multilingual

Students : Audrey, Rafael, Ibrahim, Mikko

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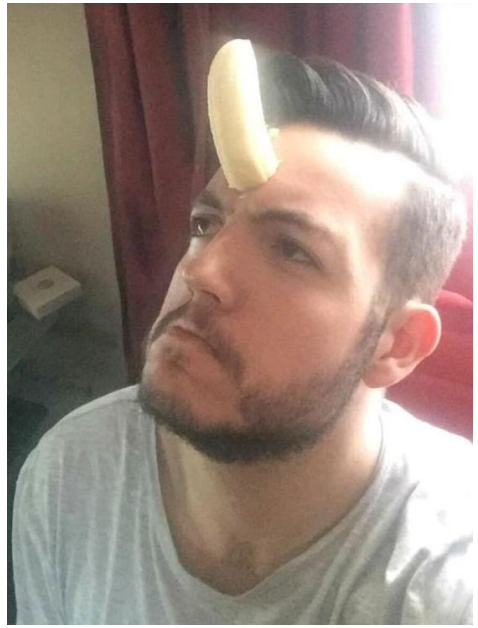
- Try it out!

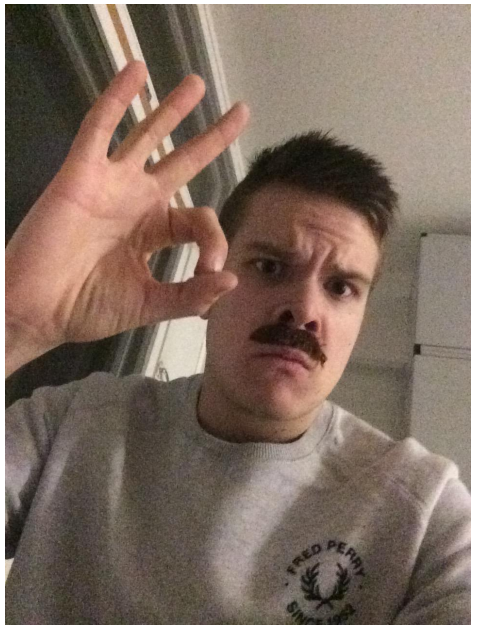
Who are we?



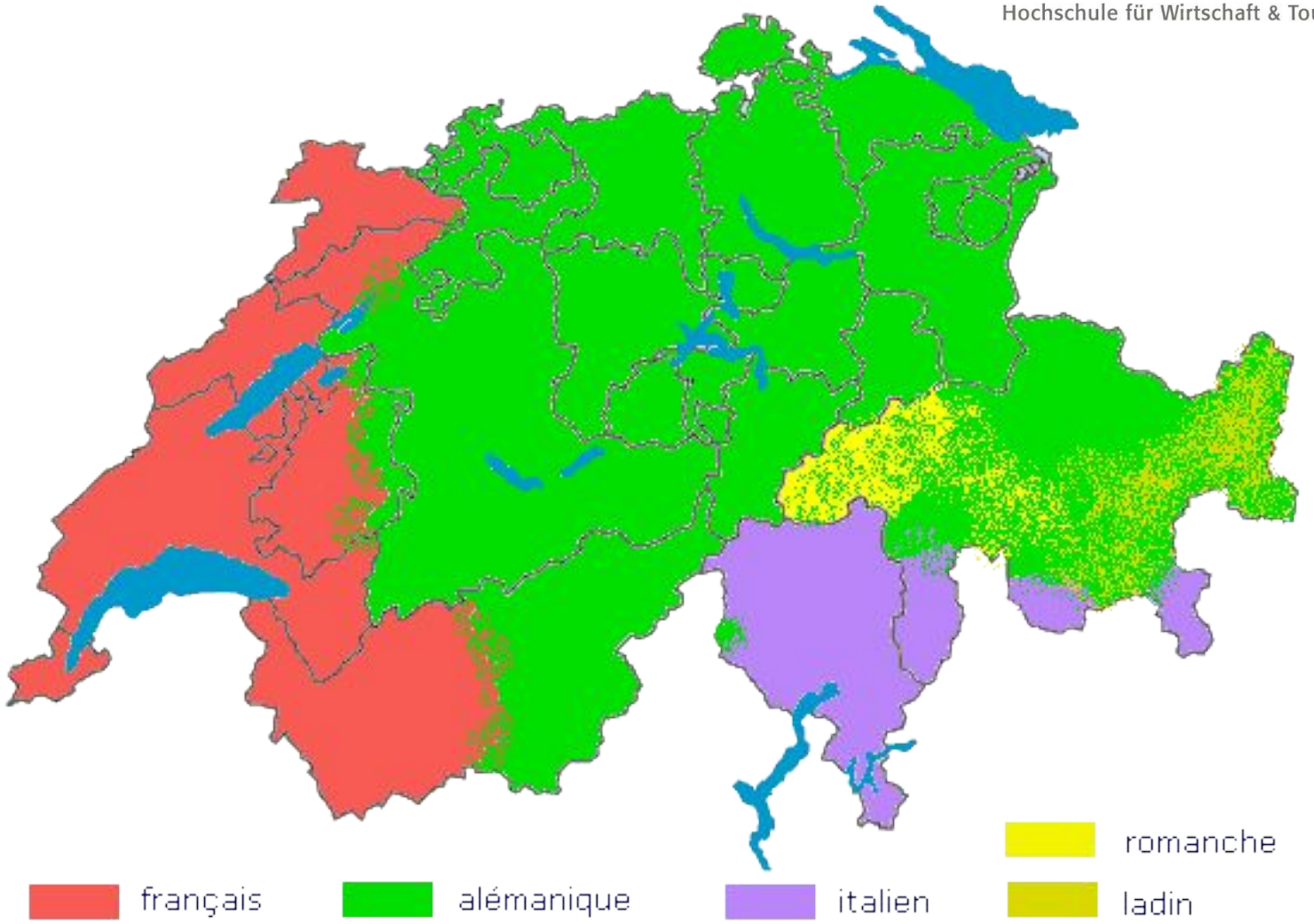
Rafael
24 years old
Portuguese

Audrey
24 years old
French - Swiss

Ibrahim
23 years old
Kosovar



Mikko
23 years old
Finnish


français
alémanique
italien
romanche
ladin


Konstanz
Basel
Aarau
Dietlikon
St. Gallen
Olten
Zürich
Bienne
Zug
Luzern
Neuchatel
Bern
Chur
Freiburg
Andermatt
Bulle
Lausanne
Airolo
Sion
Sierre
Locarno
Bellinzona
Genève
Lugano

Rhone

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- Starts in Wallis in the Alps in 2’200 meters
- One of the biggest river in Europe
- 812 km

Lake of Géronde

Small lake

St-Léonard

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Vineyards

Hes-So Valais-Wallis

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During winter...

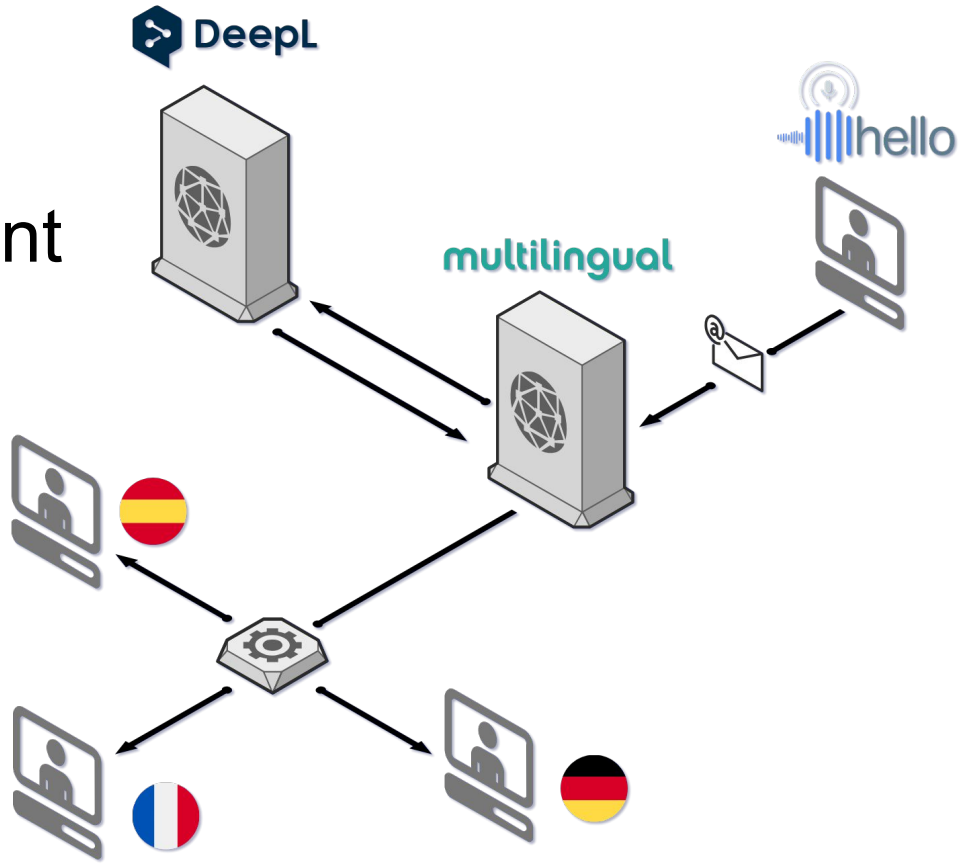
Let's try me...

English French

Multilingual chat

What are we going to build ?

- chat for people who speak different languages
- allow seamless multinational communication



Machine Learning

Deep Learning

Google Speech API

powered by Machine Learning

accuracy improves over time

over 120

languages & variants

real-time transcription

speech-to-text

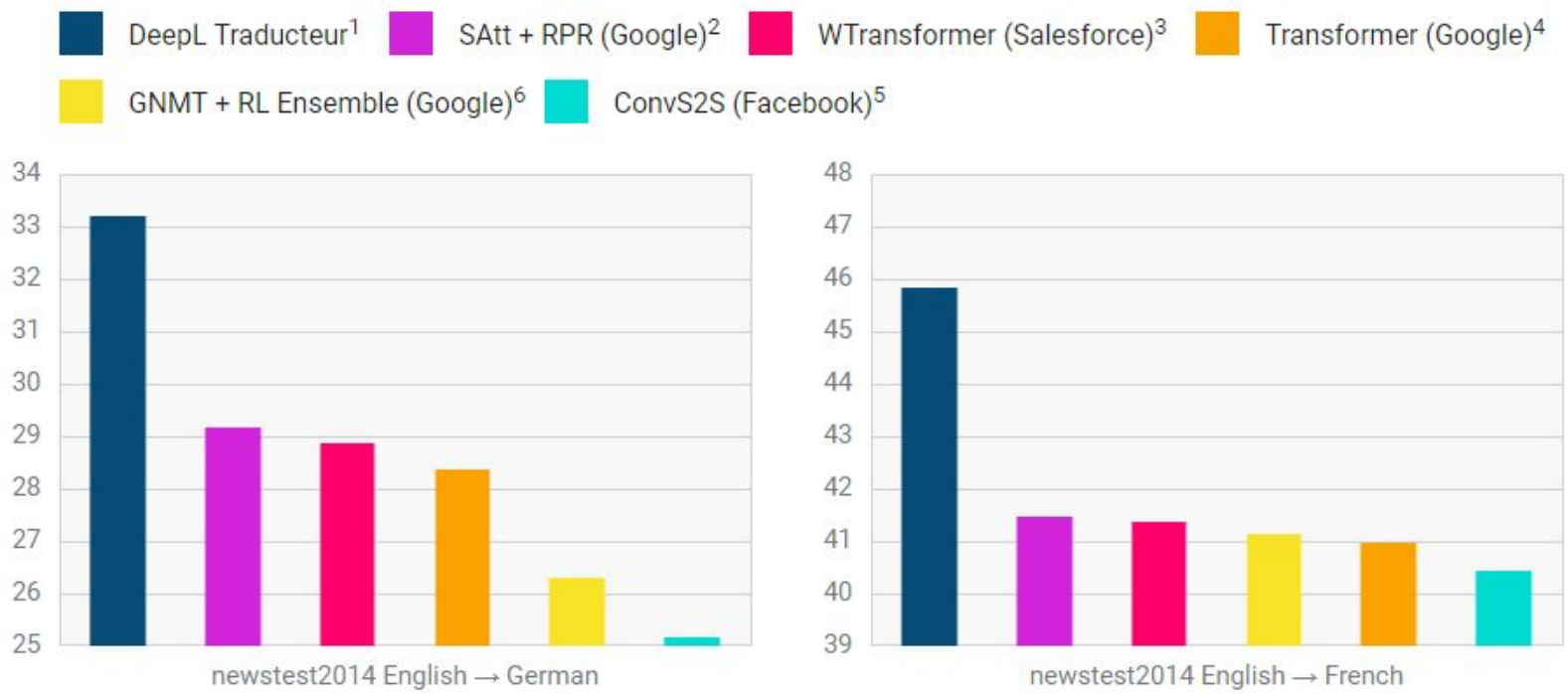
DeepL

Deep learning translation

Very good at translating

Over 3x better than commonly used translators

Only available for 7 languages

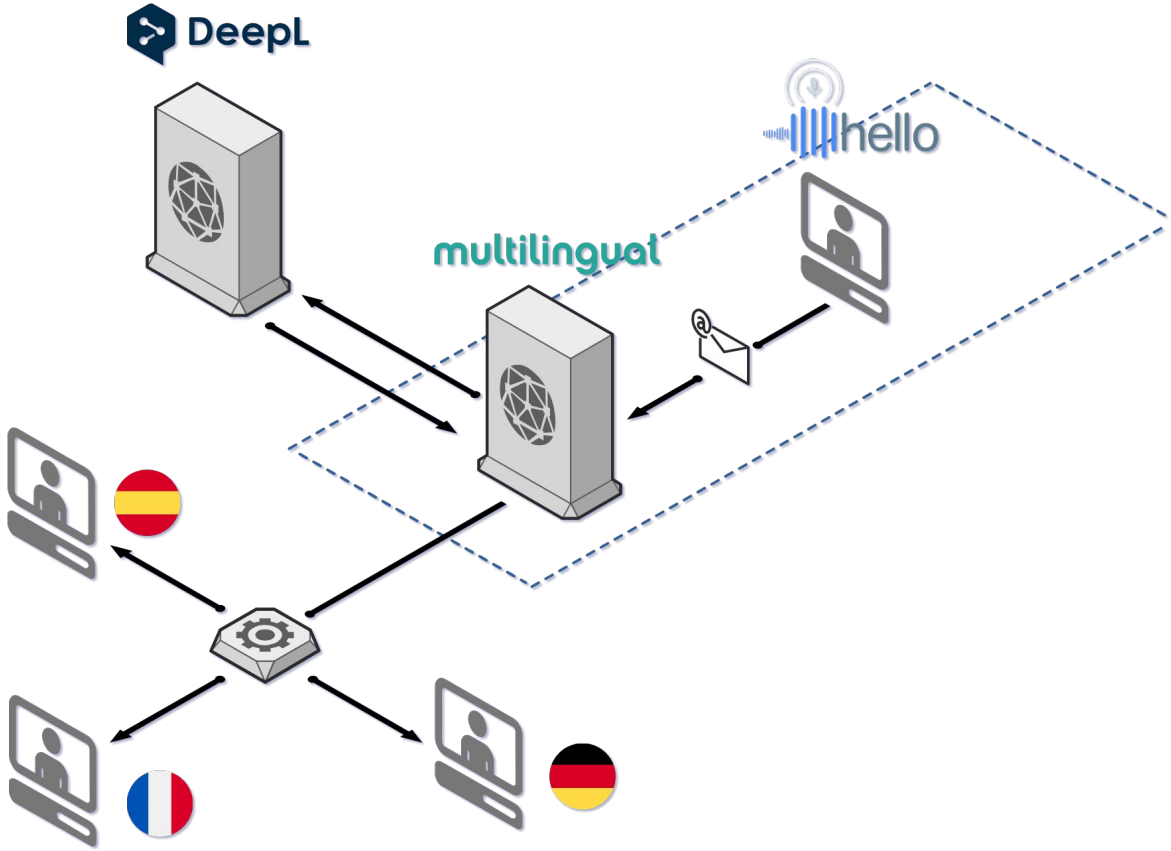


Part 1 Theory (HTML)

We will be implementing simple HTML and CSS.

For reference:

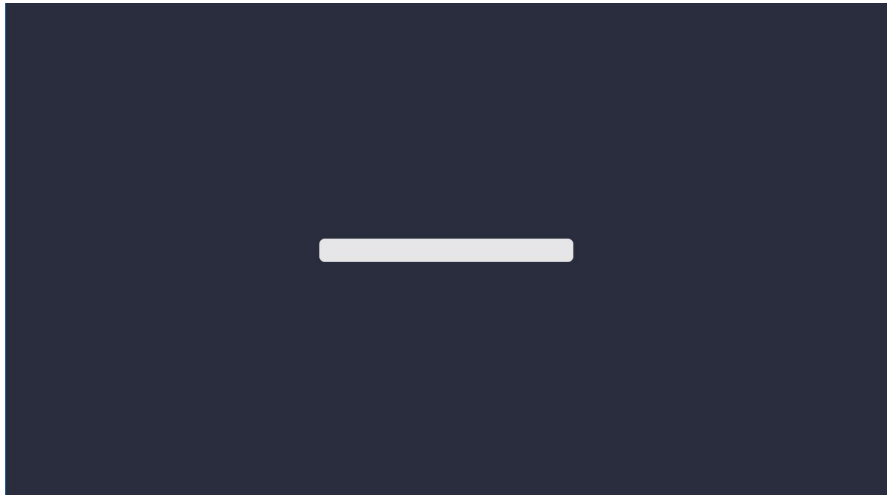
https://www.w3schools.com/

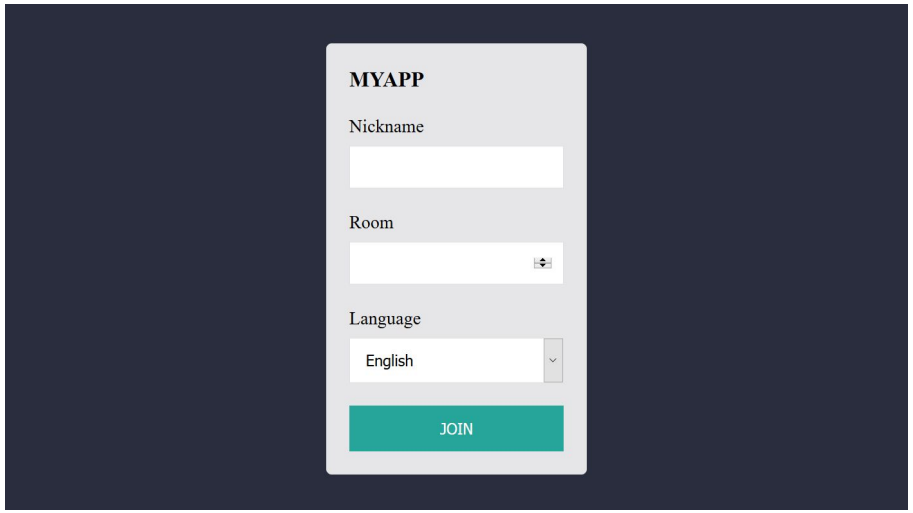


Part 1 Exercise

Step 1: Create a form for joining the chat

Hint: you can find language country codes online!

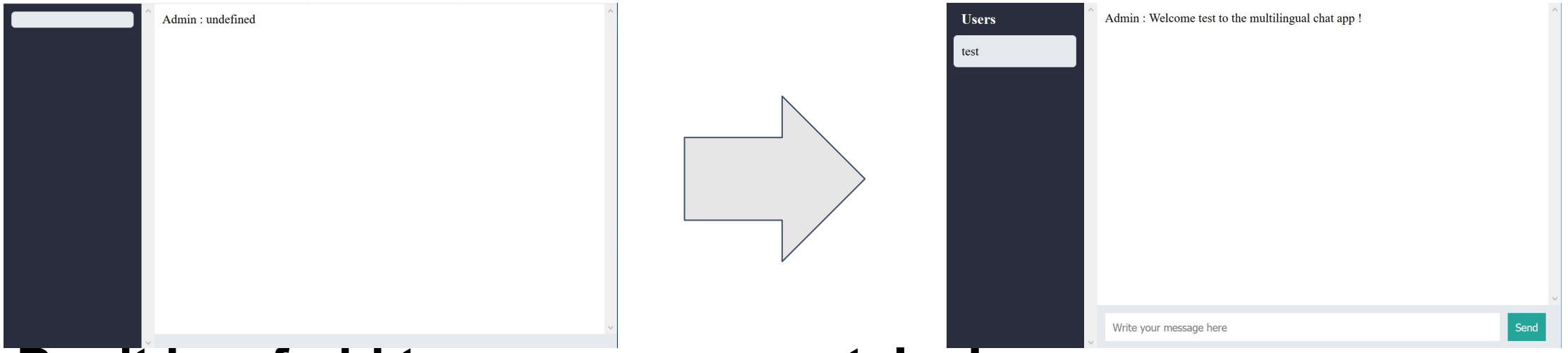




Don’t be afraid to use your own styles!

Part 1 Exercise

Step 2: Create the chat room layout



Don’t be afraid to use your own styles!

Let's start

!!! price for the best project !!!

Rules :

- Group of 4 people
- Make a good job
- Do not hesitate to ask for help
- Have fun !

https://github.com/audreycelia/multilingual

Part 2 Theory (Javascript)

- JQuery

(library designed to simplify the client-side scripting of HTML)

- Socket.io

(library that enables real time bi-directional communication between web clients and servers)

https://www.w3schools.com/jquery/jquery_examples.asp

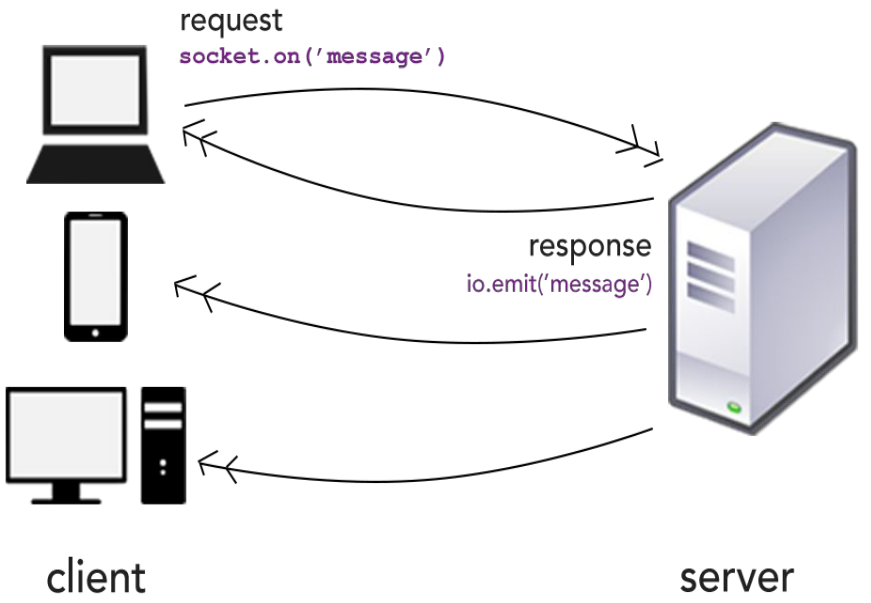
https://socket.io/get-started/chat/

Part 2 Theory (socket.io)

- For real time web applications.
- Enables real time, bi-directional communication
- It has two parts:
  - client-side library that runs in the browser
  - server-side library for Node.js.
- It is event driven
- Our server : https://multilingual-chat.herokuapp.com/

For documentation:

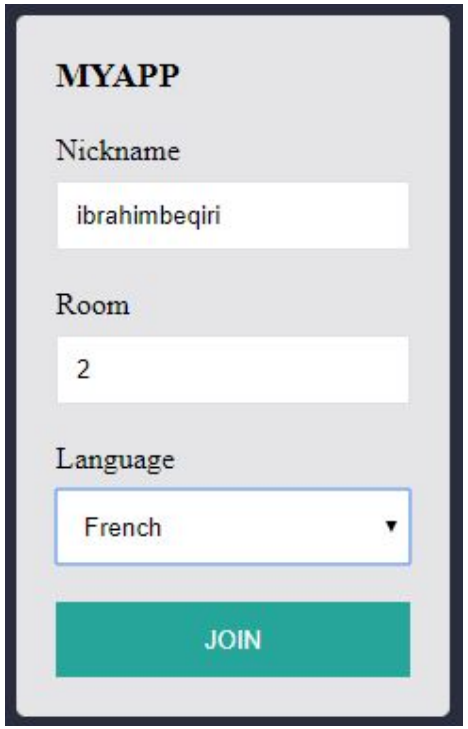
https://socket.io/docs/

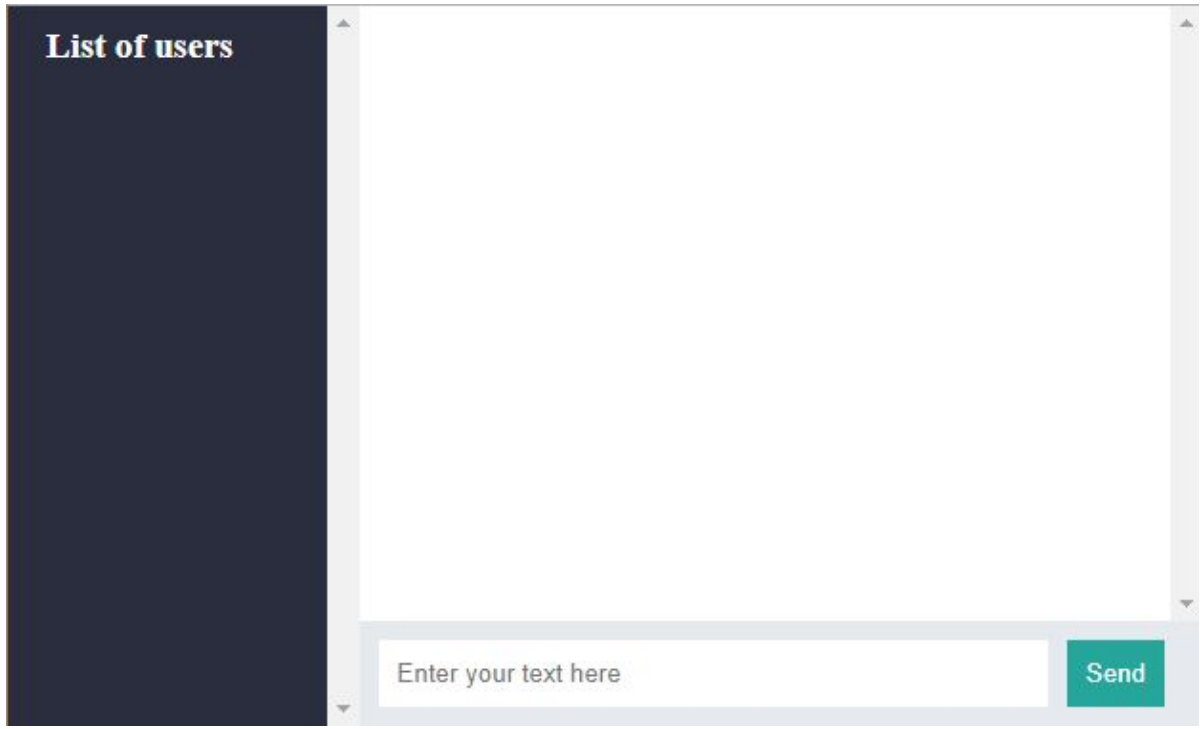


Part 2 Exercise (Start)

Steps:

- Start the project with the index.html file
- Choose your nickname, room and language
- Click join





Part 2 Exercise (Continue)

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implemented onAdminMessage method

(all methods follow same logic)

```
//ON ADMIN MESSAGE RECEIVED
$socket.on('adminMessage', function (messages) {
    //TODO
    //RETRIEVE THE CORRECT LANGUAGE MESSAGE
    var li = jQuery('<li class="left"></li>');
    li.text('Admin : '+messages[$language]);

    //DISPLAY IT
    $('#messages').append(li);
});
```

TO DO:

- implement newMessage method
- implement leftMessage method
- implement joinMessage method
- implement updateUserList method
- finish document.ready()
- store the URL values
- emite the join method with socket variable ($socket)
- implement sendMessage function

Part 2 Exercise (Result)

Part 3 Theory (Javascript)

Web Speech Recognition

- makes it easy to add speech recognition to your web pages
- Allows fine control and flexibility over the speech recognition
- Works for Chrome version 25 and later

```
if (!('webkitSpeechRecognition' in window)) {
  upgrade();
} else {
  var recognition = new webkitSpeechRecognition();
  recognition.continuous = true;
  recognition.interimResults = true;

  recognition.onstart = function() { ... }
  recognition.onresult = function(event) { ... }
  recognition.onerror = function(event) { ... }
  recognition.onend = function() { ... }
  ...
```

Documentation:
https://developers.google.com/web/updates/2013/01/Voice-Driven-Web-Apps-Introduction-to-the-Web-Speech-API

Part 3 exercise

```
//CONFIGURE RECOGNITION
function configureRecording()
{
    //TODO
    //Initialise $recognition = new webkitSpeechRecognition()
    //Set the language of the $recognition
    //Disable $recognition continuous config
    //Enable  $recognition intermediate results
    $recognition = new webkitSpeechRecognition();
    $recognition.lang = $language;
    $recognition.continous = false;
    $recognition.interimResults = true;
```

TODO:

- continue recognition function
- start recognition
- stop recognition