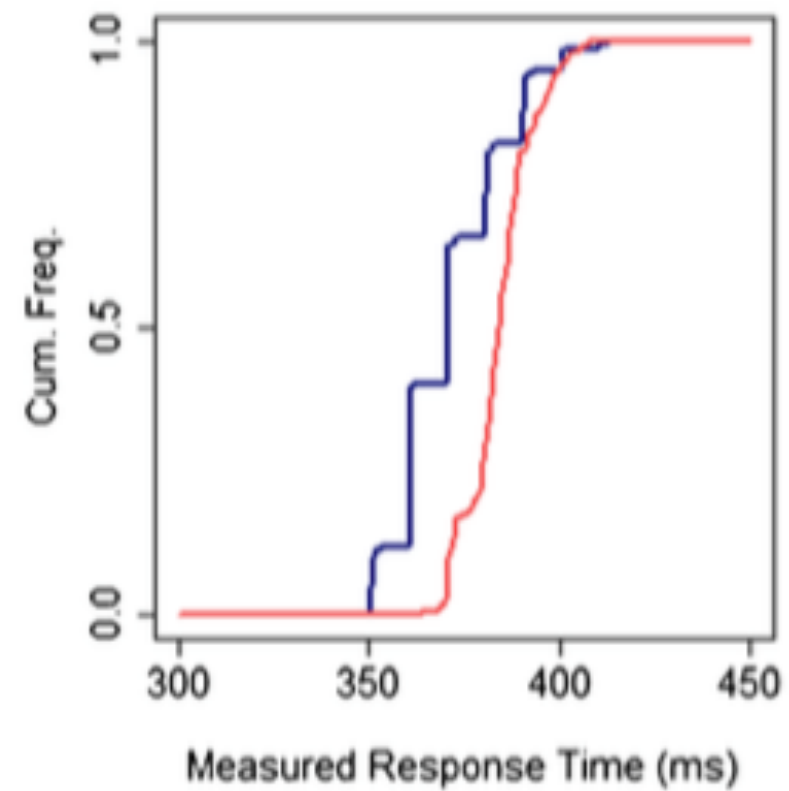
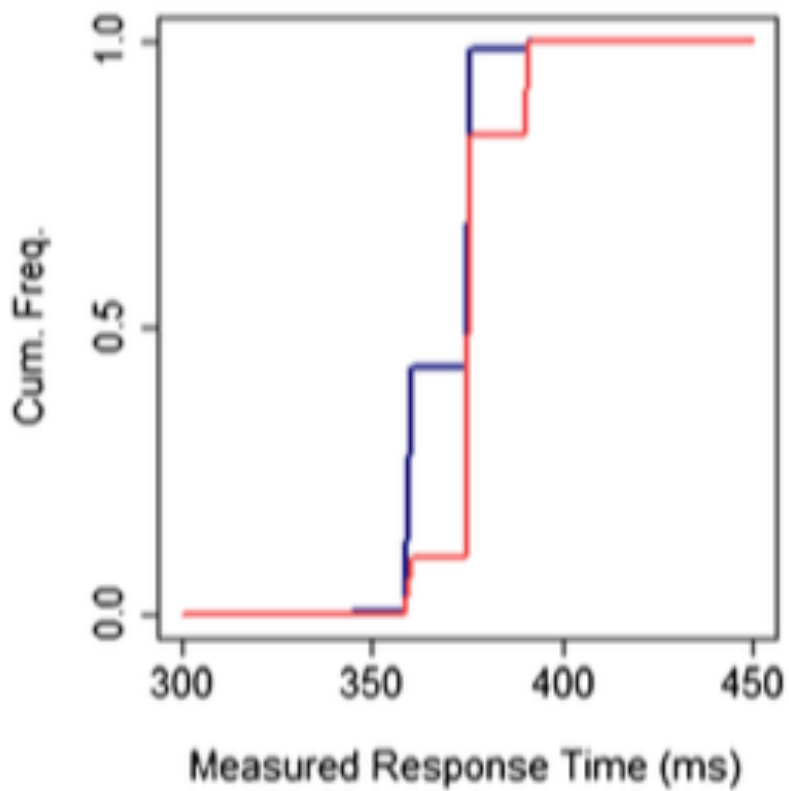
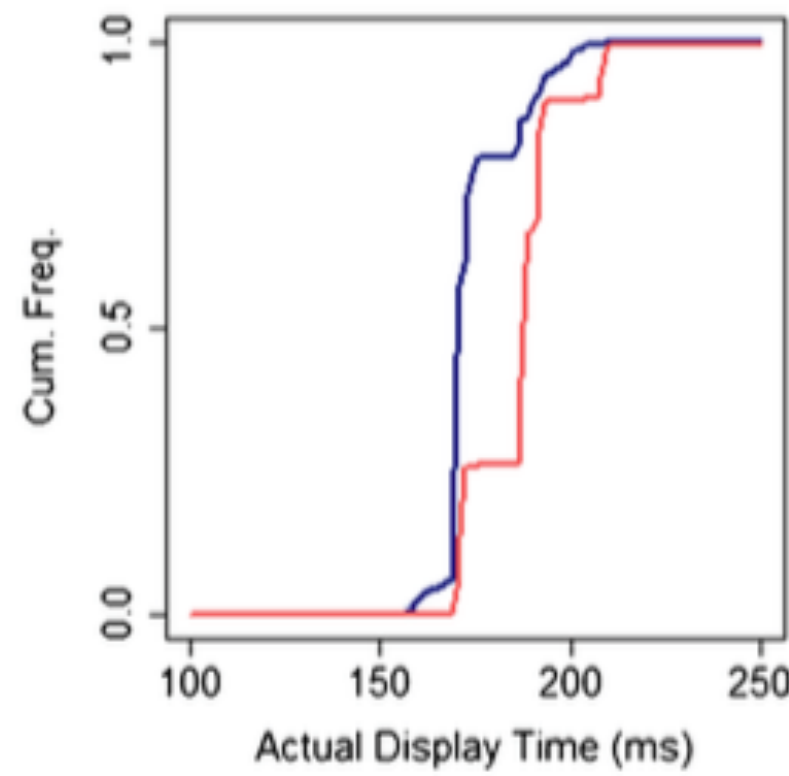
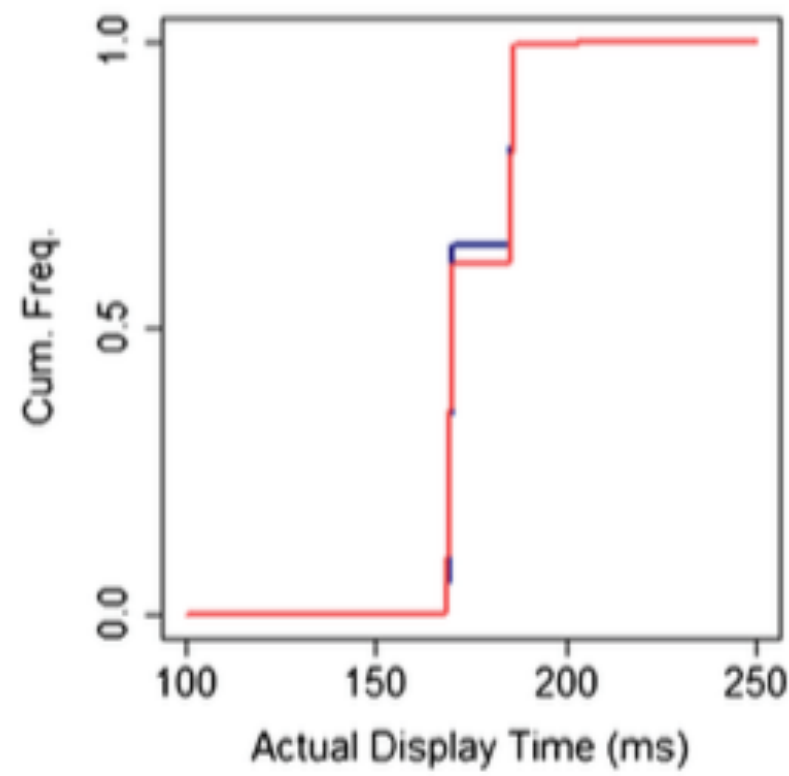
de Leeuw & Motz, 2015

"CAUTIOUS OPTIMISM" ON TIMING

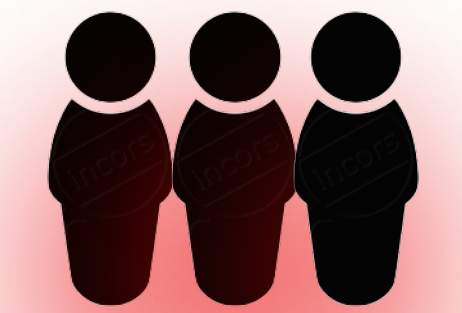
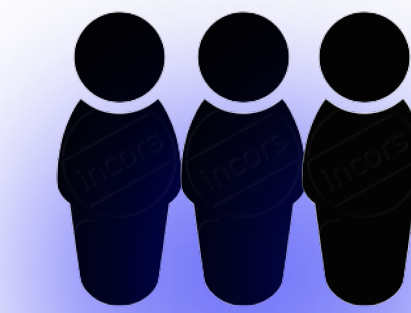


RM DESKTOP 310

Asus Notebook K40C/K50C



+ ~10% SUBJECTS COMPENSATES MEASUREMENT NOISE



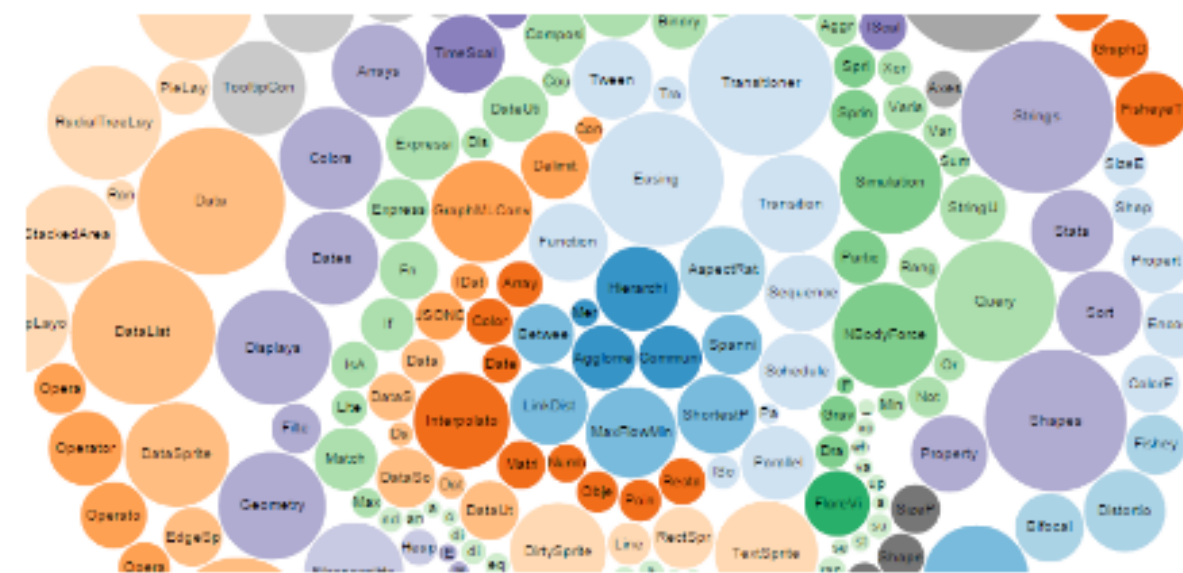
BE CAUTIOUS WITH BETWEEN-SUBJECTS OR LONGITUDINAL DESIGNS

MORE TO COME!



EyesDecide

Eye-Gaze



Balloon Pop

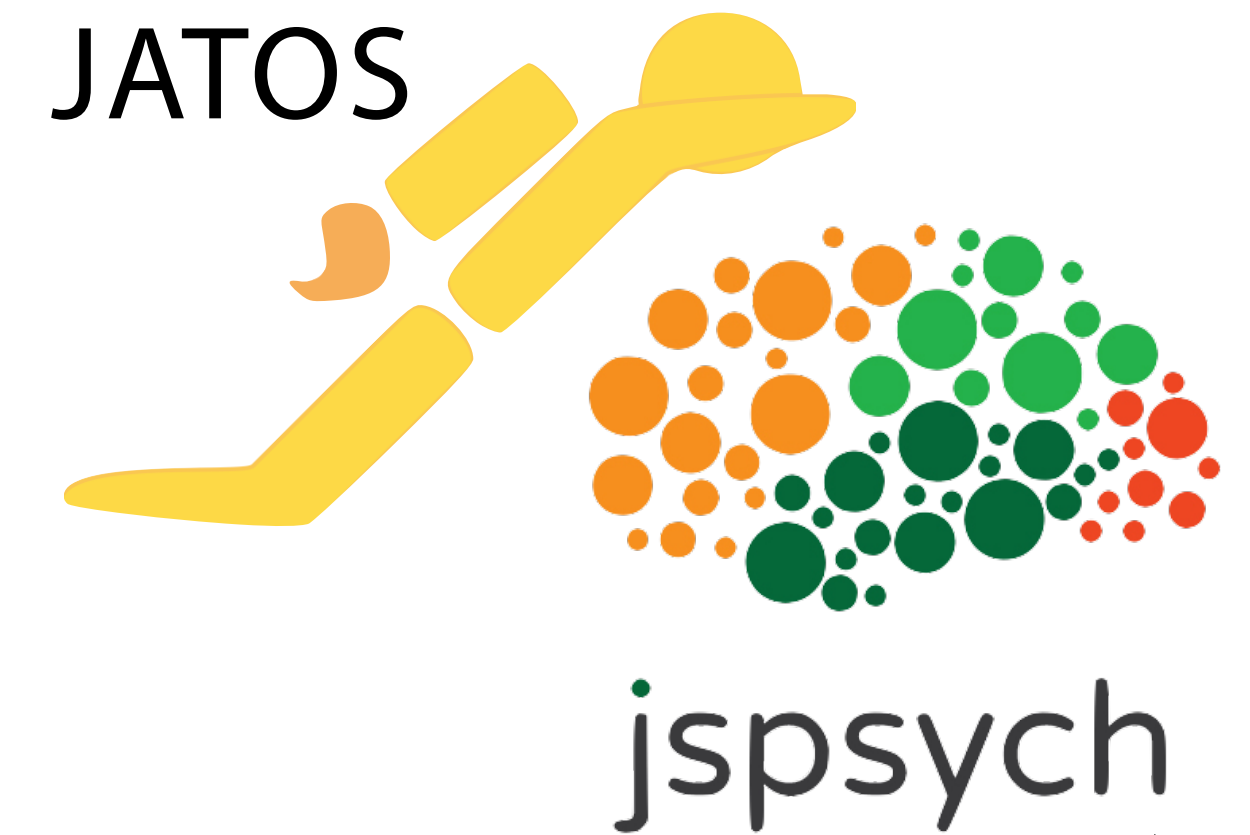
Calibration, Demo (Eye Gaze), Eye-Gaze



Ant attack

Calibration, Demo (Eye Gaze), Eye-Gaze, Games (Eye-Gaze)

MULTIPLE OPTIONS TO COLLECT DATA ONLINE



SIMPLE

FAST

NO DATA PRIVACY!

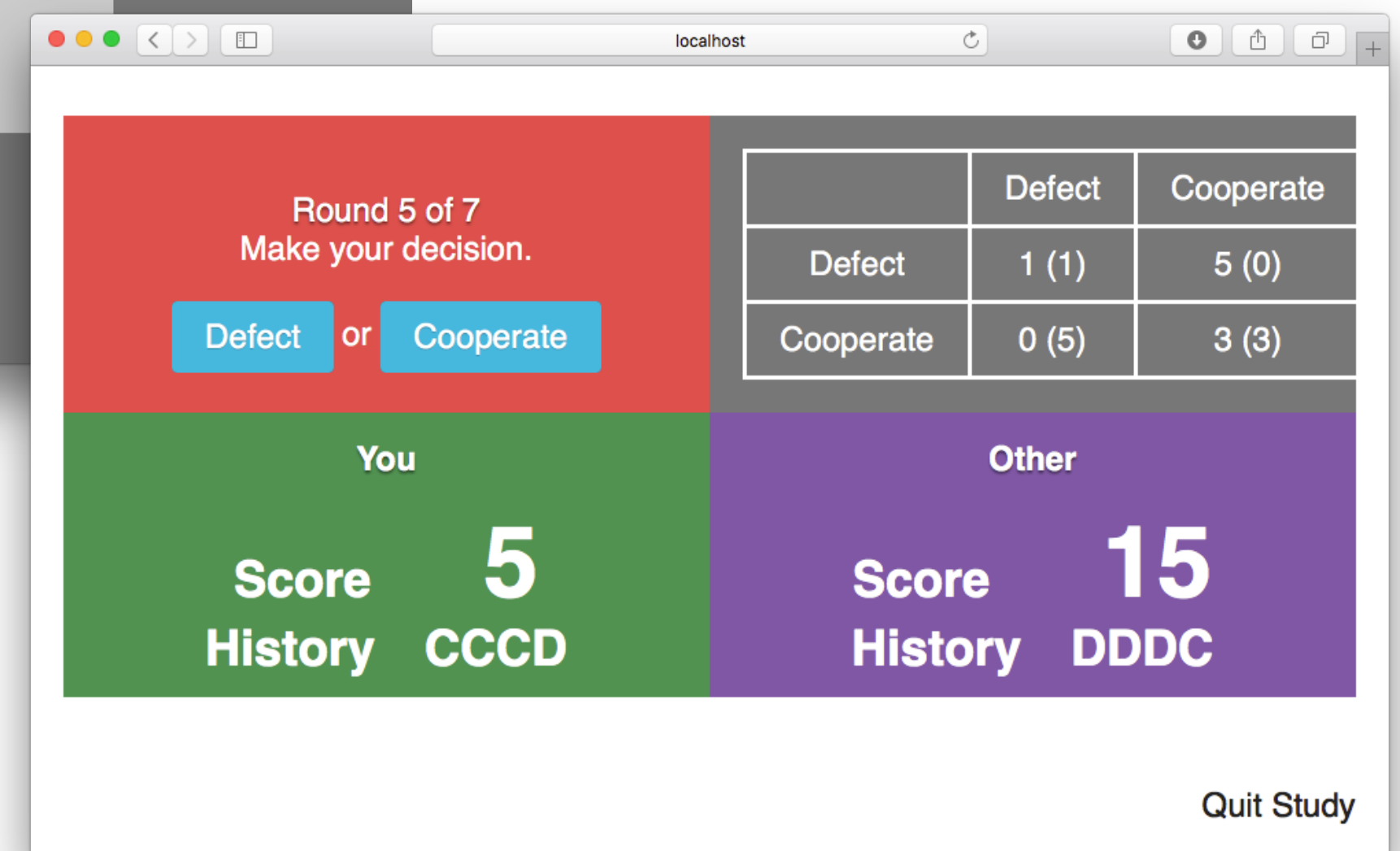
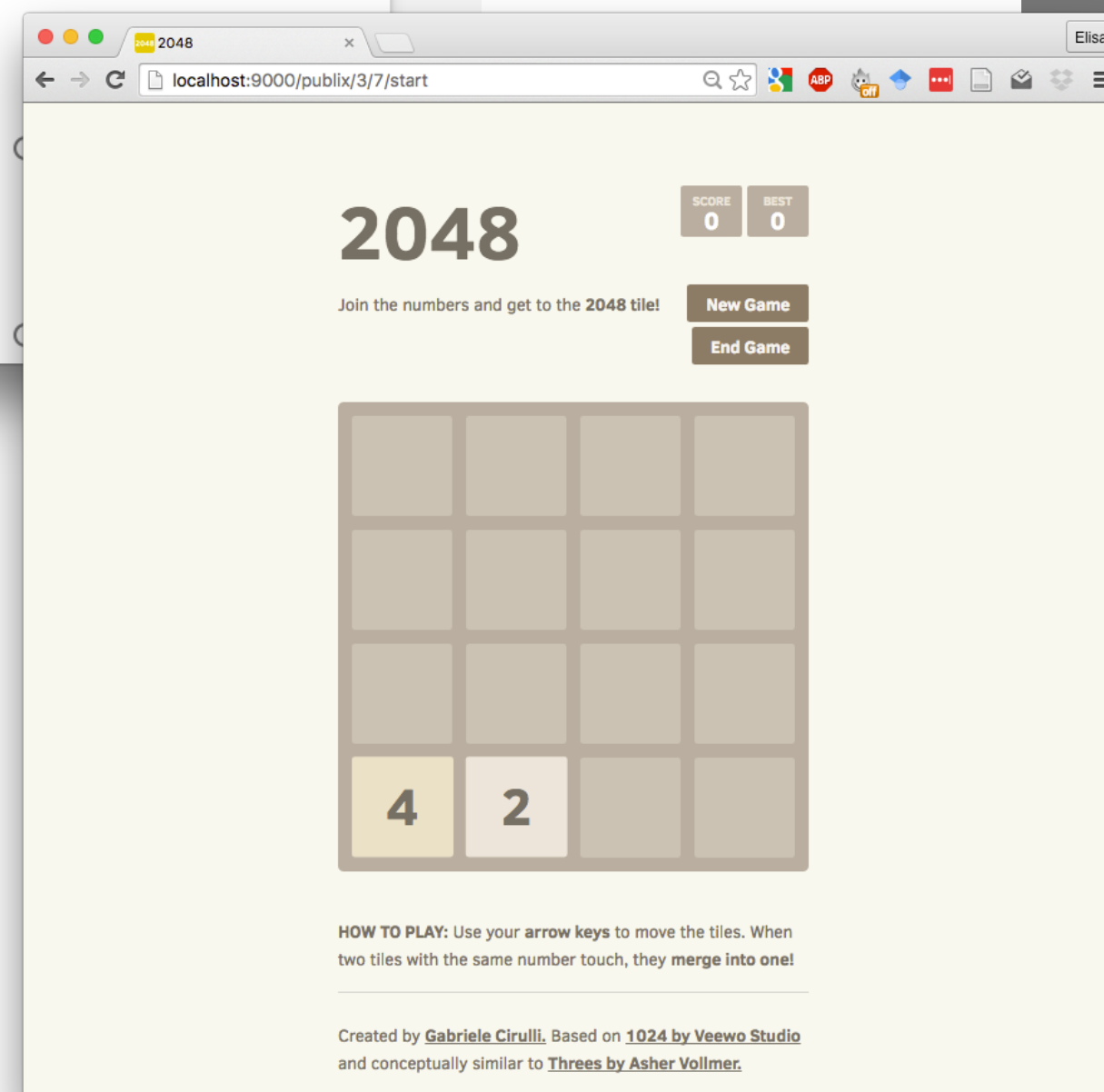
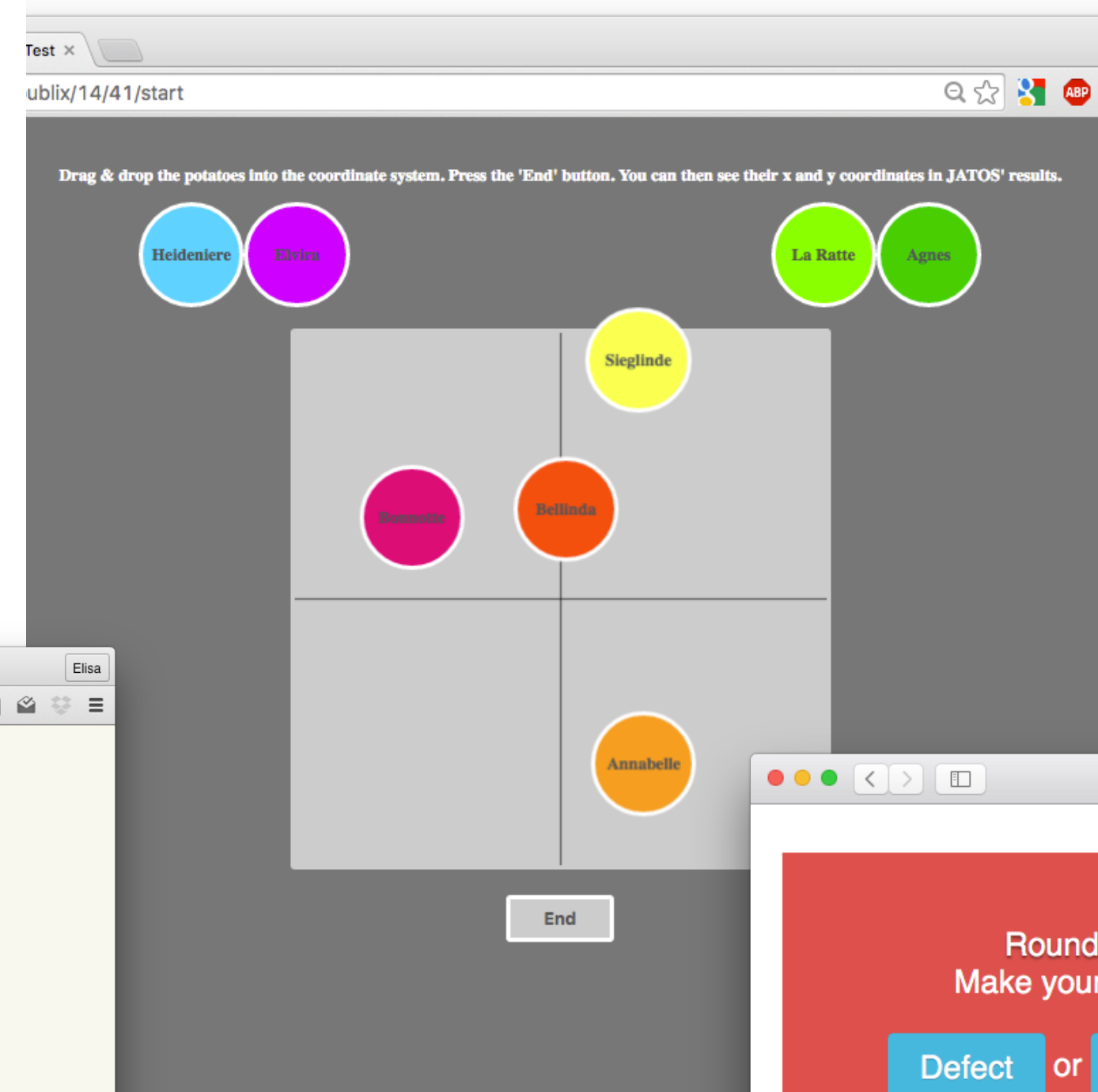
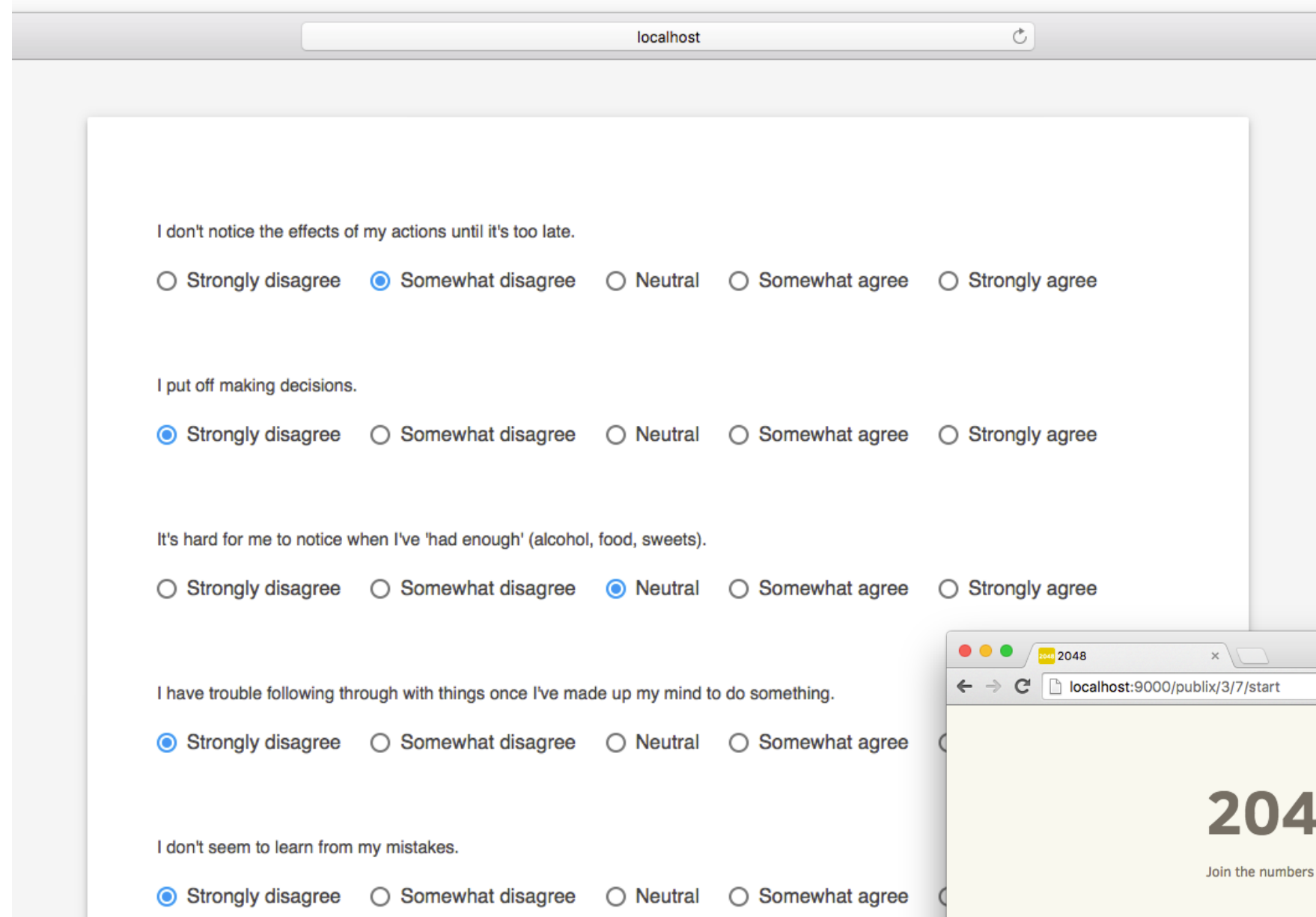
FLEXIBLE

FREE

SECURE!

 GROUP STUDIES

THE BROWSER REALLY IS FLEXIBLE

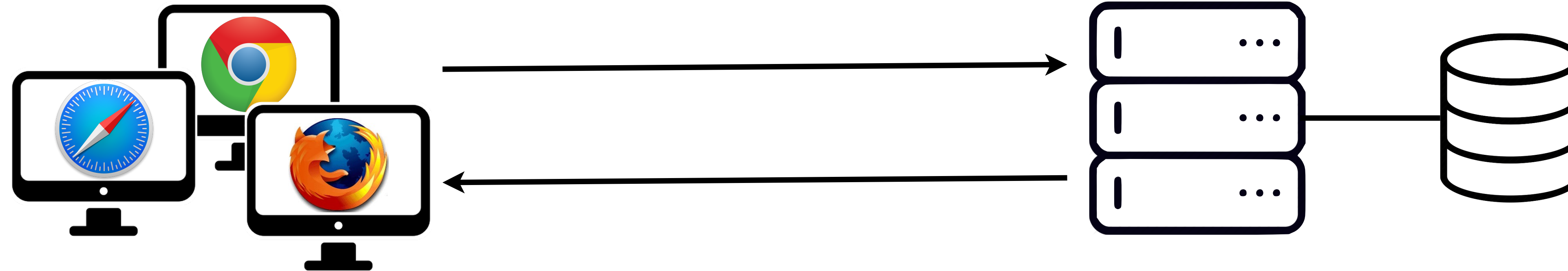


INTERNET 101

The **client(s)** send requests to the

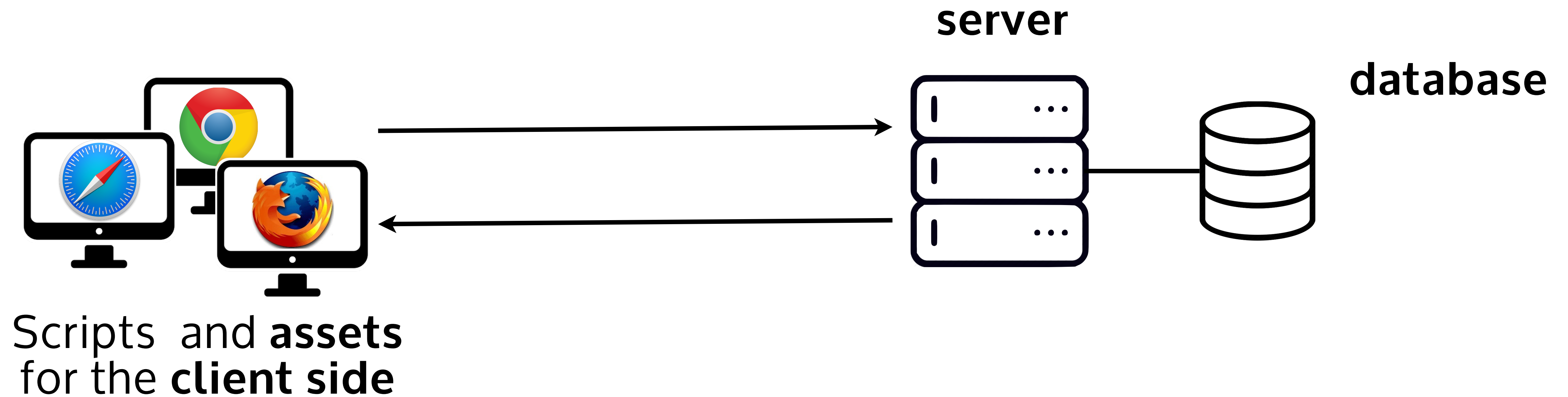
server

paired to a
database

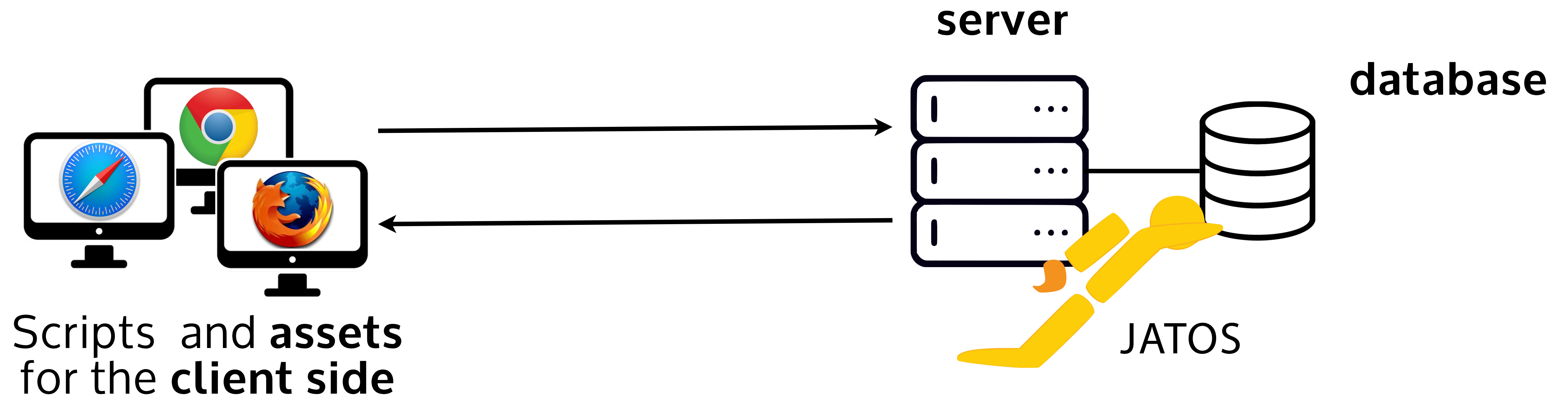


The server sends a response with scripts + **assets** (images, audio, etc)

SO TO SET UP AN EXPERIMENT ONLINE YOU'LL NEED:



SO TO SET UP AN EXPERIMENT ONLINE YOU'LL NEED:



jspsych

GENERAL WORKFLOW

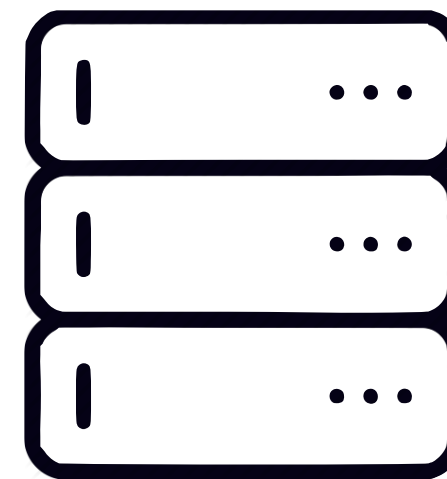
WRITE
JAVASCRIPTS

```
1 function LinkedList() {  
2   this.head = null;  
3 };  
4  
5 LinkedList.prototype.add = function(value) {  
6   var node = {  
7     value: value,  
8     next: null  
9   };  
10  var current;  
11  
12  if(this.head == null) {  
13    this.head = node;  
14  } else {  
15    current = this.head;  
16    while(current.next) {  
17      current = current.next;  
18    }  
19    current.next = node;  
20  }  
21 }
```

EDIT CODE ON
LOCAL COMPUTER



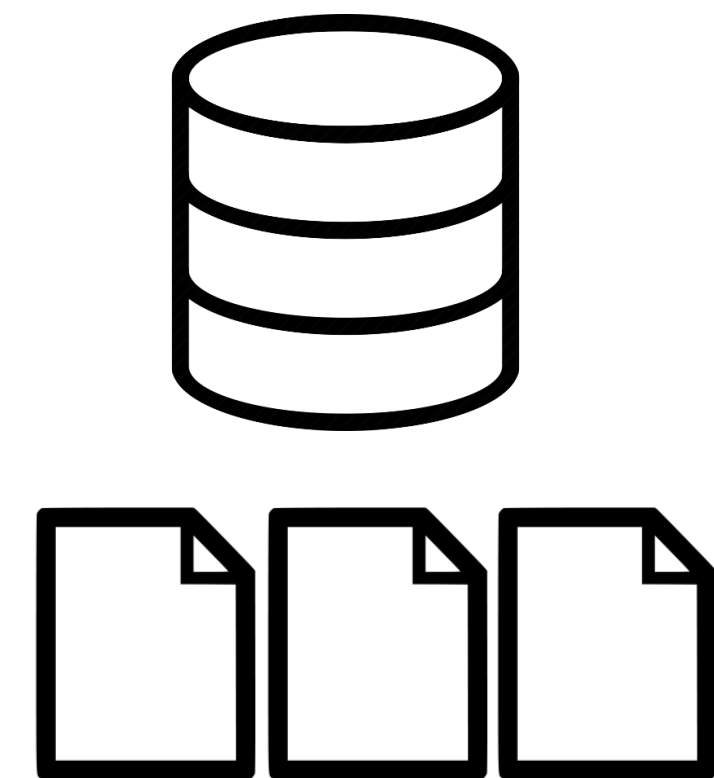
UPLOAD TO
A SERVER



ADVERTISE AND
COLLECT DATA



DOWNLOAD AND
ANALYSE RESULTS



GENERAL WORKFLOW

WRITE
JAVASCRIPTS

EDIT CODE ON
LOCAL COMPUTER

UPLOAD TO
A SERVER

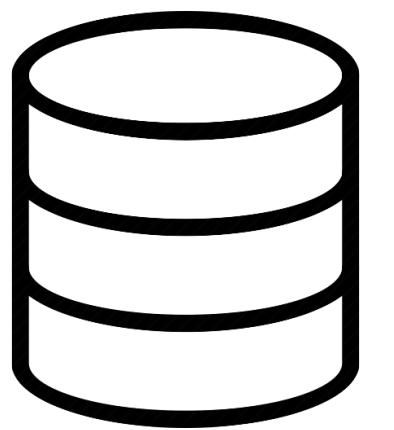
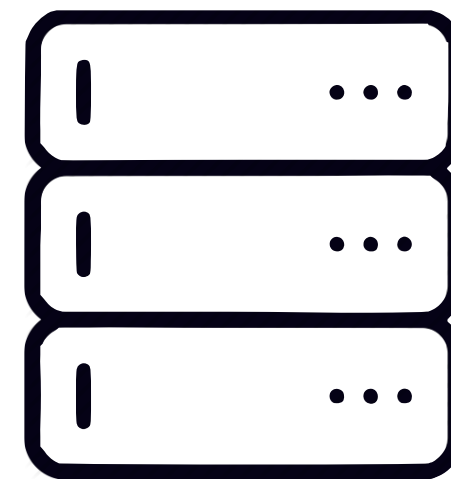
ADVERTISE AND
COLLECT DATA

DOWNLOAD AND
ANALYSE RESULTS

```

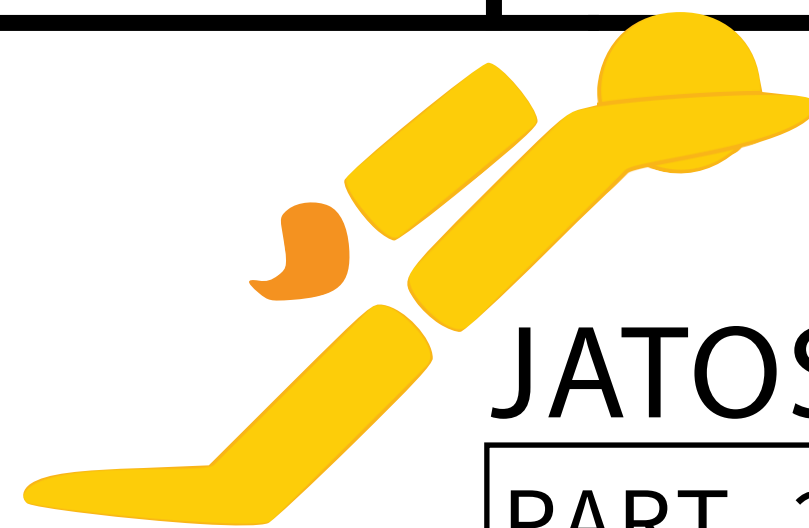
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18    }
19    current.next = node;
20  }
21 }

```



jspsych

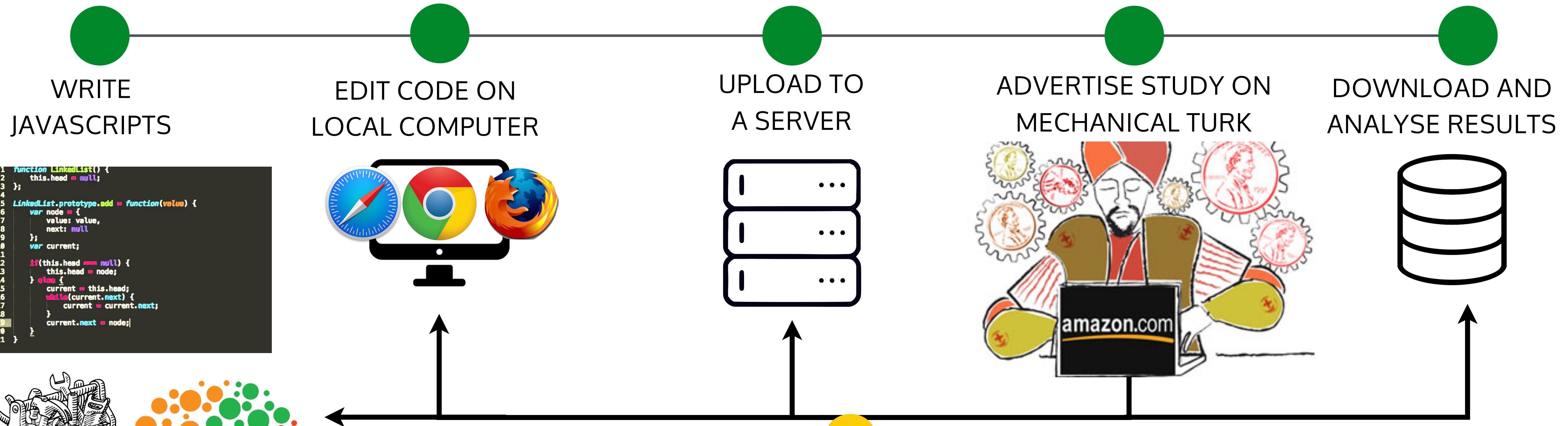
PART 3



JATOS

PART 2

GENERAL WORKFLOW



WRITE JAVASCRIPTS

EDIT CODE ON LOCAL COMPUTER

UPLOAD TO A SERVER

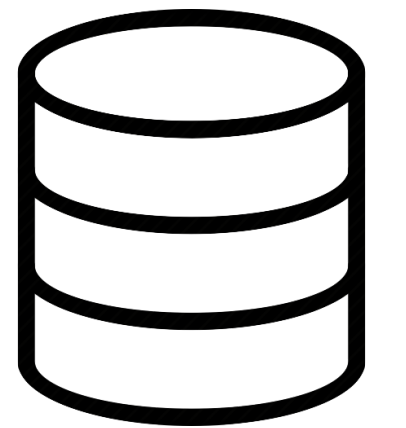
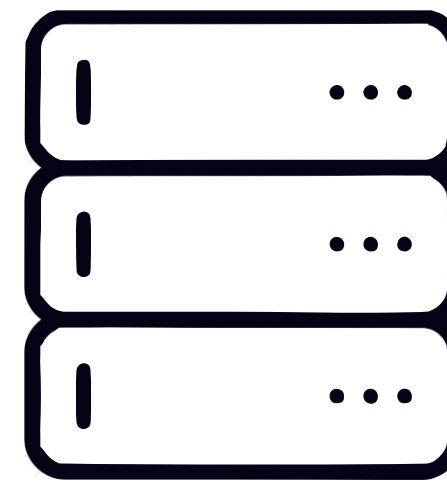
ADVERTISE STUDY ON MECHANICAL TURK

DOWNLOAD AND ANALYSE RESULTS

```

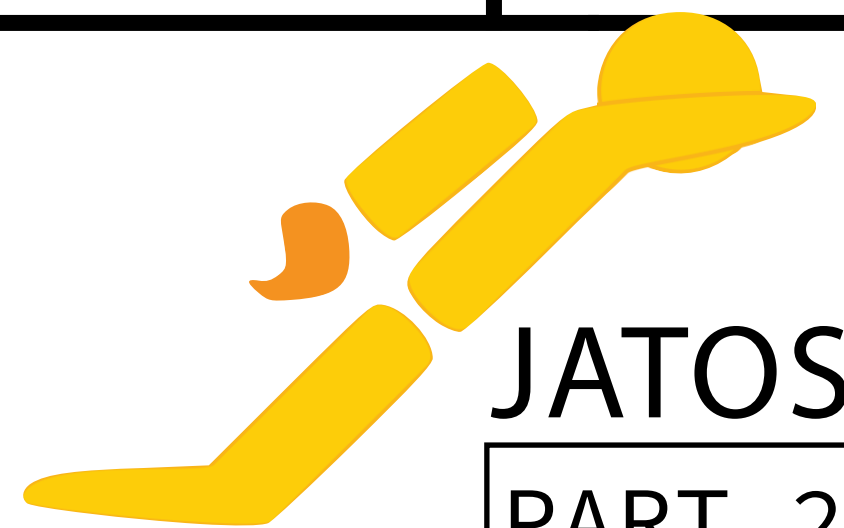
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17      current = current.next;
18    }
19    current.next = node;
20  }
21 }

```



jspsych

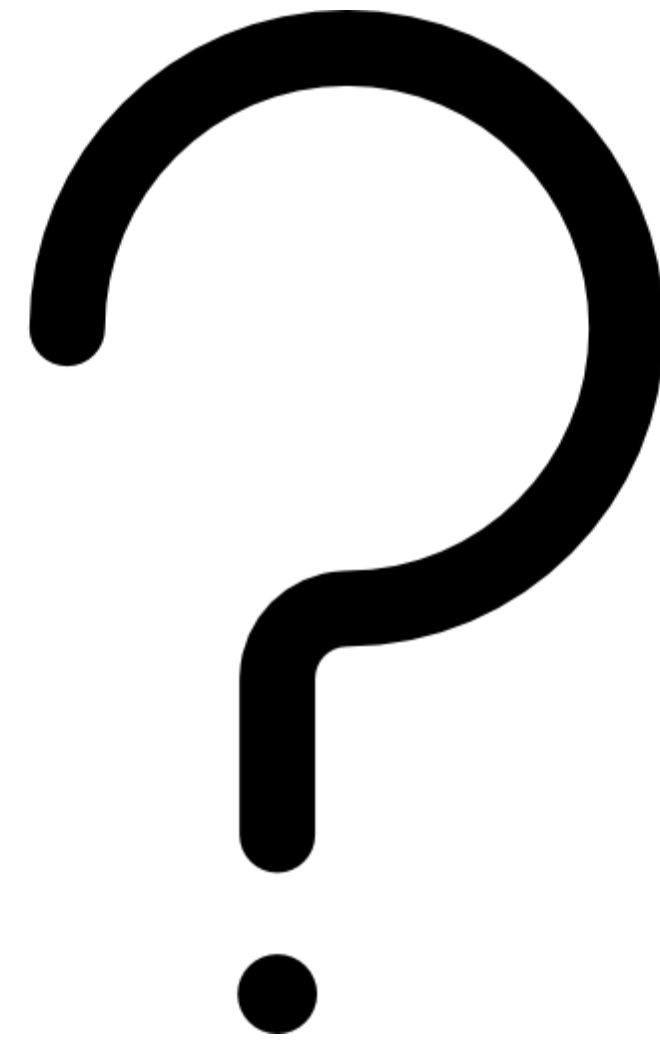
PART 3



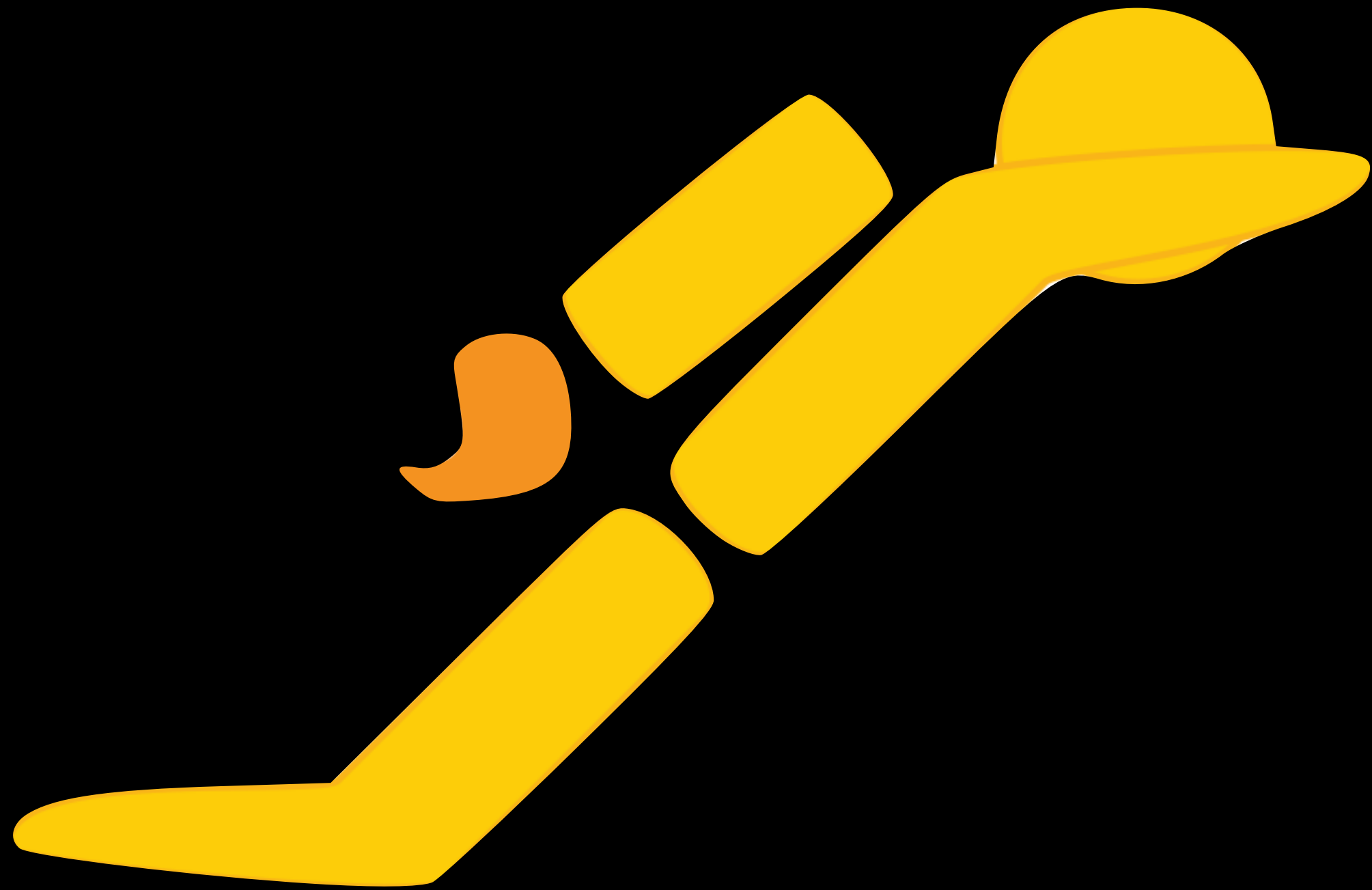
JATOS

PART 2

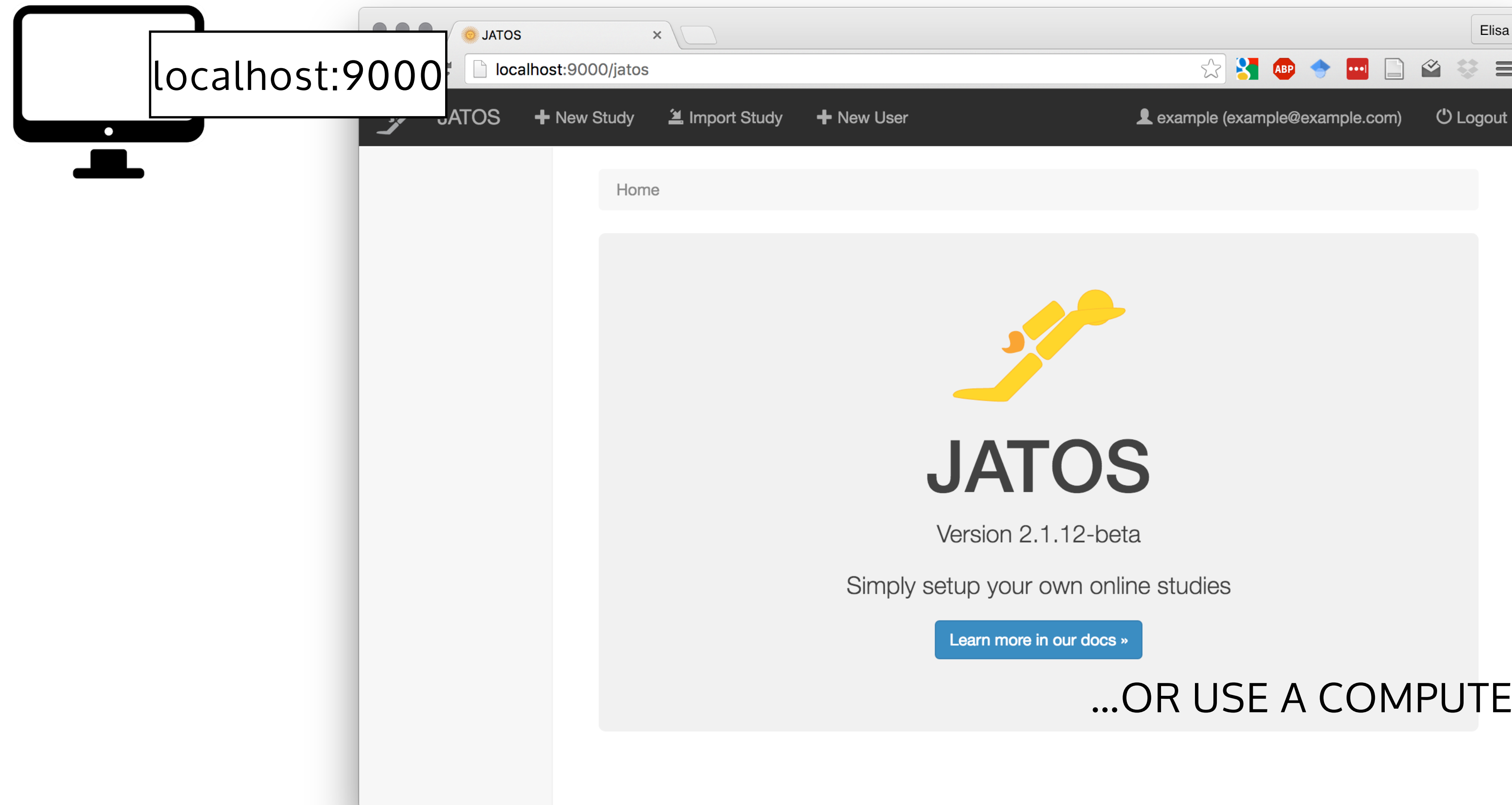
ANY QUESTIONS?



Part 2: Practical walkthrough

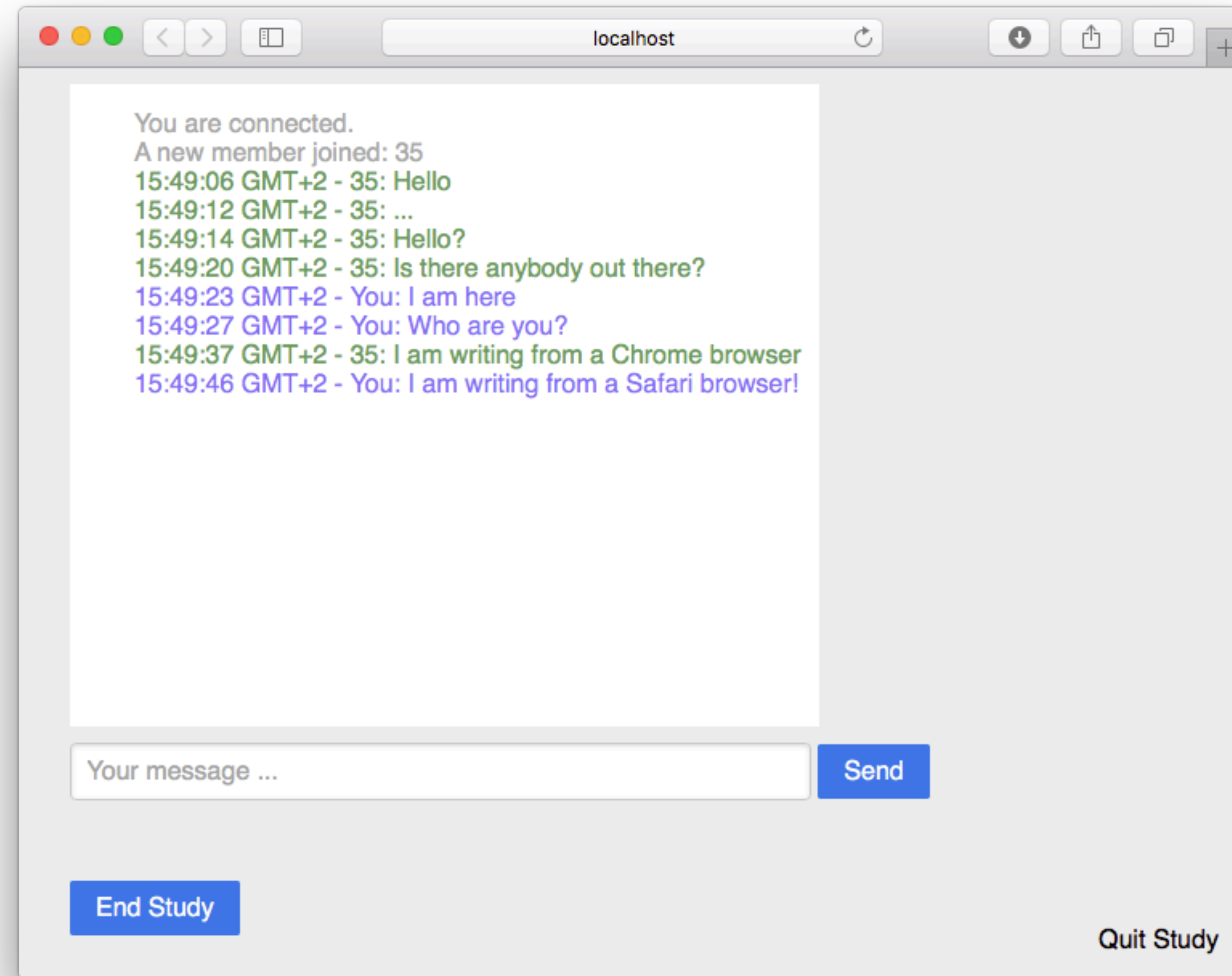


BEFORE WE START: ARE YOU READY?



...OR USE A COMPUTER FROM THE POOL.

LET'S HAVE A LITTLE CHAT :)



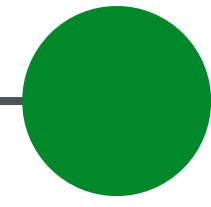
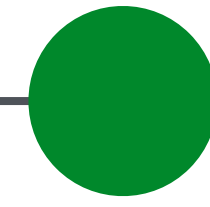
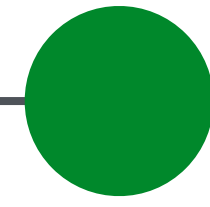
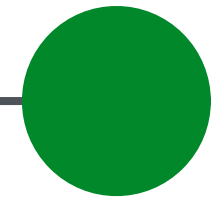
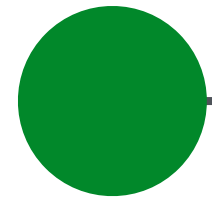
WRITE IMPORT
JAVASCRIPTS

EDIT CODE ON
LOCAL COMPUTER

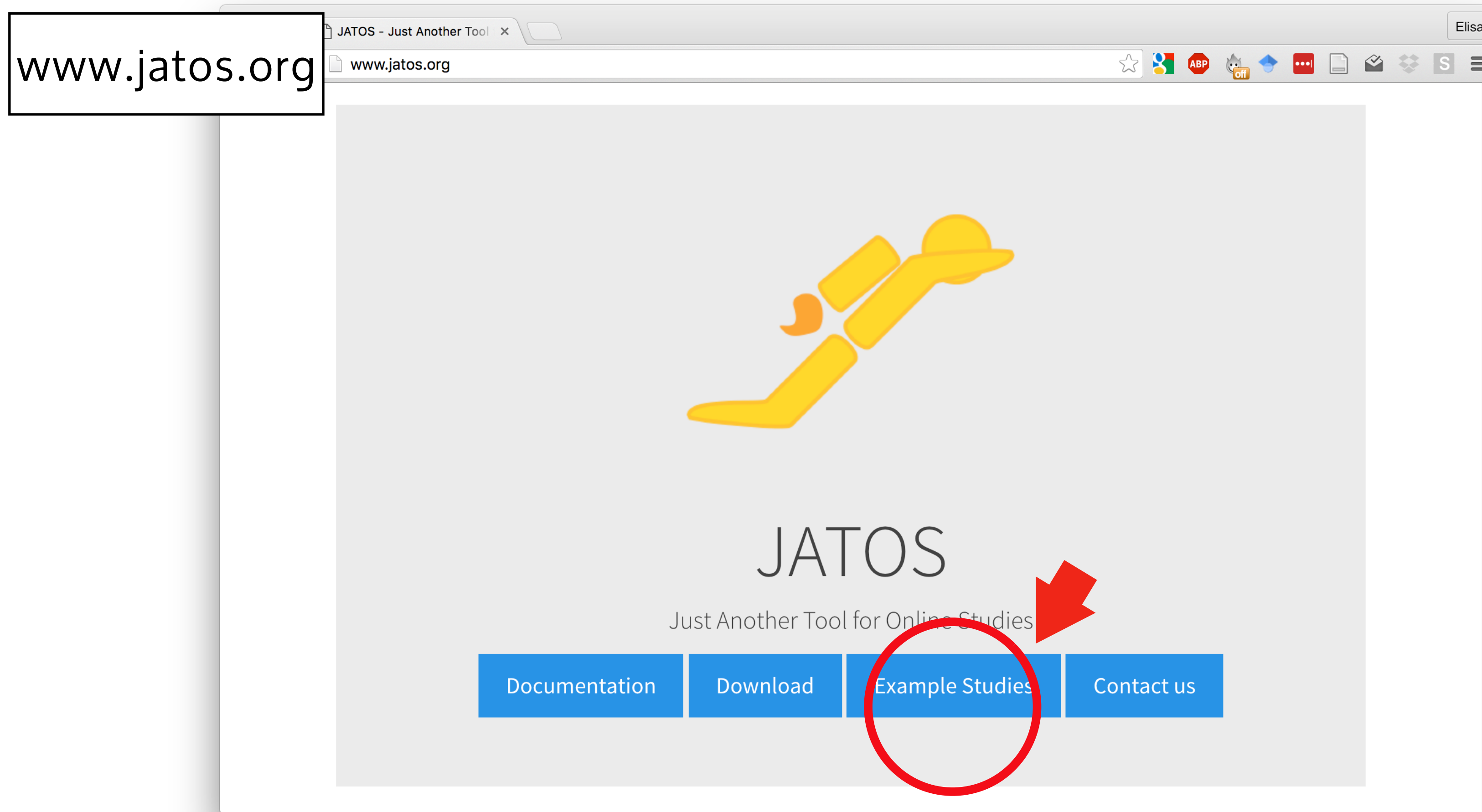
UPLOAD TO
A SERVER

ADVERTISE AND
COLLECT DATA

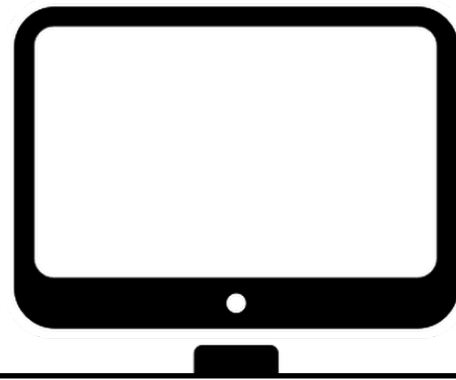
DOWNLOAD AND ANALYSE
RESULTS



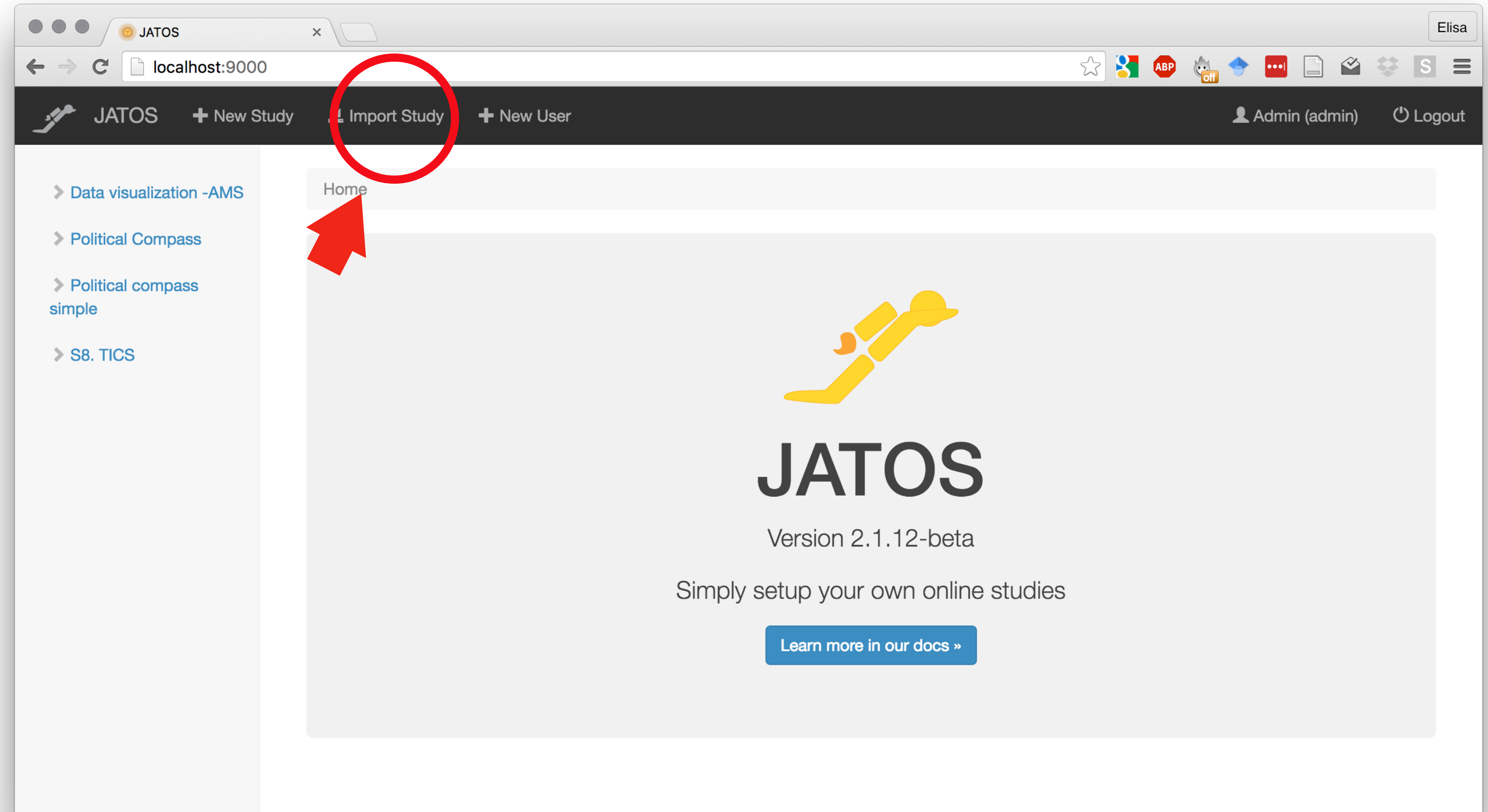
DOWNLOAD STUDY



IMPORT STUDY TO YOUR LOCAL INSTALLATION



http://localhost:9000/



RUN AND MODIFY YOUR STUDY

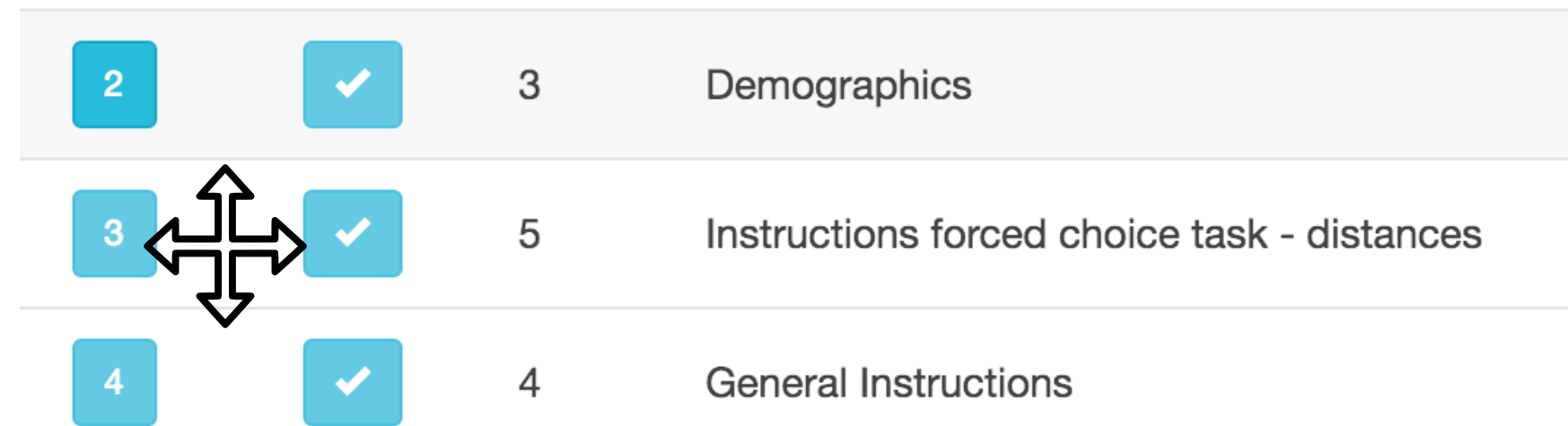
The screenshot shows the JATOS web interface. The browser address bar is localhost:9000/jatos/2. The user is logged in as Admin (admin). The main content area shows a study named 'S8. TICS' with a table of components. The 'Run' button for the entire study is circled in red, and a red arrow points to it from the left. Another red arrow points from the 'Run' button of the first component to the 'Run' button of the second component, which is also circled in red.

ID	Active	ID	Title	Run	Results	Properties	More
1	✓	2	Consent	Run ▶	Results 2	Properties ⋮	More ▾
2	✓	3	ID	Run ▶	Results 0	Properties ⋮	More ▾
3	✓	4	Instructions TICS	Run ▶	Results 0	Properties ⋮	More ▾
4	✗	5	TICS Skala Screening	Run ▶	Results 0	Properties ⋮	More ▾
5	✓	6	TICS Skala lang	Run ▶	Results 1	Properties ⋮	More ▾
6	✓	7	Thank you - any comments	Run ▶	Results 0	Properties ⋮	More ▾

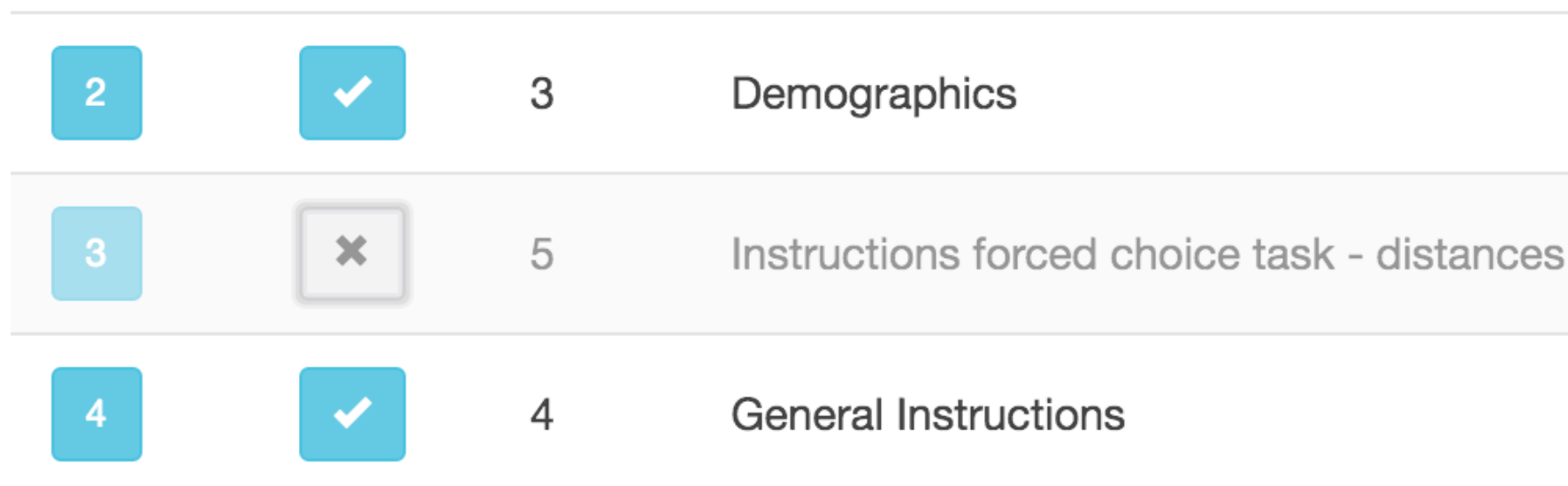
RUN THE WHOLE STUDY OR SINGLE COMPONENTS

EXPLORE THE GUI

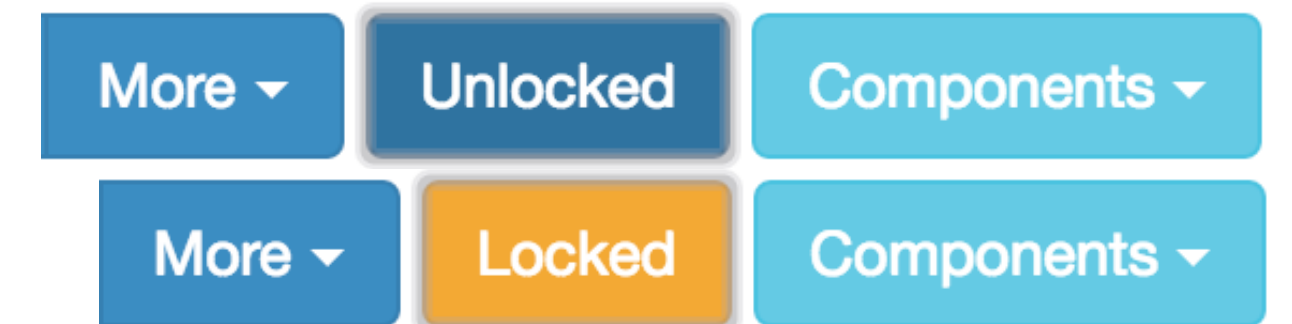
1. MODIFY COMPONENT ORDER (DRAG AND DROP)



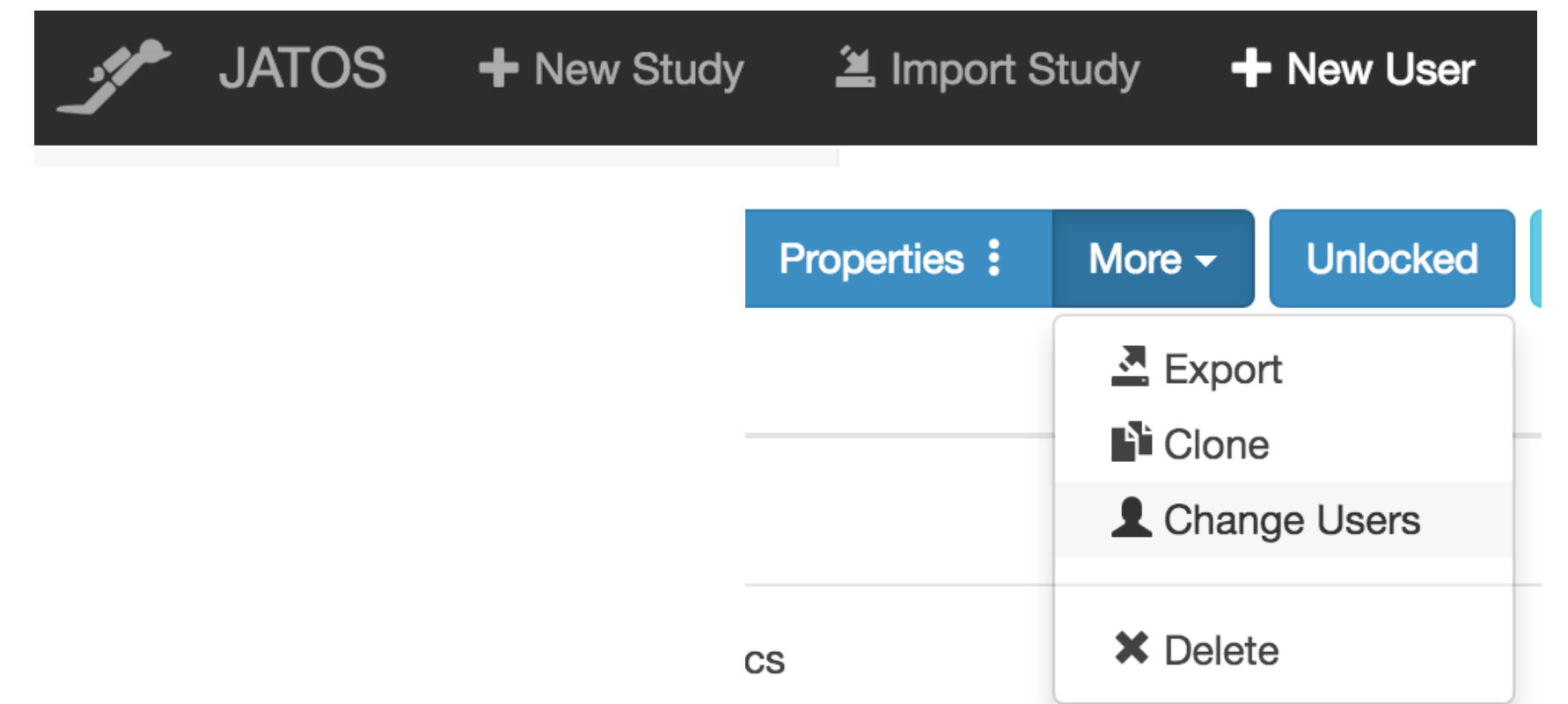
2. ACTIVATE/DEACTIVATE COMPONENTS



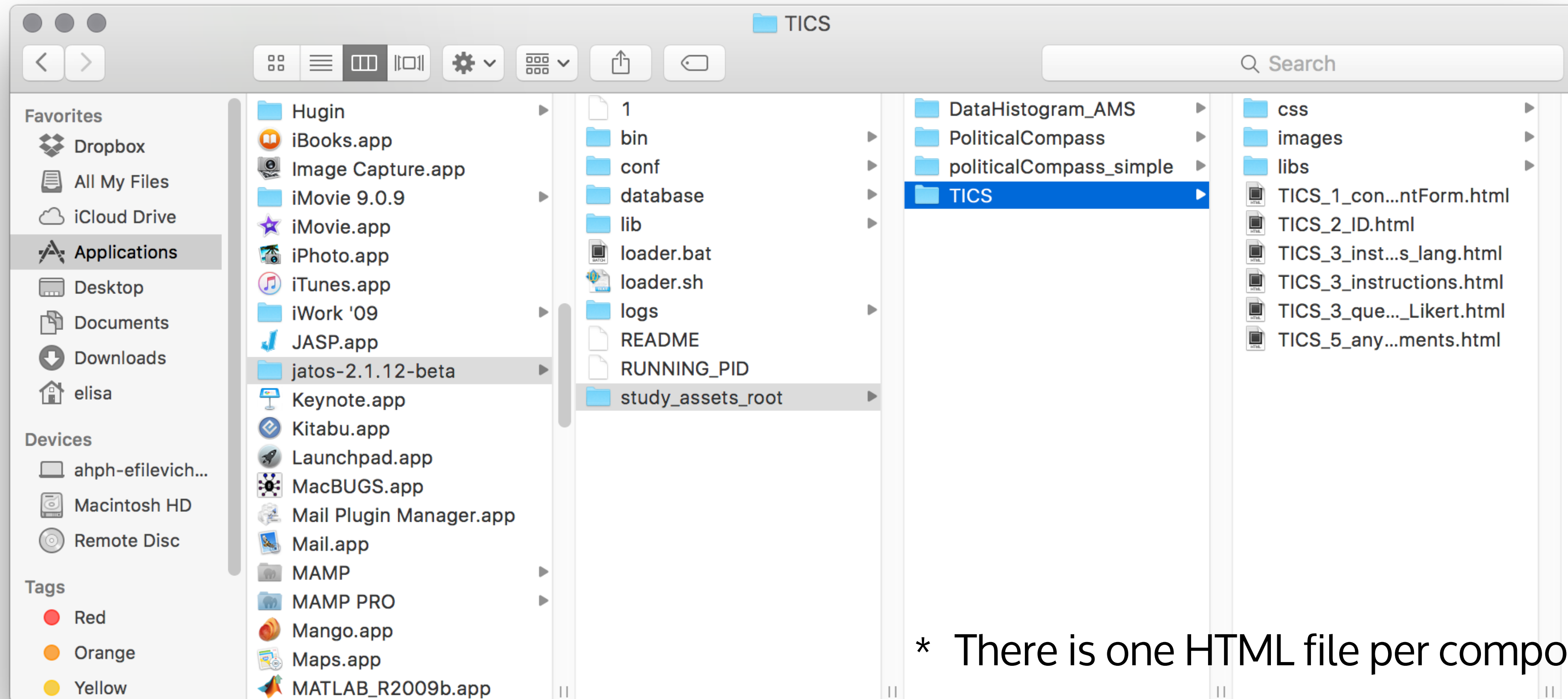
3. LOCK STUDIES TO PREVENT CHANGES



4. CHANGE USERS FOR EACH STUDY



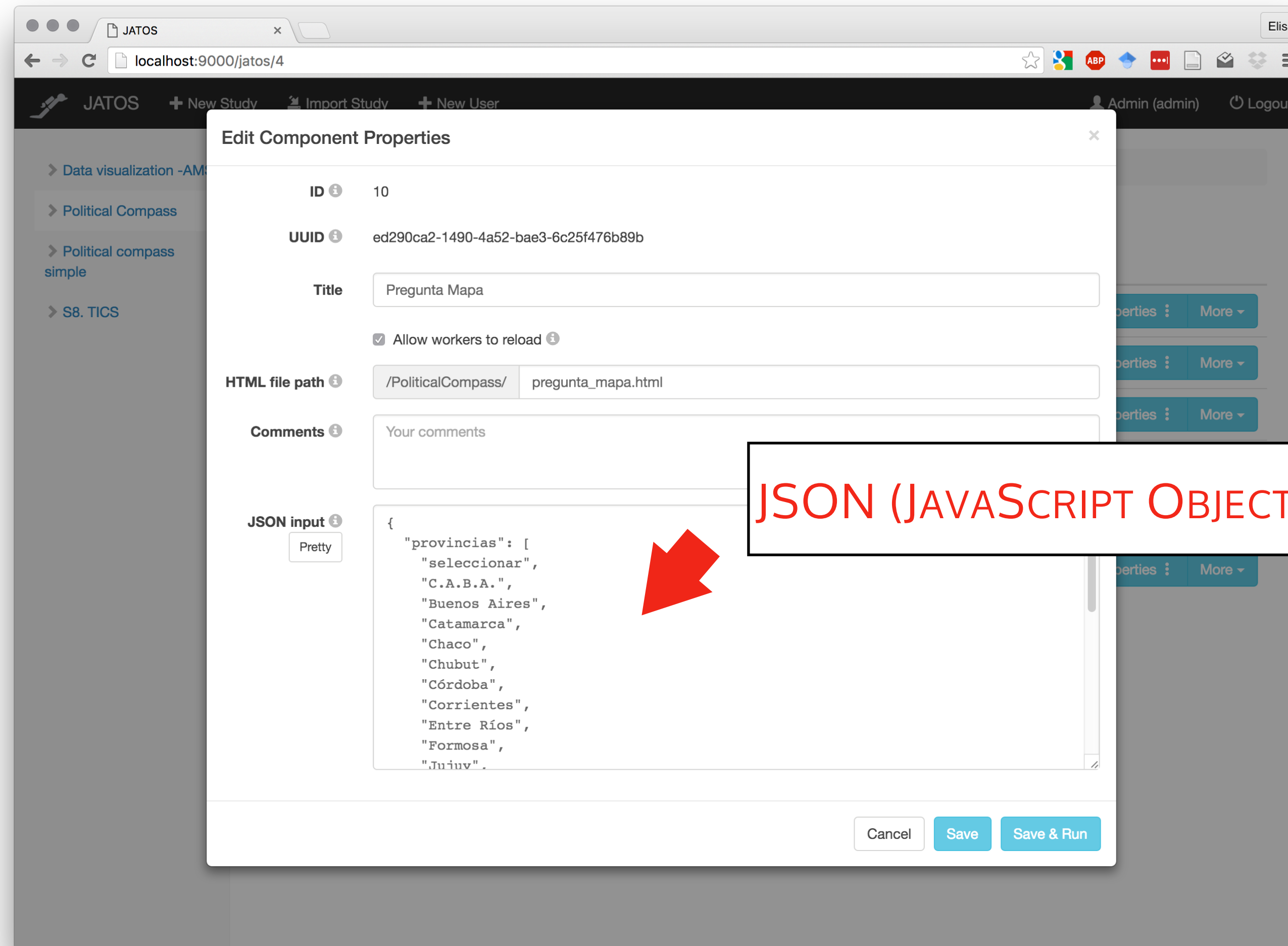
EXPLORE THE (LOCAL) FILE SYSTEM



* There is one HTML file per component

* The location of the `study_assets_root` can be changed in `jatos-x.x.xx/conf/production.conf`

MODIFY THE STUDY PROPERTIES



DEPLOY YOUR STUDIES TO YOUR SERVER

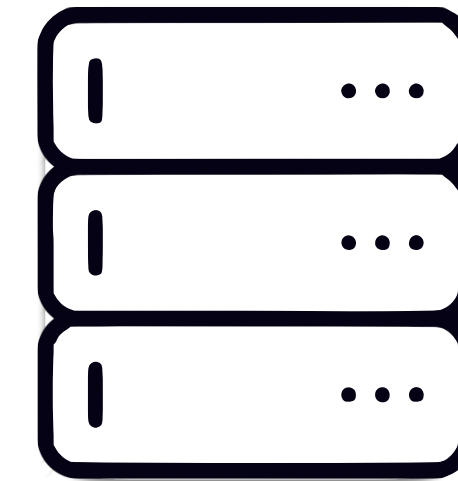
EXPORT STUDY



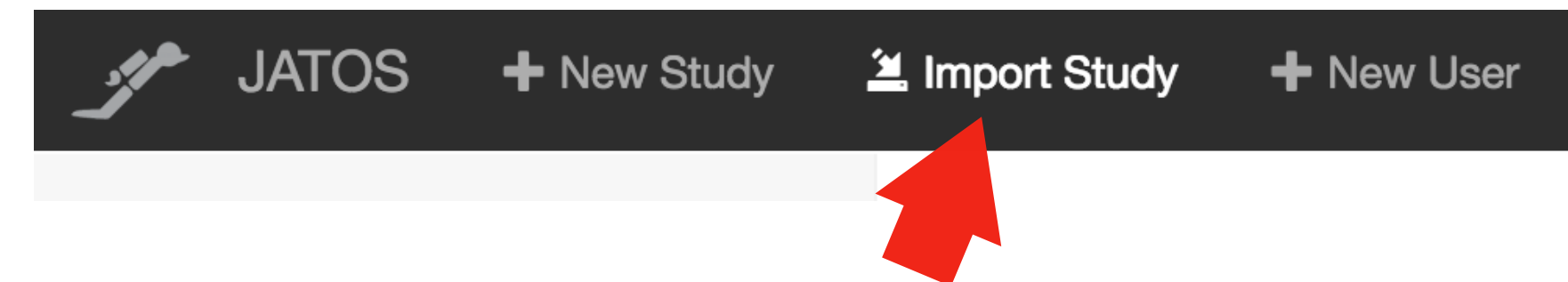
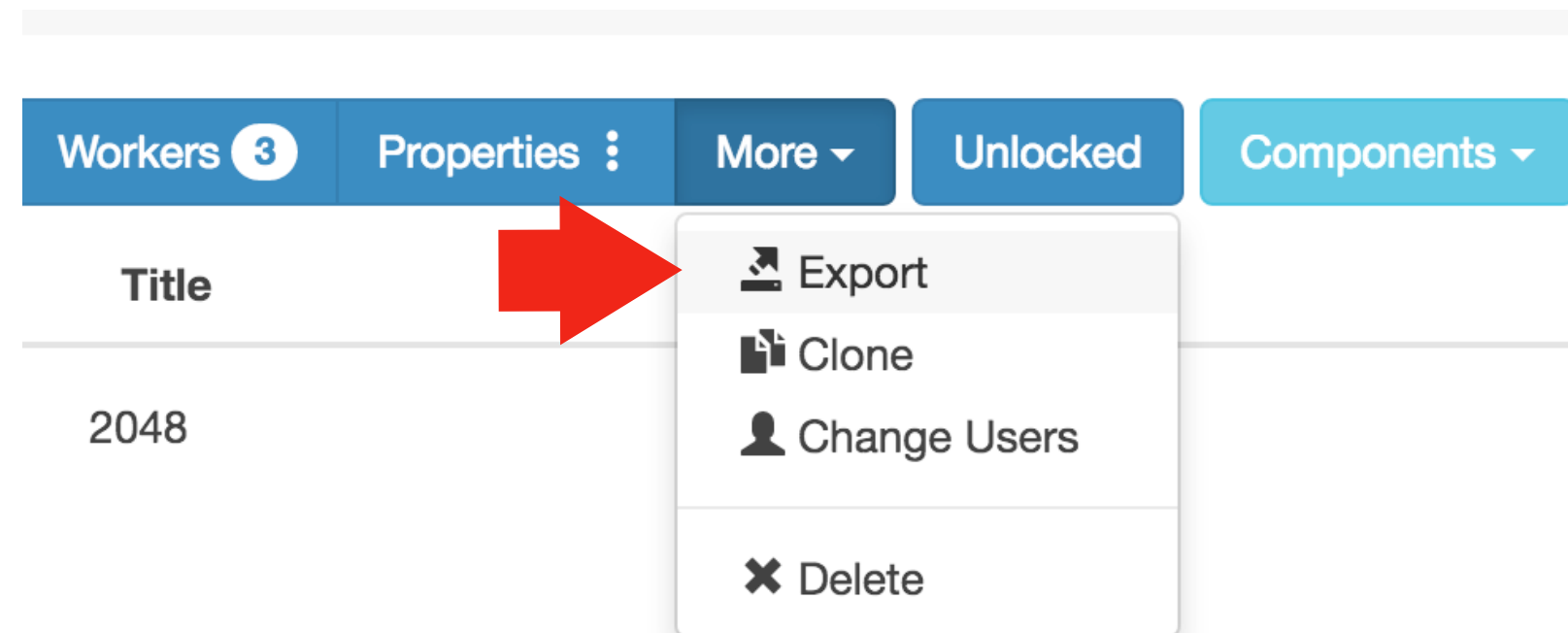
localhost:9000



IMPORT STUDY



http(s)://ourAWS-domain/jatos



DEPLOY YOUR STUDIES TO YOUR SERVER

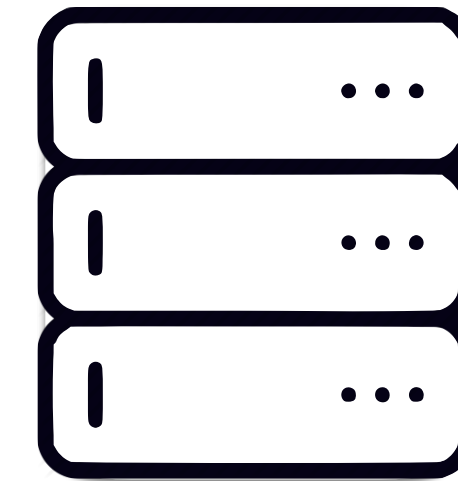
EXPORT STUDY



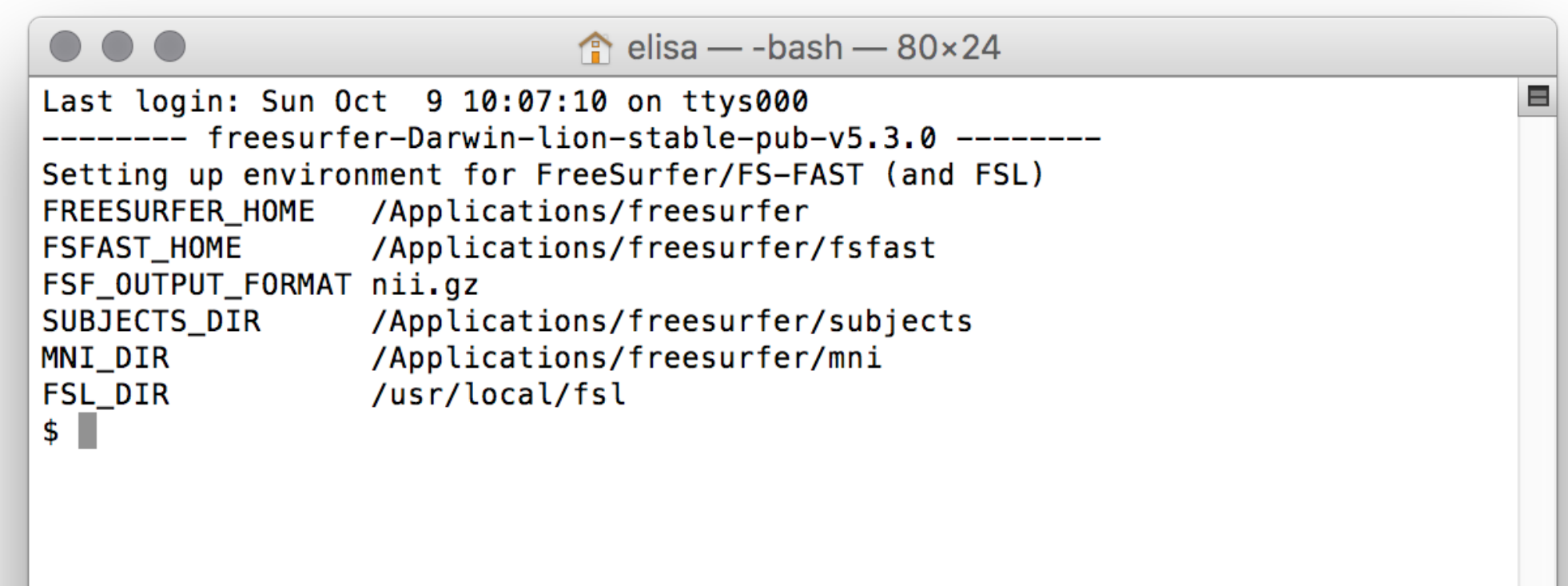
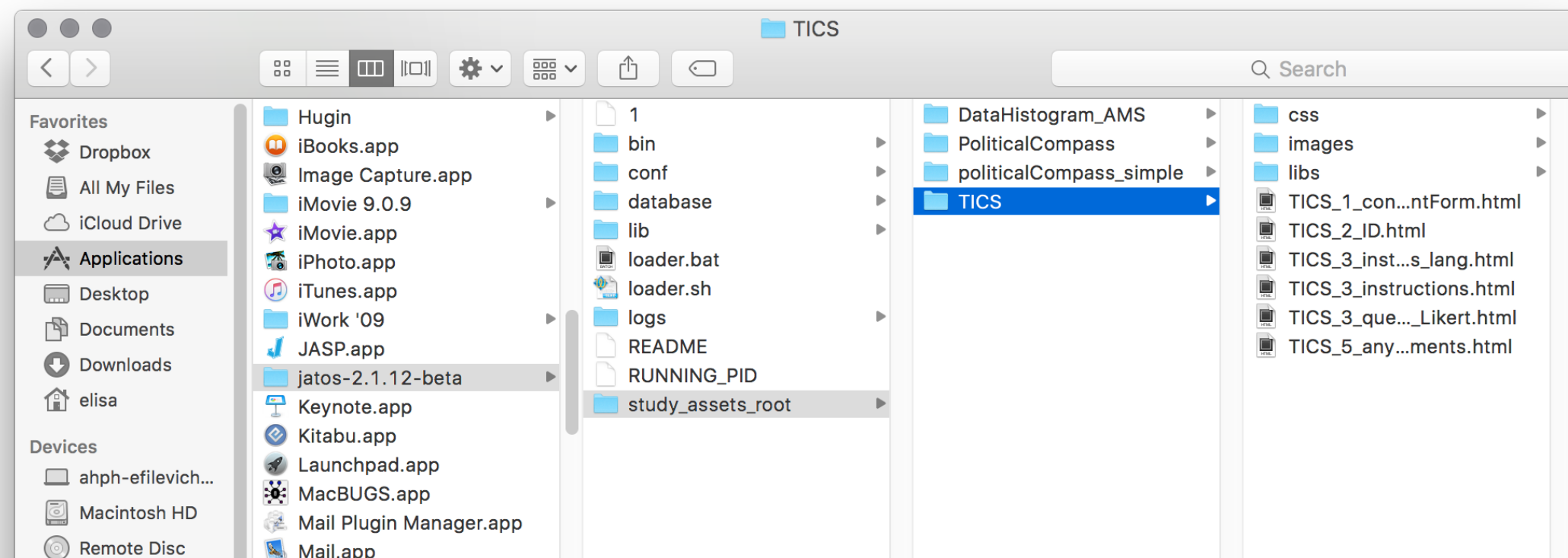
localhost:9000








IMPORT STUDY



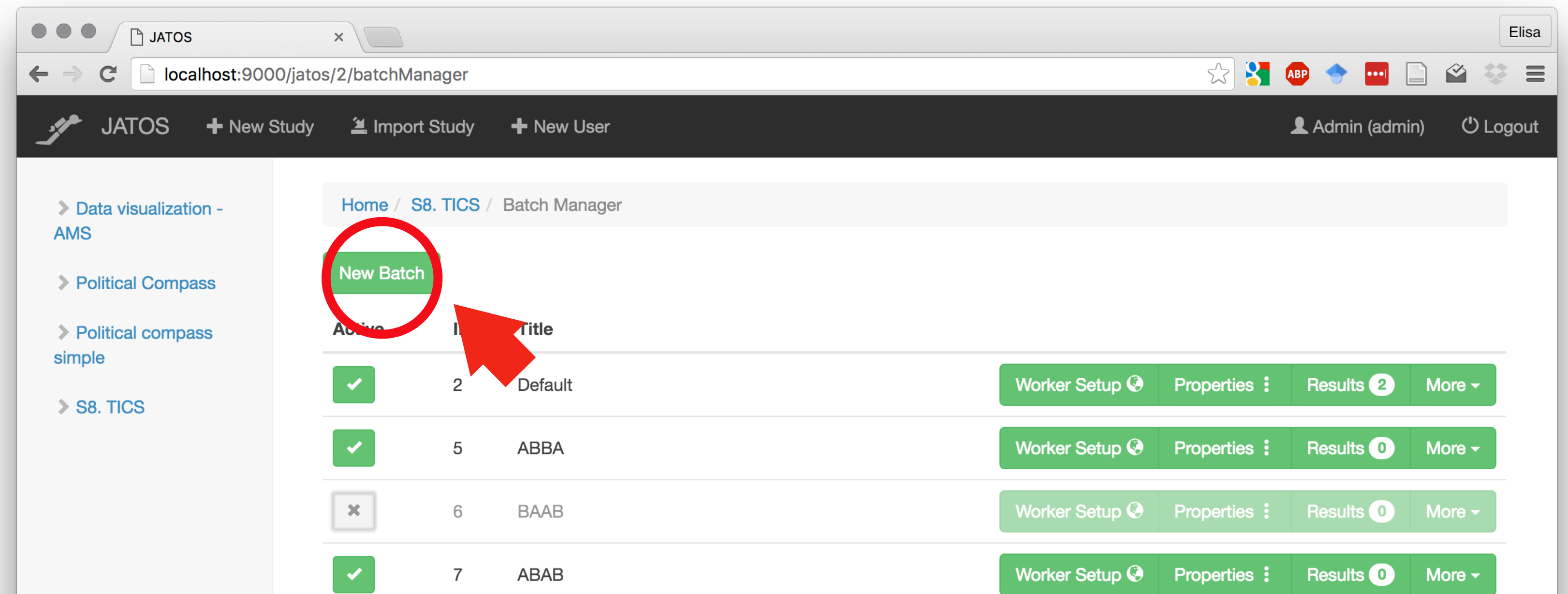
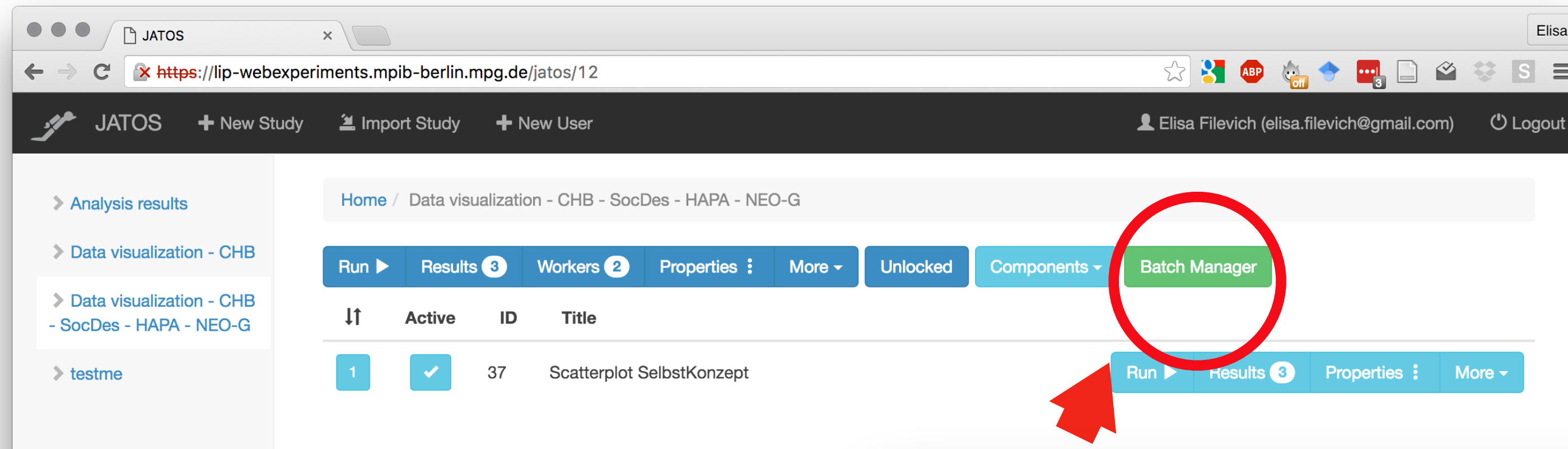
http(s)://ourAWS-domain/jatos



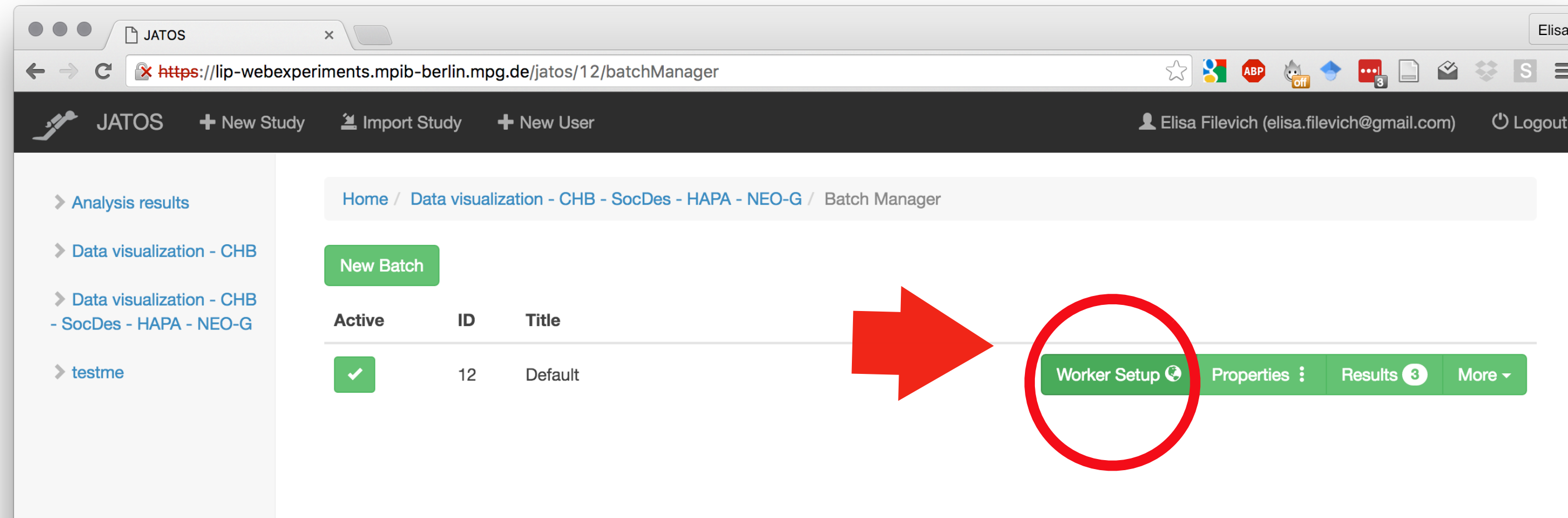
WORKER (PARTICIPANT) TYPES


		Number of times study can be accessed	
		1 "Single"	>1 "Multiple"
Number of people	1 "Personal"	 	
	>1 "General"	 	

SELECT WORKER TYPES





SELECT WORKER TYPES







-  Jatos Worker 1 Results 0
-  Personal Single Worker 0 Add Results 0
-  Personal Multiple Worker 0 Add Results 0
-  MTurk Worker 0 Source Code Results 0
-  General Single Worker 0 Link Results 0

GENERATE ACCESS LINKS FOR WORKERS



▼   Jatos Worker 1 Results 10



Worker ID	User Email	Last Study State	
1	admin	FINISHED	Run

▶   Personal Single Worker 0 Add Results 0

▼   Personal Multiple Worker 2 Add Results 4

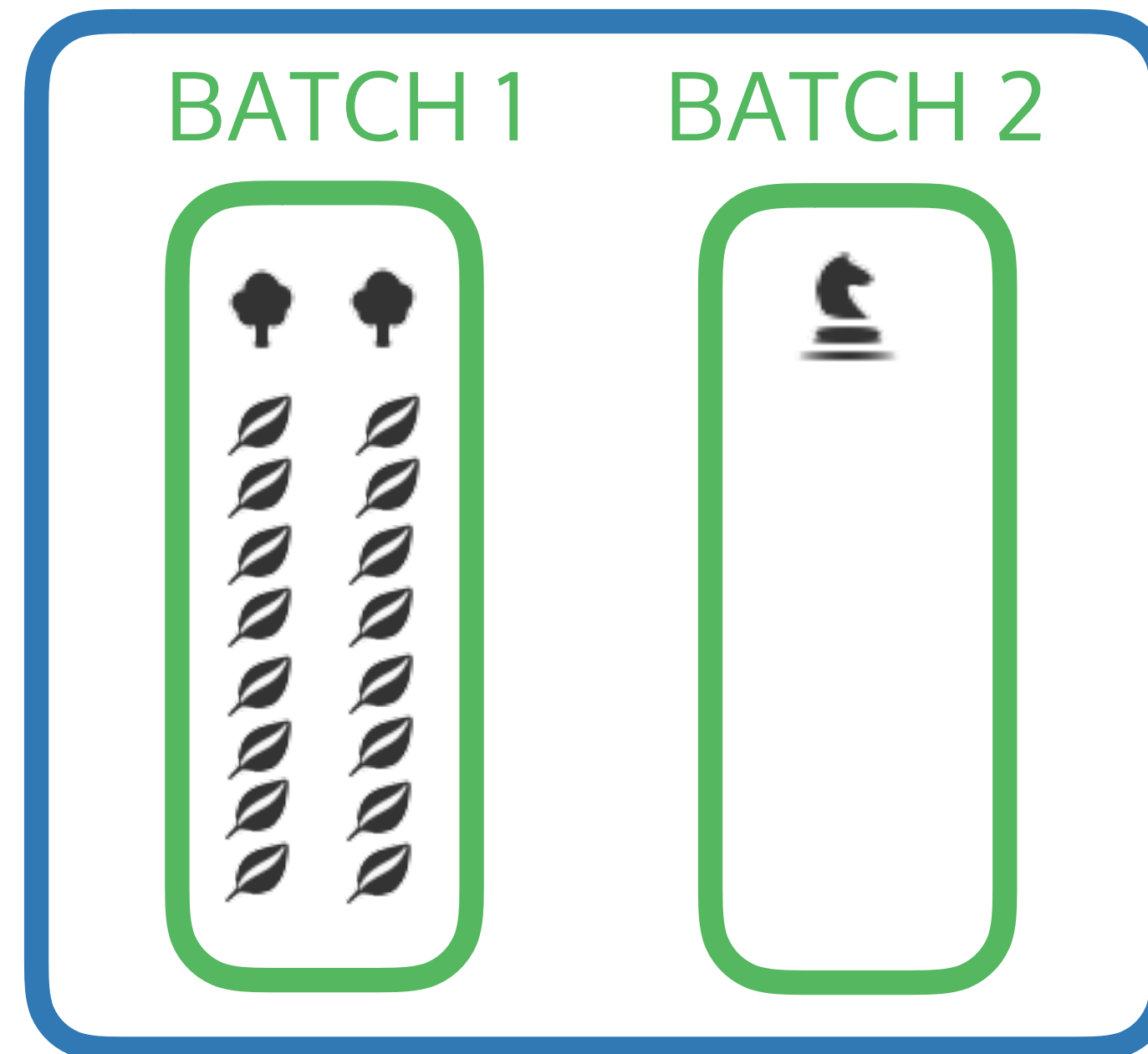
Worker ID	Comment	Last Study State	
18	Kri	DATA_RETRIEVED	Link
19	bla	DATA_RETRIEVED	Link

▶   MTurk Worker 0 Source Code Results 0

▶   General Single Worker 0 Link Results 0

ASSIGN WORKERS

STUDY 1

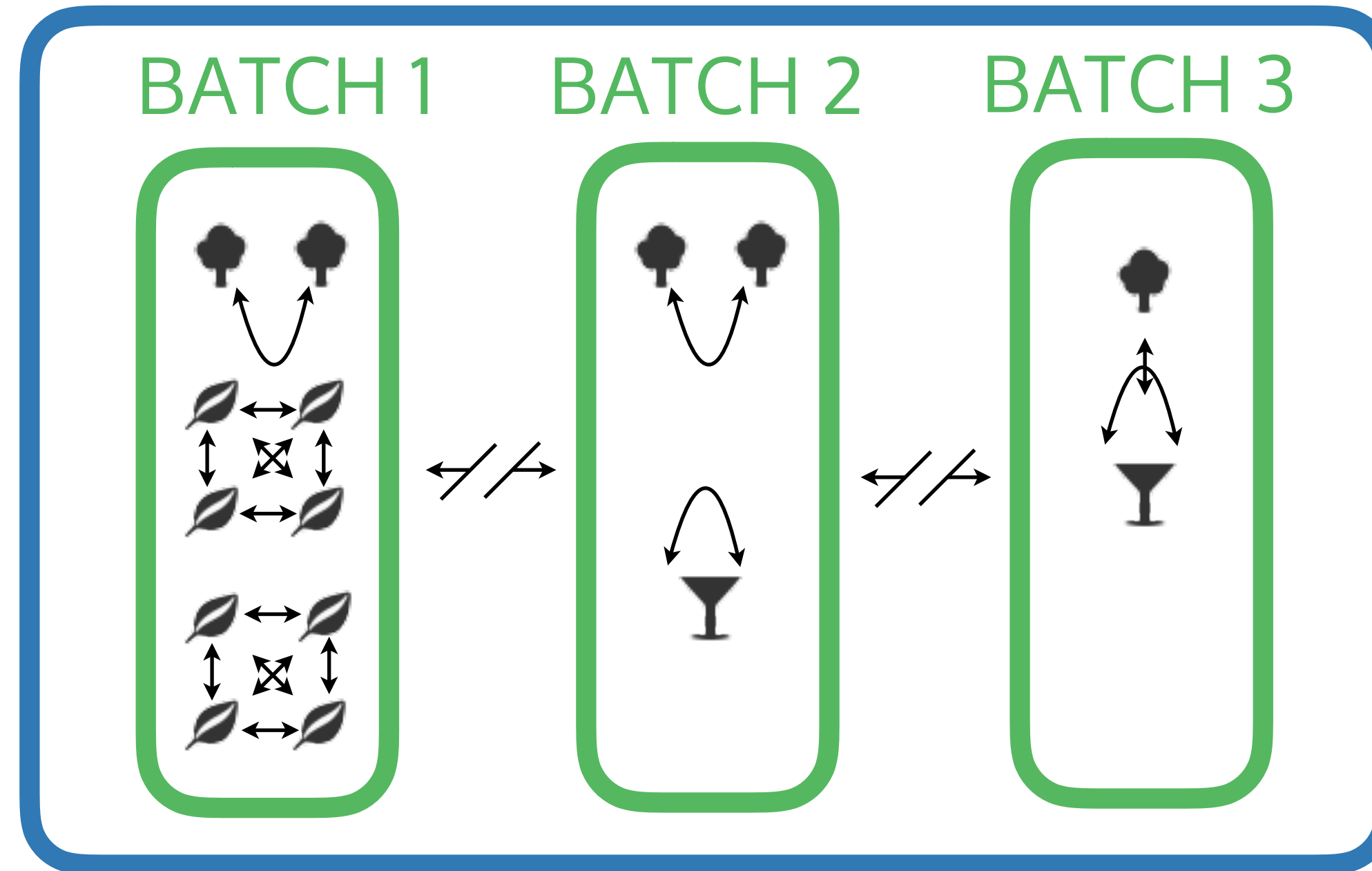


Each study contains multiple batches,

Each batch contains multiple workers

DESIGN GROUPS FOR GROUP STUDIES

STUDY 2 (GROUP STUDY)



Each study contains multiple batches,

Each batch contains multiple workers

MANAGE RESULTS

The screenshot shows the JATOS main interface. The top navigation bar includes 'Run', 'Results 6', 'Workers 1', 'Properties', 'More', 'Unlocked', 'Components', and 'Batch Manager'. A red circle highlights the 'Results' button. Below the navigation bar is a table of studies with columns for 'Active', 'ID', and 'Title'. A red arrow points to the 'Run' button for the first study, 'Personal Data' (ID 9).

Active	ID	Title
<input checked="" type="checkbox"/>	9	Personal Data
<input checked="" type="checkbox"/>	10	Pregunta Mapa
<input checked="" type="checkbox"/>	11	Pregunta Afinidad
<input checked="" type="checkbox"/>	12	Pregunta Sensación
<input checked="" type="checkbox"/>	13	Pregunta Amigos
<input checked="" type="checkbox"/>	14	Pregunta Feedback

The screenshot shows the 'Results' page in JATOS. It features a search bar at the top right, highlighted with a red circle. Below the search bar is a table of results with columns: 'Result ID', 'Start Time (Server)', 'Duration', 'Worker ID', 'Worker Type', 'MTurk Worker ID (Confirmation Code)', 'Group ID', 'State', and 'Messages'. A red arrow points to the 'Delete Selected' button in the top right of the results table.

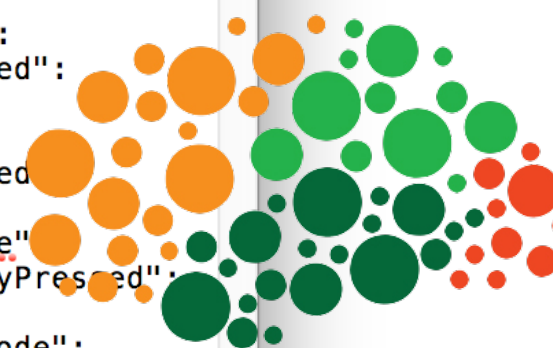
Result ID	Start Time (Server)	Duration	Worker ID	Worker Type	MTurk Worker ID (Confirmation Code)	Group ID	State	Messages
44	2016/07/29 10:57:20	00:00:04	1	Jatos	none (none)	none	FINISHED	
43	2016/07/29 10:51:16	00:06:00	1	Jatos	none (none)	none	FINISHED	
42	2016/07/29 10:50:05	00:00:05	1	Jatos	none (none)	none	FINISHED	
41	2016/07/29 10:48:35	00:00:13	1	Jatos	none (none)	none	FINISHED	
40	2016/07/27 23:22:34	1:11:26:01	1	Jatos	none (none)	none	FAIL	Closed by JATOS: study not completed, but new study started by the same worker

DOWNLOAD DATA

```

allData.txt
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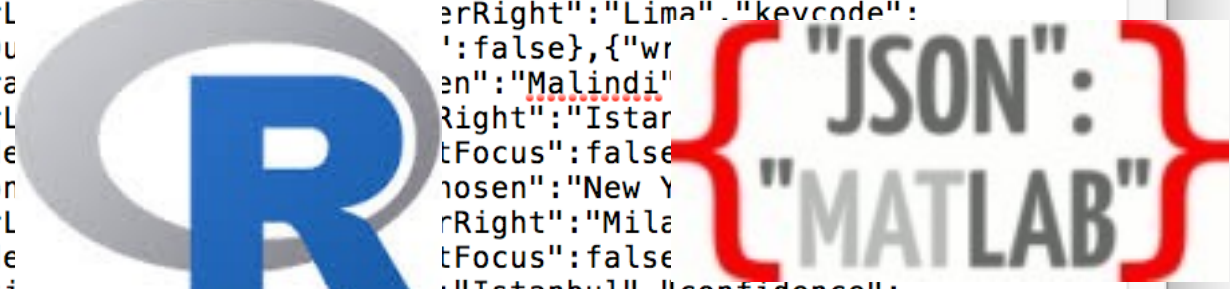
jpspsych

DOWNLOAD DATA

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HtWtData300.csv
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0,65.6,178.3
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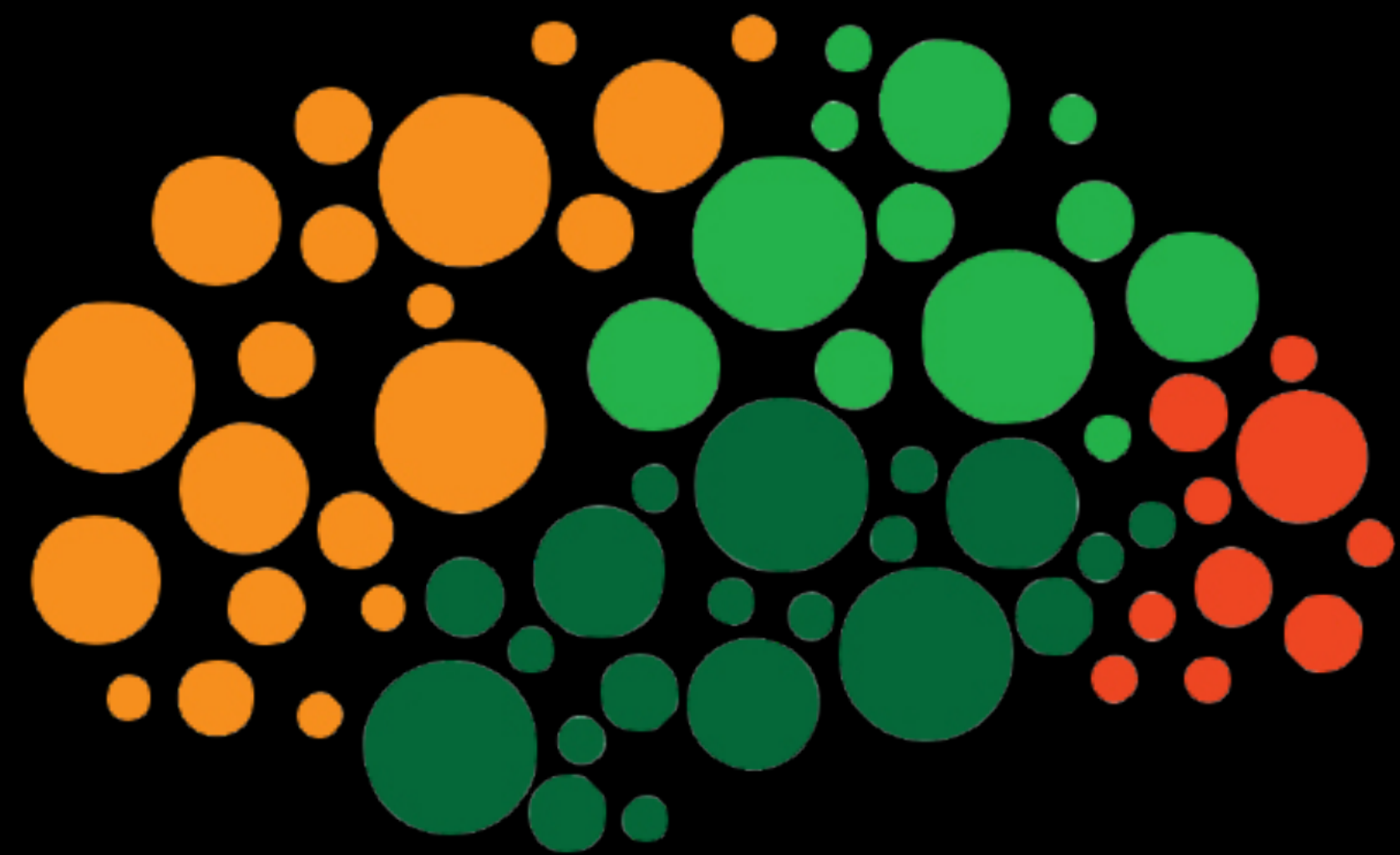
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allData.txt
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```

JATOS WILL ONLY STORE TEXT:
JSON, CSV, SIMPLE STRINGS





~30 min



jsppsych

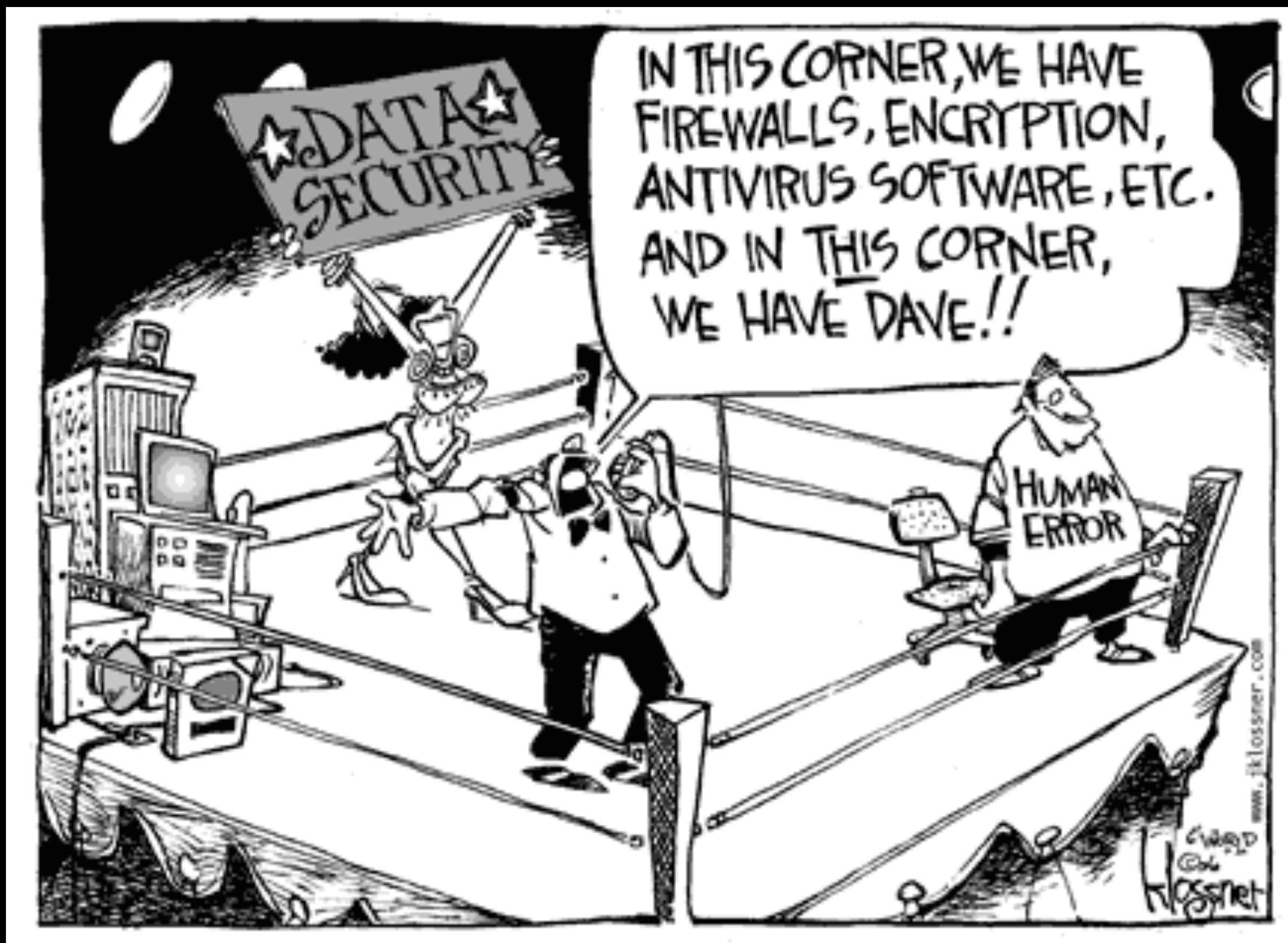
Part 3: (short) JavaScript tutorial

Please go to:

<https://github.com/JATOS/JATOS/wiki/Workshop-2016-Links>

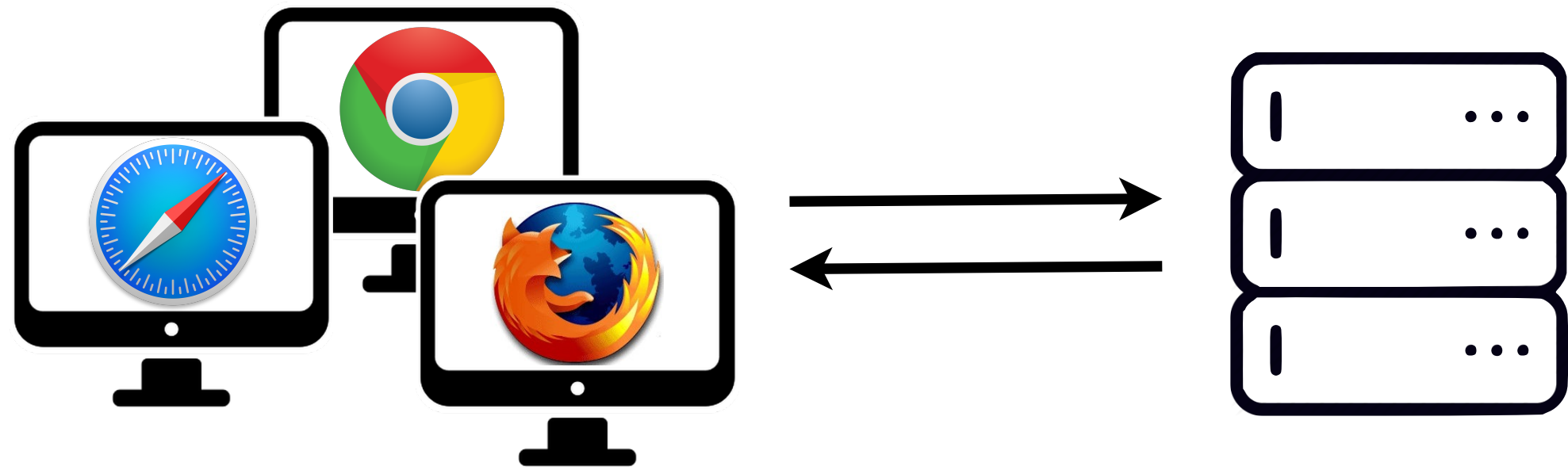
And install:

- Visual Studio Code
- Workshop Go/No-Go example



Bonus Part 4: Data Privacy

1. CLIENT SIDE IS OPEN TO EVERYBODY:
DO NOT STORE PERSONAL DATA IN HTML



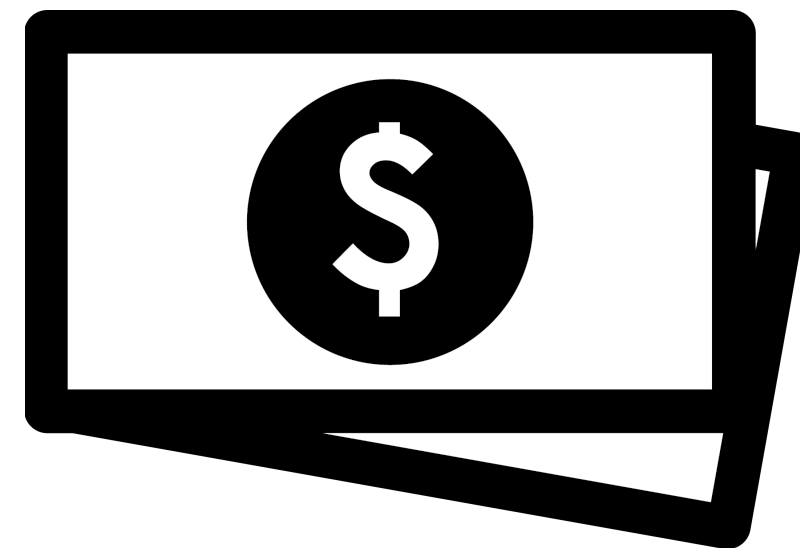
2. PRIVATE SERVERS KEEP DATA PRIVATE,
CLOUD STORAGE DOES NOT



3. COOKIE POLICY IN EU



4. WORKER PAYMENT



5. ENCRYPTION

https://

ANY QUESTIONS?

