

Building a multisensory integration task in OpenSesame

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<https://osdoc.cogsci.nl/>

Cats, dogs and capybaras

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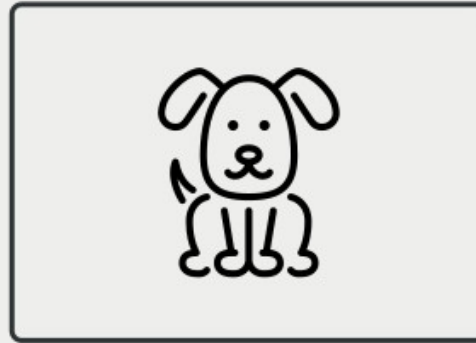
- Beginner's level
- Graphical user interface
- (Almost) no coding

Does sound influence animal
recognition?

Cats, dogs and capybaras



or



or



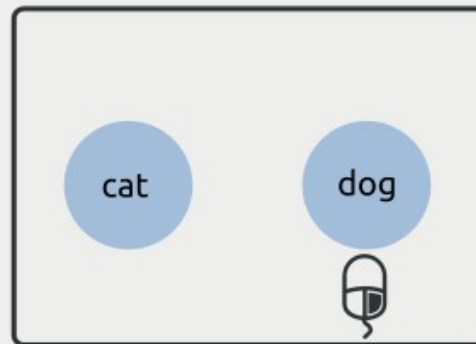
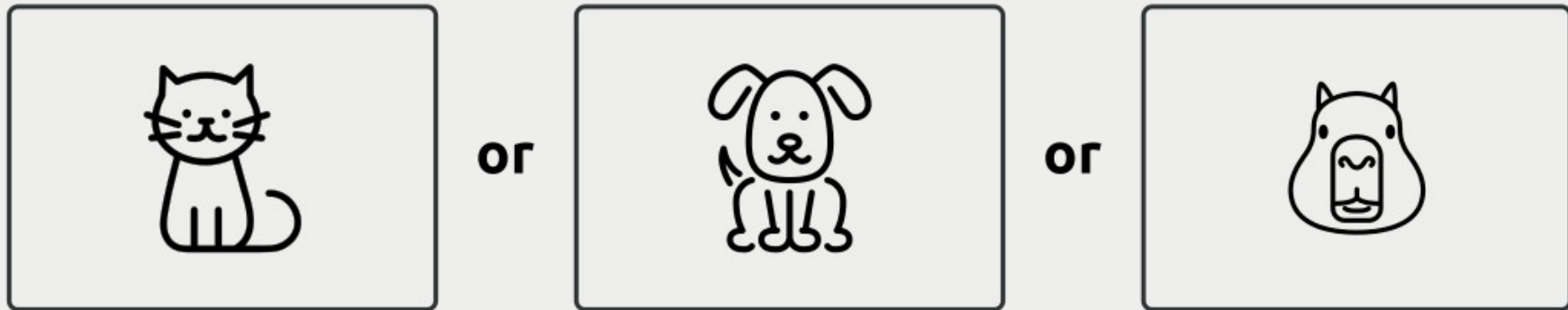
- What is a capybara?



- What is a capybara?

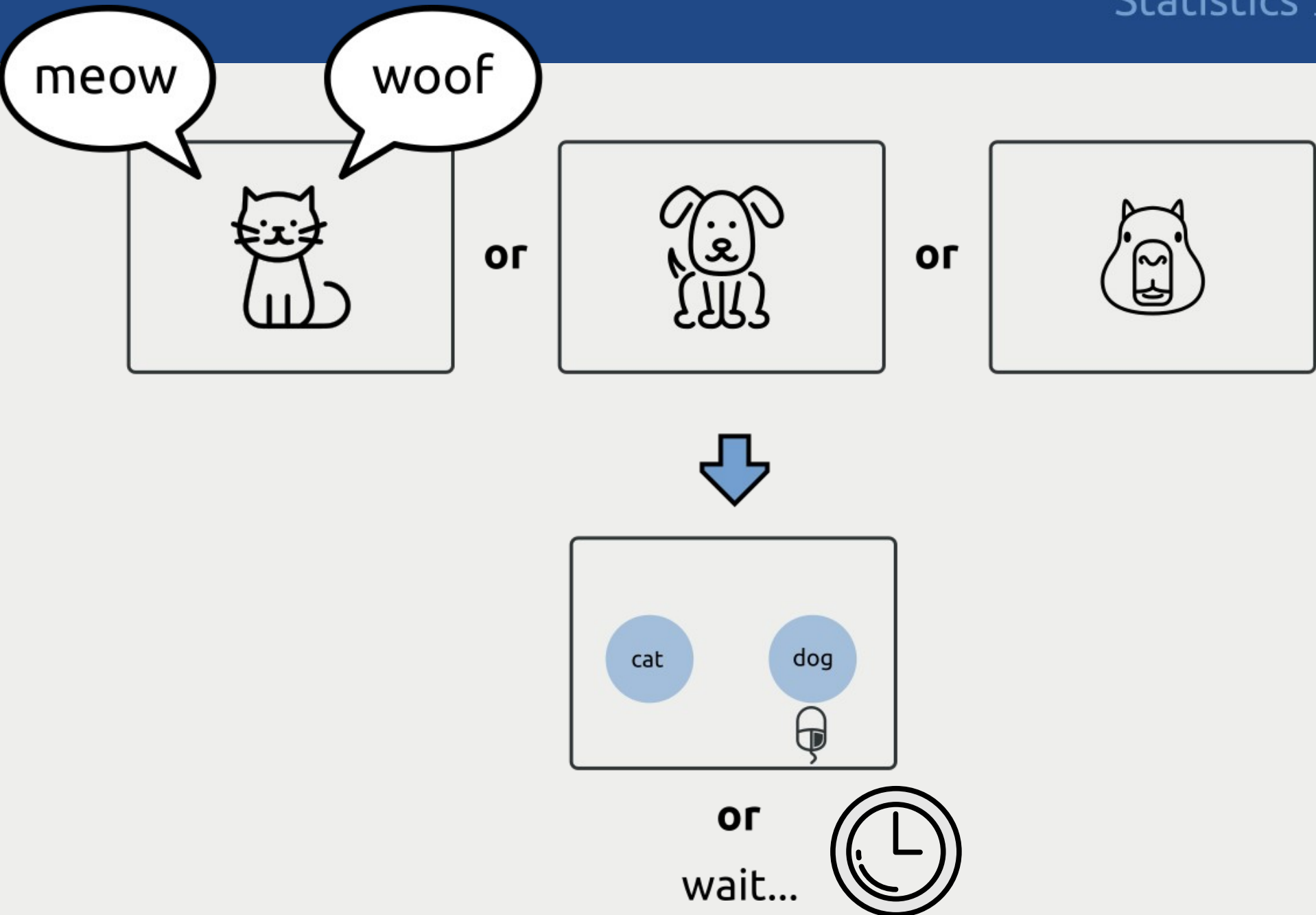


Cats, dogs and capybaras



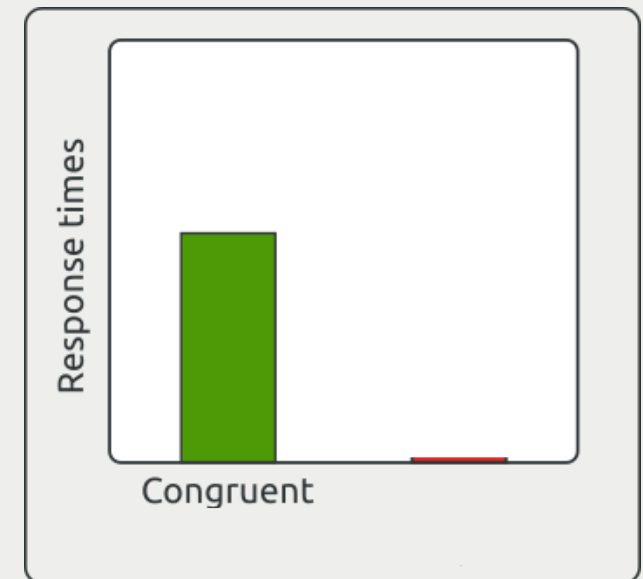
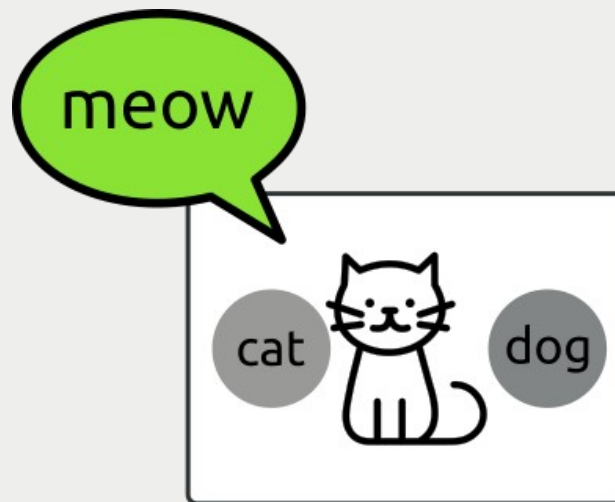
or
wait... 

Cats, dogs and capybaras



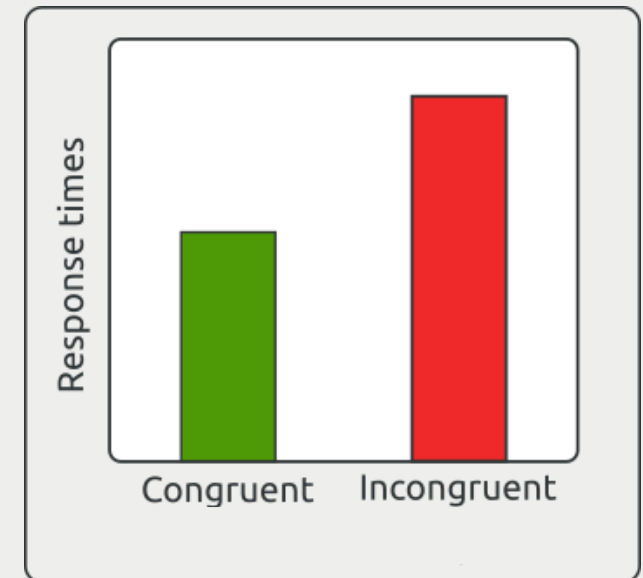
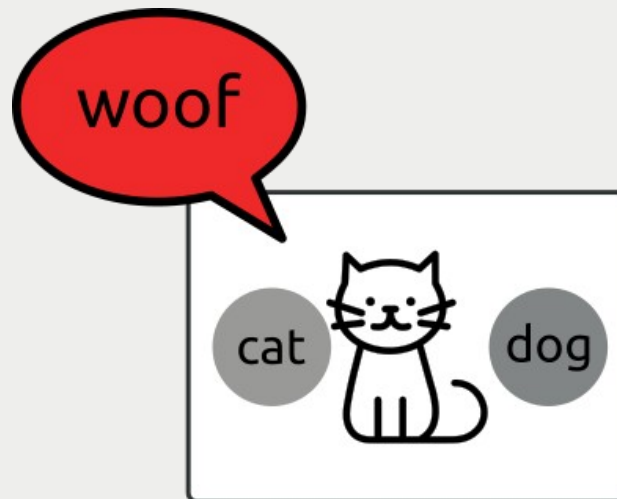
Cats, dogs and capybaras

- Prediction 1
 - Easier to respond to **congruent** mappings



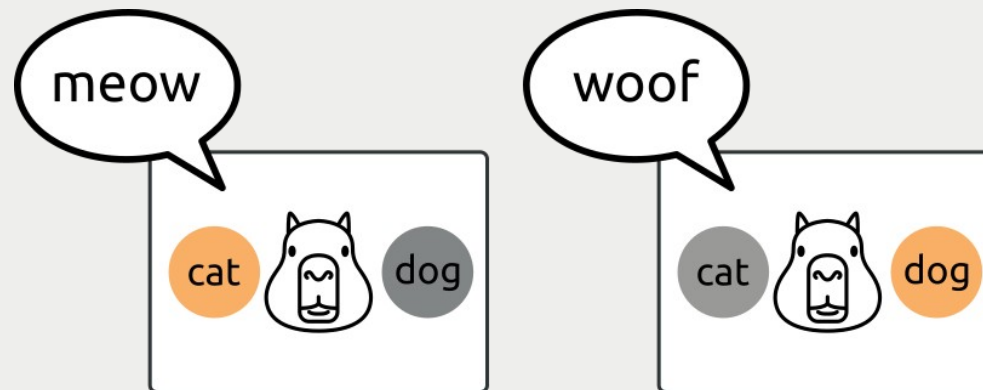
Cats, dogs and capybaras

- Prediction 1
 - Easier to respond to **congruent** mappings
 - Than to **incongruent** mappings



Cats, dogs and capybaras


- Prediction 2
 - For false alarms after capybara
 - Biased towards sound



Experimental design

- Independent variables

- Animal (cat, dog or capybara)
- Sound (bark or meow)


 3 x 2 design

- But 5 exemplars of each stimulus type
 - 5 cat pictures, 5 meow sounds, etc.

Experimental design

- Independent variables

- Animal (cat, dog or capybara)
- Sound (bark or meow)

 3 x 2 design

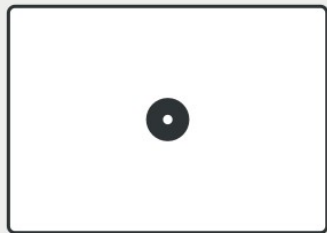
- But 5 exemplars of each stimulus type

- Picture number (1,2,3, 4 or 5)
- Sound number (1,2,3,4 or 5)

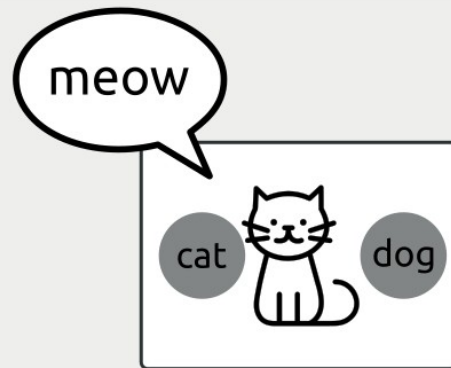
 3 x 2 x 5 x 5 design = 150 combinations!

Before programming

- Trial sequence



fixdot (500 ms)



picture, sound and response buttons



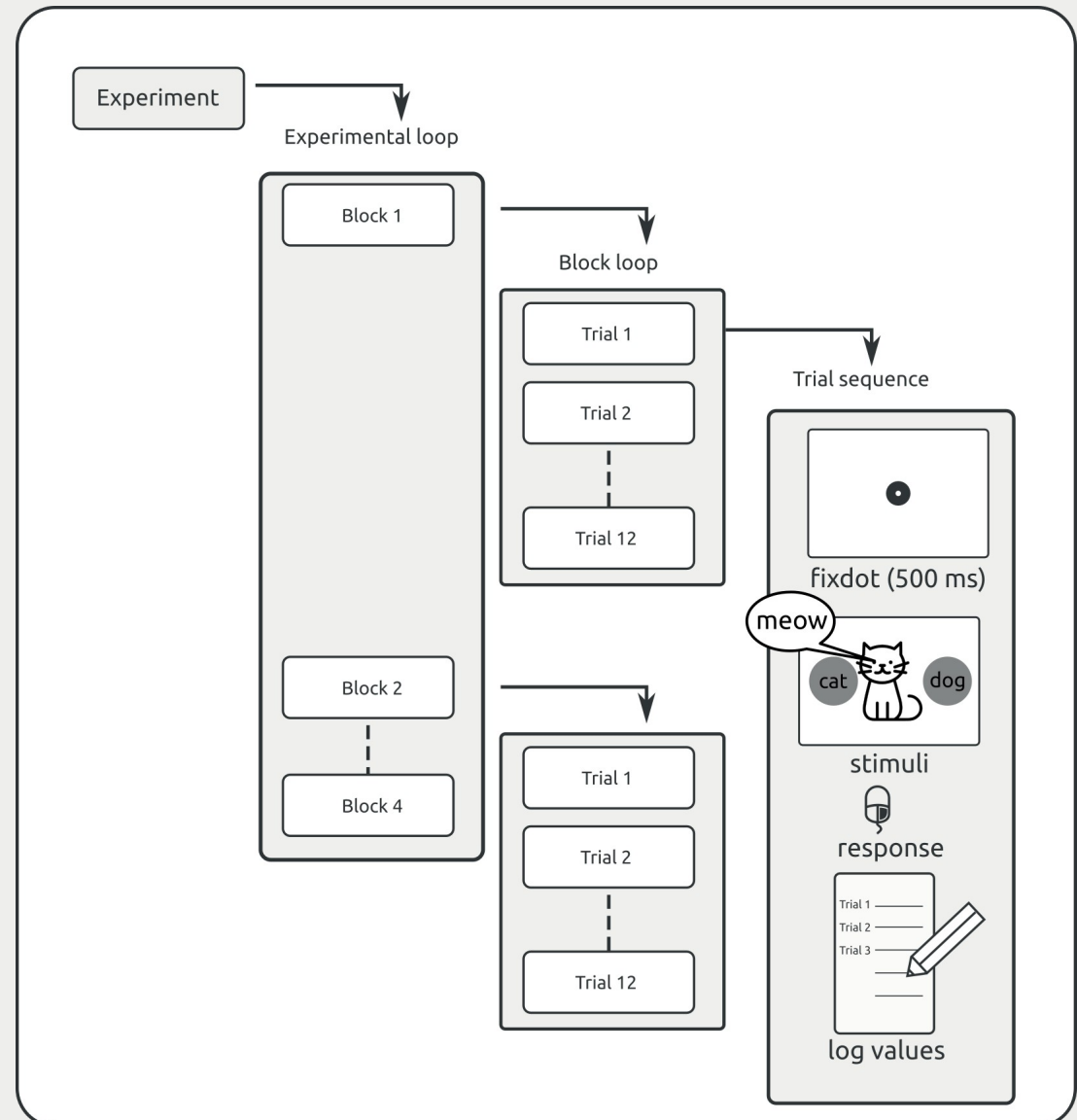
response



log values

Before programming

- Experimental hierarchy




- Download animal stimuli
 - <https://osdoc.cogsci.nl/3.3/attachments/cats-dogs-capybaras/stimuli.zip>

Experimental design

- Independent variables

- Animal (cat, dog or capybara)
- Sound (bark or meow)

 3 x 2 design

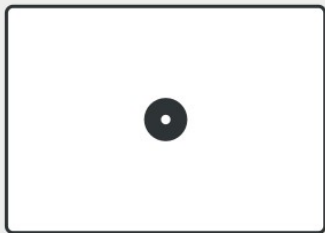
- But 5 exemplars of each stimulus type

- Picture number (1,2,3, 4 or 5)
- Sound number (1,2,3,4 or 5)

 3 x 2 x 5 x 5 design = 150 combinations!

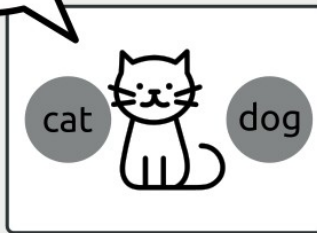
Before programming

- Trial sequence



fixdot (500 ms)

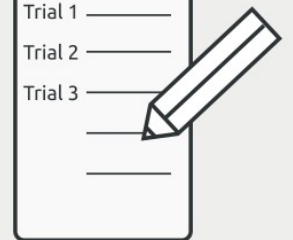
meow



picture, sound and response buttons



response



log values

Cats, dogs and capybaras

2.0

Extra assignments

- Some coding

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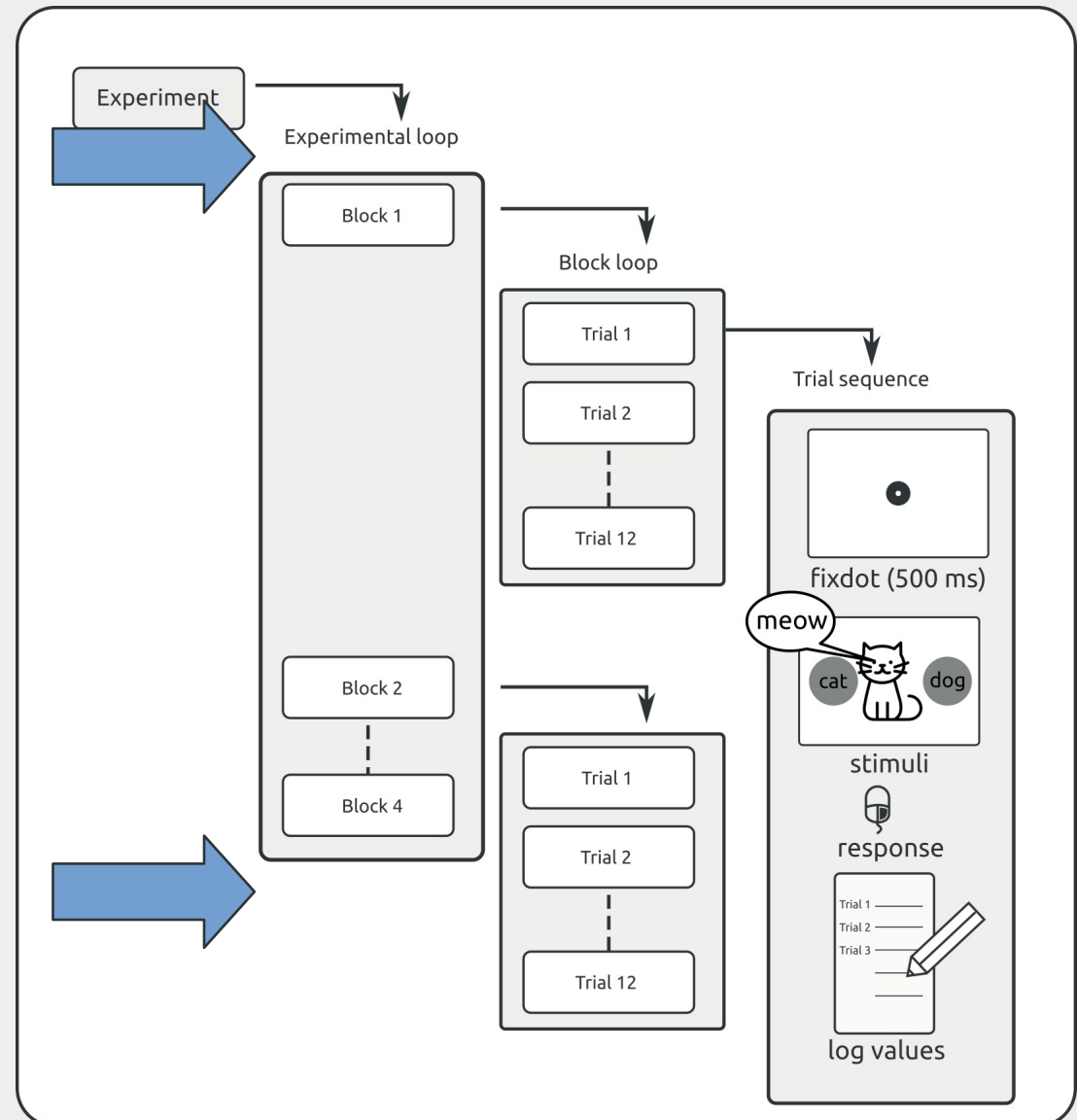
<https://osdoc.cogsci.nl/>

Extra assignments

1. Talk to the participant
 - At consent form, instructions and goodbye
2. Counterbalance response rule
3. Determine response accuracy
4. Give feedback after every trial

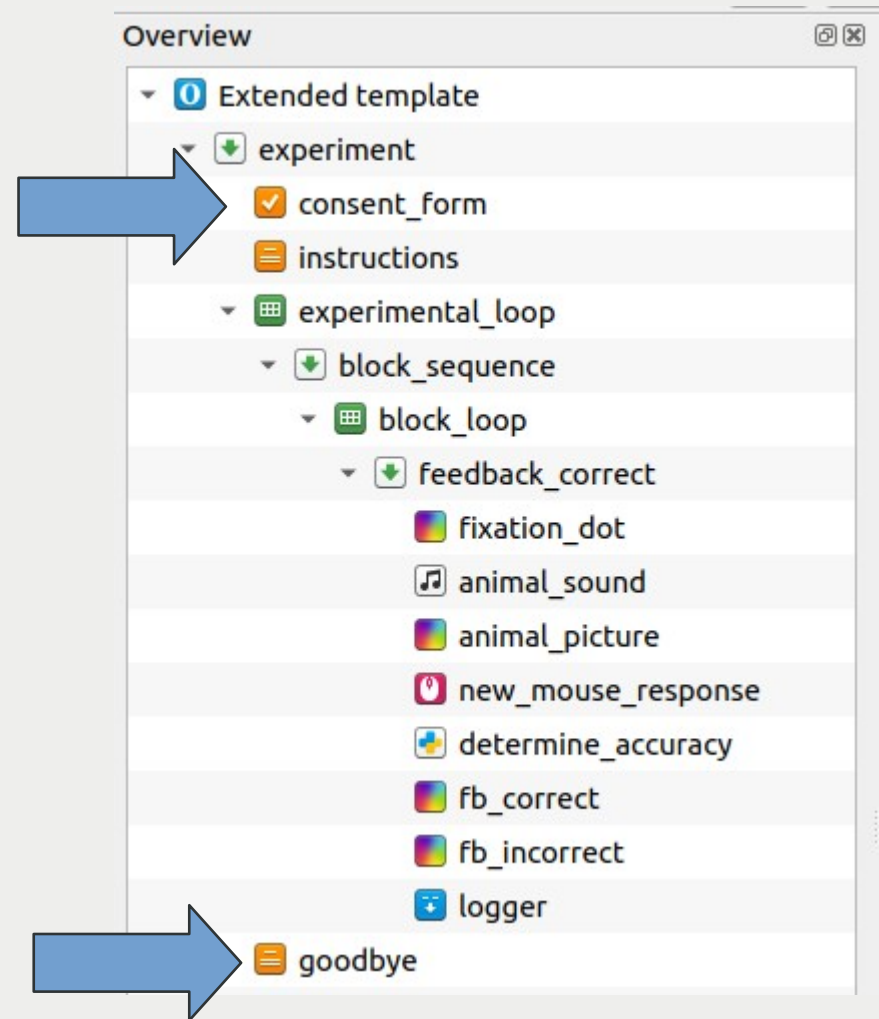
Extra assignments

- Talk to the participant
 - Consent form
 - Instructions
 - Goodbye



Extra assignments

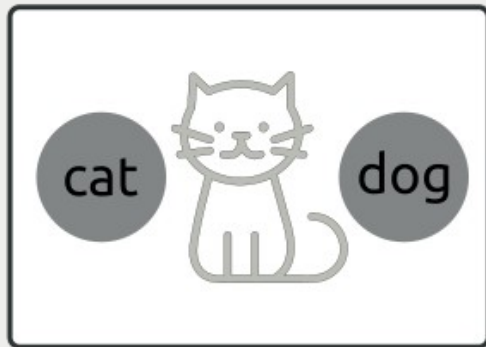
- Talk to the participant
 - Consent form
 - Instructions
 - Goodbye



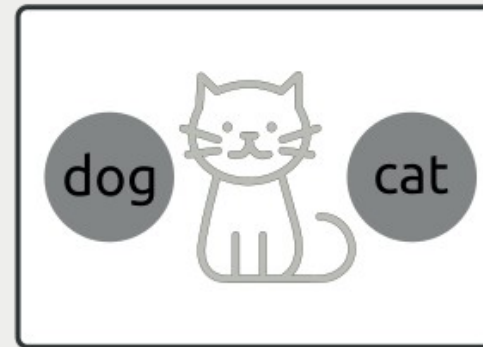
Extra assignments

- Counterbalance response rule
 - Vary the mapping between participants

Odd participant numbers



Even participant numbers



Extra assignments

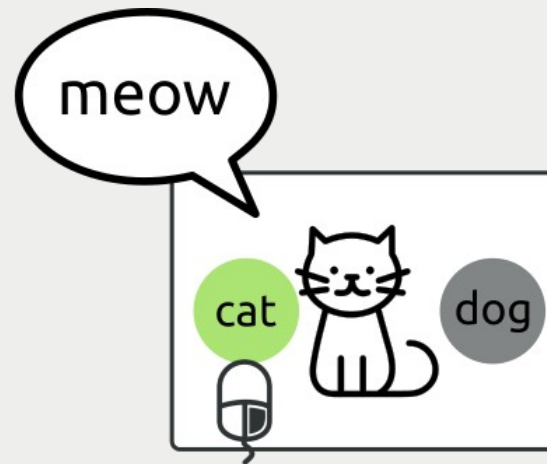
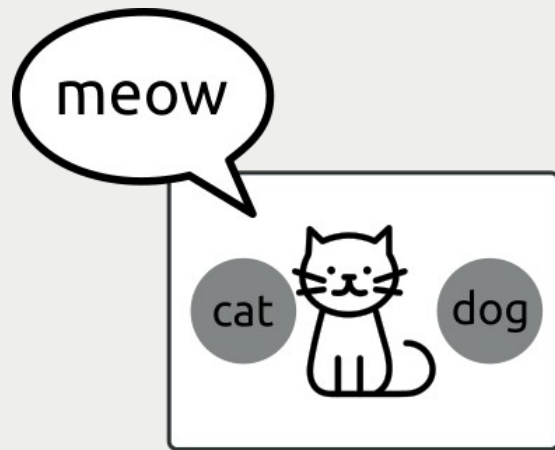
- Counterbalance response rule
 - Use the built-in variable *subject_parity*
 - “odd” or “even”
 - Run-if statement

Extra assignments

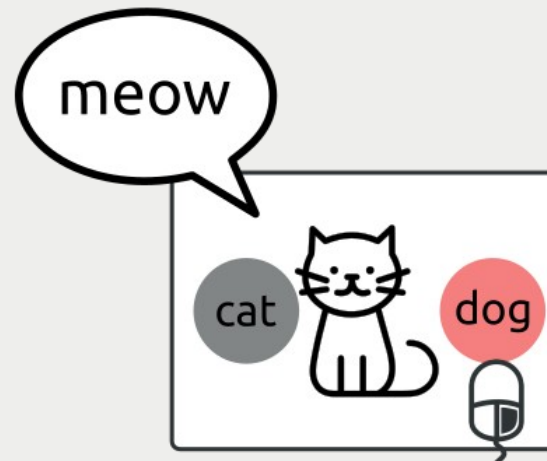
- Response accuracy
 - Create a variable called *“correct”*
 - Use the built-in variable *“cursor_roi”*
 - **Region of interest** → which element was clicked
 - Give elements in sketchpad a **name**
 - **Link** sketchpad and mouse_response

Extra assignments

- When is a response correct?



correct = 1



correct = 0

Extra assignments

- When is a response correct?
- In programming logic:

block_loop – loop
A single block of trials

Run:

Repeat: ☒ Evaluate on first cycle

Order: ☐ Resume after break

Source: ☒ Full-factorial design

Summary: **trial_sequence** will be called **150 times** in **random** order. The number of rows is 150. All rows occur once.

	animal	pic_nr	sound	sound_nr
1	cat	1	meow	1
2	dog	1	meow	1

Variable inspector

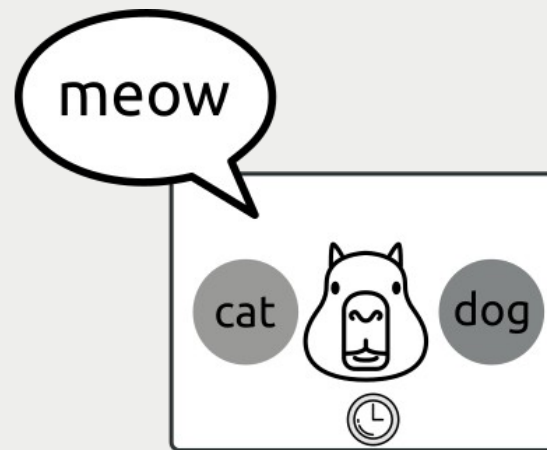
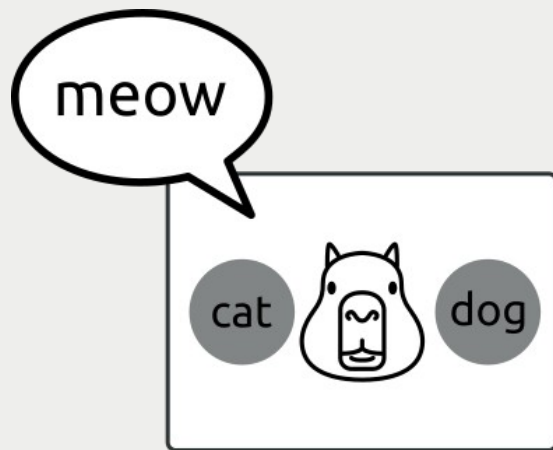
Experiment status: **finished**

You are viewing the final state of your last experiment, click the reset on the right.

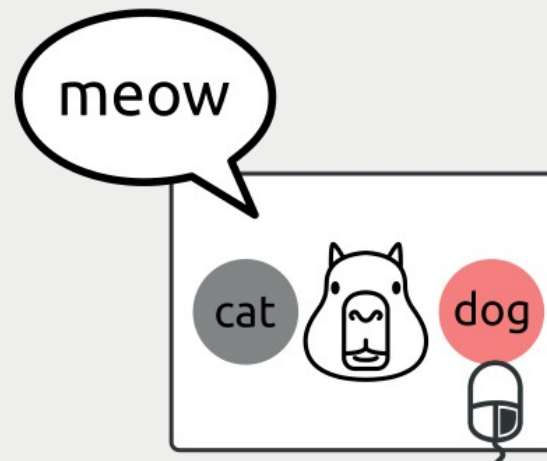
Variable	Value
cursor_roi	stim0;cat;stim1

Extra assignments

- If the animal is a capybara?




correct = 1



correct = 0

Extra assignments

- If the animal is a capybara?
- In programming logic:

 **block_loop** – loop
A single block of trials

Run

Repeats

Order

Source

☒ Evaluate on first cycle

☐ Resume after break

☒ Full-factorial design

Preview

Summary: **trial_sequence** will be called **150 times** in **random** order. The number of rows is 150. All rows occur once.

	animal	pic_nr	sound	sound_nr
1	cat	1	meow	1
2	dog	1	meow	1
3	capybara	1	meow	1
4	cat	2	meow	1

variable inspector

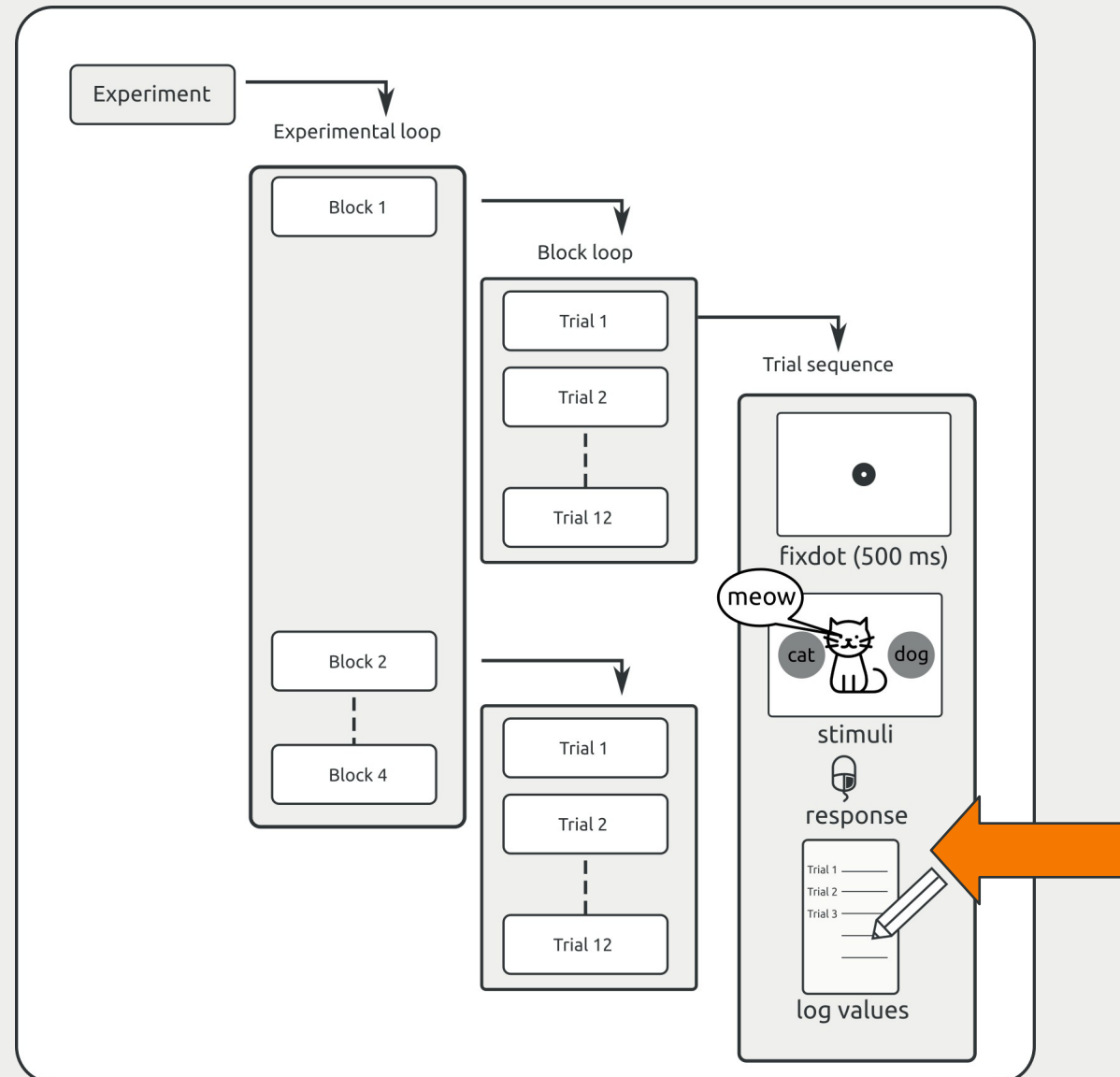
Experiment status: **finished**

You are viewing the final state of your last experiment, click the reset on the right.

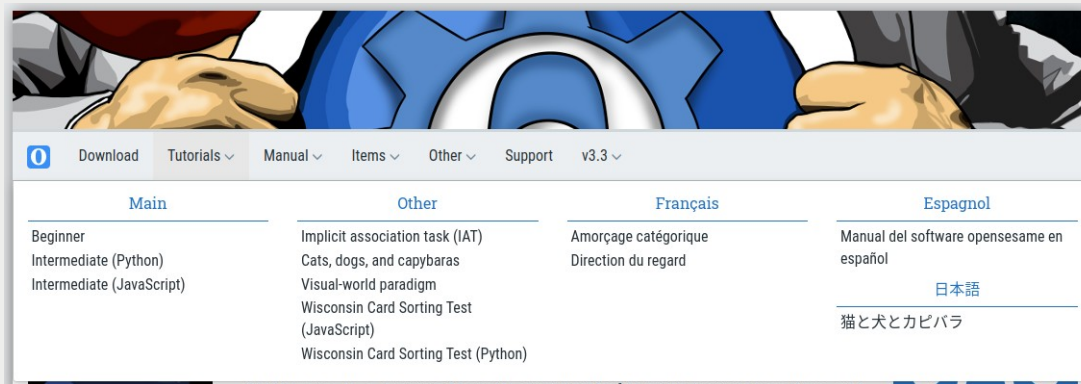
Variable	Value
cursor_roi	undefined

Extra assignments

- Feedback after every trial
 - Run-if statements



- Three options
 - Continue working on additional assignments
 - Start a new tutorial



- Work on your own research