

# Online Experiments for Language Scientists

Lecture 1: Introduction

Kenny Smith

[kenny.smith@ed.ac.uk](mailto:kenny.smith@ed.ac.uk)

# Rules for in-person lectures

Guiding principle: **let's look out for each other**

- If you are unwell, or think you might be, don't come to class!
- Wear a mask, unless exempt
- If you can't be here (or would rather not be) you can participate remotely via Learn
- If someone's here, trust that they're safe
- If someone's not wearing a mask, it's because they can't
- It's normal to cough sometimes!

# What is this course about?

Language is something that humans do, so all subfields of linguistics involve collecting data from humans

- Grammaticality judgments, naturalistic recordings, sociolinguistic interviews, preferential looking/listening in infants, reading times, reaction times and/or choices in psycholinguistic experiments, ...

This kind of data can be collected in person

Or it can be collected online (i.e. via a web browser)

This course shows you how to build language-relevant experiments that run in browsers, and how to crowdsource experiment participants

# Who teaches on it?



**Kenny Smith**  
*Prof*

Lectures  
Labs  
Course  
organiser



**Alisdair Tullo**  
*Programming and  
Apps Manager*



**Jess Brough**  
*PhD student,  
Psychology*

Labs



**Aislinn Keogh**  
*PhD student,  
Linguistics*

Labs



**Vilde Reksnes**  
*PhD student,  
Linguistics*

Labs

# How is it delivered?

In-person lectures (Mondays 10am-10.55am)

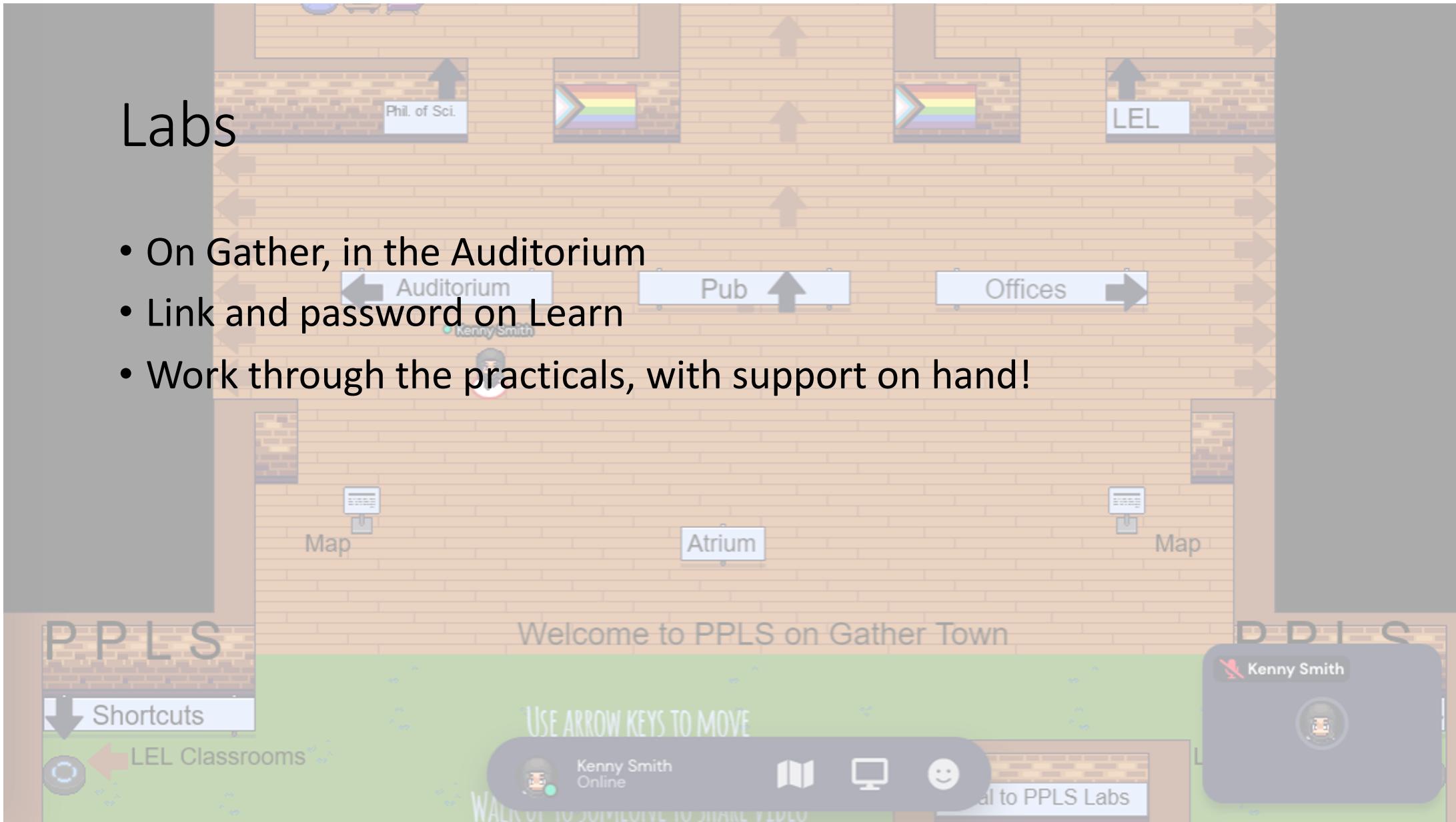
Online labs (Wednesdays 9am-11am)

# Lectures

- In person, but with a live-streaming option
- Bit of context by me, **plus discussion / Q&A time**
- Each lecture has associated pre-reading, **do the readings before the lectures** so we can discuss any questions/thoughts you have

# Labs

- On Gather, in the Auditorium
- Link and password on Learn
- Work through the practicals, with support on hand!



# How is it assessed?

**Assessment 1:** annotated bibliography, worth 30%, due 11<sup>th</sup> November

- Brief summary plus evaluation of 4 papers
- Papers can come from course readings or elsewhere

**Assessment 2:** coding project + report, worth 70%, due 9<sup>th</sup> December

- A functioning web experiment
- A short report explaining the motivation for that experiment, discussing and evaluating critical implementation decisions

Lots of information re. rationale and expectations available in the assignment brief

There will be a cut-off date for questions on the assignments!

# Where can I find all this information?

## Course Learn page

- Links to course pages on github, Gather labs
- Lecture live streams/recordings
- Assignment submission links

## Course pages on github

- Everything else

Any questions on course organization, admin?

(Kenny, remember to check online Q&A)

# Three components of running an online experiment

Building an experiment that will run in a web browser

- We'll be using javascript and jsPsych
- Also useful for running experiments in-person!

Making it openly available online

- PPLS / the Uni provide servers

Connecting with experiment participants

- E.g. through **crowdsourcing websites**

A look at some simple experiments

# Javascript and jsPsych

Javascript: a programming language that runs in web browsers

jsPsych: a library that makes it easy to build experiments  
(<https://www.jspsych.org>)

de Leeuw, J. R. (2015). jsPsych: A JavaScript library for creating behavioral experiments in a web browser. *Behavior Research Methods*, 47, 1-12. doi:10.3758/s13428-014-0458-y.



**Josh de Leeuw**  
*Vassar College*



# Plugins and timelines

## Plugins: basic building blocks

```
var trial = {  
    type: 'html-keyboard-response',  
    stimulus: 'hello world!'  
}
```



## Timeline: a sequence of those building blocks

```
var timeline = [trial];
```



# A wide range of plugins available

See <https://www.jspsych.org/plugins/list-of-plugins/>

Building an experiment involves

- Knowing how to use plugins
- Figuring out how to piece them together to make the experiment you want
- Some tiny bits of html and javascript to connect the plugins and make them do what you want
- (Occasionally, and optionally, making your own plugin)

Any questions/concerns so far?

(Kenny, remember to check online Q&A)

# Next up

Wednesday, 9am: first lab on Gather!

- Check you can access Gather
- **Download Visual Studio Code (link in the practical) before the lab**
- Optionally, take a look at the rest of the practical
- Your password for accessing the jspsychlearning server will arrive by email on Monday afternoon/Tuesday morning.

Next Monday, 10am: lecture 2, crowdsourcing experimental data

- **Do the reading beforehand!**