
English
English Report

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1 Introduction

In today's digital age, having a website is essential for businesses, organizations, and individuals alike. A website can be an effective tool for communication, marketing, and sharing information with a global audience. However, creating and maintaining a website can be a complex and technical process, especially for those with limited technical expertise.

To address this challenge, we have developed a comprehensive website that includes both user and technical documentation. Our website provides users with step-by-step instructions on how to navigate and use our platform effectively, while our technical documentation provides developers with the necessary information to customize and enhance our website.

Our user documentation is designed to be accessible and easy to follow, providing users with clear and concise guidance on how to use our website's features and functionalities. From creating an account to managing content, our user documentation covers everything users need to know to make the most of our website.

In addition to our user documentation, we also offer a technical documentation that provides developers with detailed information on our website's architecture, programming languages, and APIs. This documentation is aimed at developers who want to customize our website or integrate it with other systems.

This report presents our website and its user and technical documentation, including its features, design, and user experience. We also provide an evaluation of the website's effectiveness in meeting the needs of users and developers, as well as an analysis of its potential impact on the broader landscape of website development. Through this report, we aim to demonstrate the value and impact of our website and contribute to the ongoing conversation about innovative approaches to website design and development.

2 User Documentation

The English Classroom offers a range of resources to help learners improve their English language skills, with four key categories that we will be exploring in more detail : Article, Grammar, Vocabulary, and Culture History. These categories are essential for any English language learner, regardless of their current level of proficiency. Throughout our exploration of these categories, we'll be discussing the various resources and tools that are available through the English Classroom,

2.1 Article

This section of the website provides learners with a diverse range of articles to read and stay informed about global news. Learners have the option to choose from a wide selection of articles and can use this section as a valuable resource to enhance their reading comprehension skills. By offering both engaging and informative articles and self-evaluation opportunities, this section of the website provides a comprehensive approach to reading comprehension improvement that accommodates a variety of learning styles.

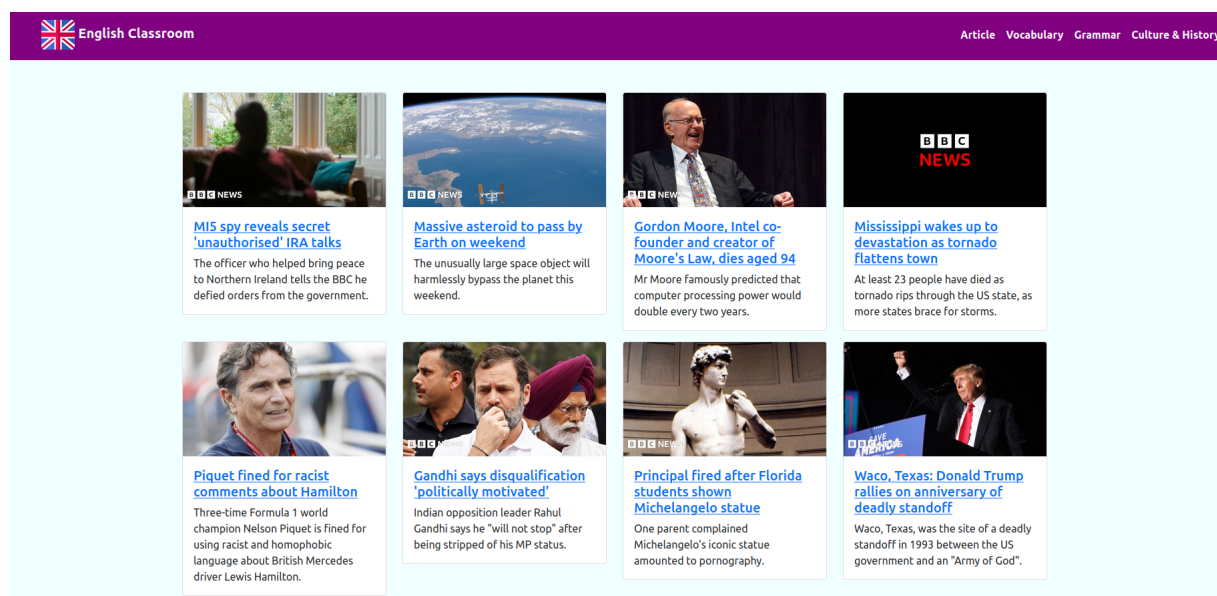


FIGURE 1 – Selection of articles

2.2 Grammar

This grammar section of the website provides users with a variety of short lessons on different verb tenses in English grammar. Learners can choose from several tenses, including the present simple, past simple and others. Each lesson includes a brief overview of the tense, as well as rules and examples to help learners better understand how to use the tense correctly.

In addition to the lessons, learners can practice their understanding of each tense with a series of interactive flip cards. The flip cards feature sentences on one side with the verb to use and the correct sentences on the other.

With a combination of short lessons and interactive flip cards, this section of the website provides a comprehensive approach to learning and practicing verb tenses in English grammar. Whether learners are new to the language or looking to refine their grammar skills, this section of the website is an excellent resource for anyone looking to improve their understanding and usage of English verb tenses.

The screenshot shows the 'Present Simple' lesson page. At the top, there is a purple header with the 'English Classroom' logo and navigation links: 'Article', 'Vocabulary', 'Grammar', and 'Culture & History'. The main title 'Present Simple' is in a large, elegant font. Below it, the text 'Le présent simple en anglais' and 'Comment se forme le présent simple ?' are displayed. The page contains two main sections of bullet points with examples in French and English. The first section explains the formation of the present simple for different subjects. The second section explains when to use the present simple. At the bottom, there is a 'TEST YOURSELF !' button.

English Classroom

Article Vocabulary Grammar Culture & History

Present Simple

Le présent simple en anglais

Comment se forme le présent simple ?

Le présent simple en anglais se forme différemment selon le sujet utilisé :

- Pour les sujets "I", "you", "we" et "they", le verbe est utilisé à la base verbale (infinitif sans "to") :
 - I eat pizza every week. (je mange de la pizza toutes les semaines.)
 - You study English at school. (Tu studies l'anglais à l'école.)
 - We watch movies on the weekend. (Nous regardons des films le week-end.)
 - They live in Paris. (Ils habitent à Paris.)
- Pour les sujets "he", "she" et "it", le verbe est utilisé avec un "s" à la fin :
 - He plays soccer with his friends. (Il joue au football avec ses amis.)
 - She studies science in college. (Elle étudie la science à l'université.)
 - It rains a lot in the winter. (Il pleut beaucoup en hiver.)

Comment utilise-t-on le présent simple ?

Le présent simple en anglais est utilisé pour décrire :

- Une action habituelle ou répétée :
 - I play basketball every day. (je joue au basket tous les jours.)
 - She always arrives late. (Elle arrive toujours en retard.)
- Une vérité générale ou un fait permanent :
 - Water boils at 100 degrees Celsius. (L'eau bout à 100 degrés Celsius.)
 - The sun rises in the east. (Le soleil se lève à l'est.)
- Une action qui est actuellement en train de se dérouler, mais qui n'a pas encore été achevée (en utilisant le présent continu, le temps peut être utilisé pour décrire une action en cours) :
 - She writes a letter every afternoon. (Elle écrit une lettre tous les après-midis.)
 - He plays video games a lot. (Il joue beaucoup aux jeux vidéo.)

TEST YOURSELF !

FIGURE 2 – Example of a lesson

The screenshot shows the 'TEST YOURSELF !' section. It features four purple rectangular cards arranged in a 2x2 grid. Each card contains a sentence in English. The sentences are: 'SHE ALWAYS EATS BREAKFAST AT 7 O'CLOCK.', 'I (TO LIKE) TO LISTEN TO MUSIC WHEN I'M WORKING.', 'THEY (TO PLAY) BASKETBALL EVERY SATURDAY.', and 'MY SISTER (TO STUDY) FRENCH AT UNIVERSITY.'.

TEST YOURSELF !

SHE ALWAYS EATS BREAKFAST AT 7 O'CLOCK.

I (TO LIKE) TO LISTEN TO MUSIC WHEN I'M WORKING.


THEY (TO PLAY) BASKETBALL EVERY SATURDAY.

MY SISTER (TO STUDY) FRENCH AT UNIVERSITY.

FIGURE 3 – Sentences to evaluate yourself

2.3 Vocabulary

In this particular part of the website, learners are presented with a range of resources and materials designed to enhance their vocabulary skills in both English and French. They have the option to choose between an interactive two-way table or a self-evaluation card system to suit their learning style. The two-way table features a comprehensive list of English and French words and allows learners to easily navigate and explore various vocabulary topics. On the other hand, the self-evaluation option offers a unique way to test vocabulary knowledge using a digital card system, where learners can guess the meaning of each word in the target language and check their answer against the corresponding translation. With these two options available, learners have the flexibility to choose the method that best suits their needs and preferences. This section of the website is an excellent resource for anyone looking to improve their vocabulary skills in both English and French, whether they prefer a self-directed approach or an interactive learning experience.

 English Classroom

ArticleVocabularyGrammarCulture & History

Gardening

Learn

Test

























French Word	English Word
UNE ABEILLE 	A BEE 
"DÉFENSE DE MARCHER SUR LE GAZON" 	"KEEP OFF THE GRASS" 
ARROSER LES FLEURS 	TO WATER THE FLOWERS 
CUEILLIR DES FLEURS 	TO PICK FLOWERS 
DE L'AIL 	GARLIC 
DE LAUBÉPINE 	HAWTHORN 
DE L'ÉPINARD 	SPINACH 
DE L'HERBE 	GRASS 
DES FEUILLES 	LEAVES 
DES HARICOTS 	BEANS 
DES HARICOTS VERTS 	GREEN BEANS 
DES LÉGUMES 	VEGETABLES 

FIGURE 4 – Two-way table



FIGURE 5 – Flip Cards

2.4 Culture History

This section of the website provides learners with an opportunity to explore nine different cultural and historical periods while also offering a platform for self-evaluation of their oral comprehension skills. Through this section, learners can gain a deeper understanding of the historical event and the culture through the ages, while also testing their ability to comprehend spoken English. By watching videos and evaluating their own understanding of the content, learners can improve their oral comprehension skills in a self-directed and personalized way. With a range of materials and resources designed to enhance cultural knowledge and comprehension, this section of the website is a valuable tool for any English language learner looking to expand their knowledge and skills.

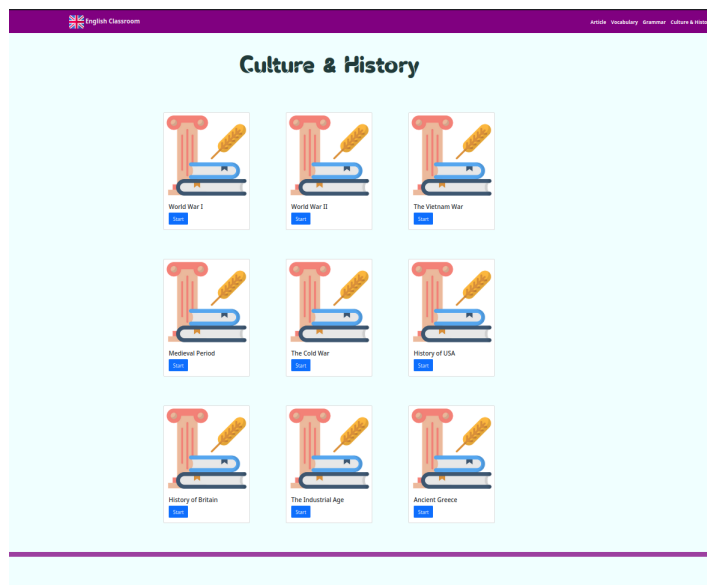


FIGURE 6 – List of the proposed themes

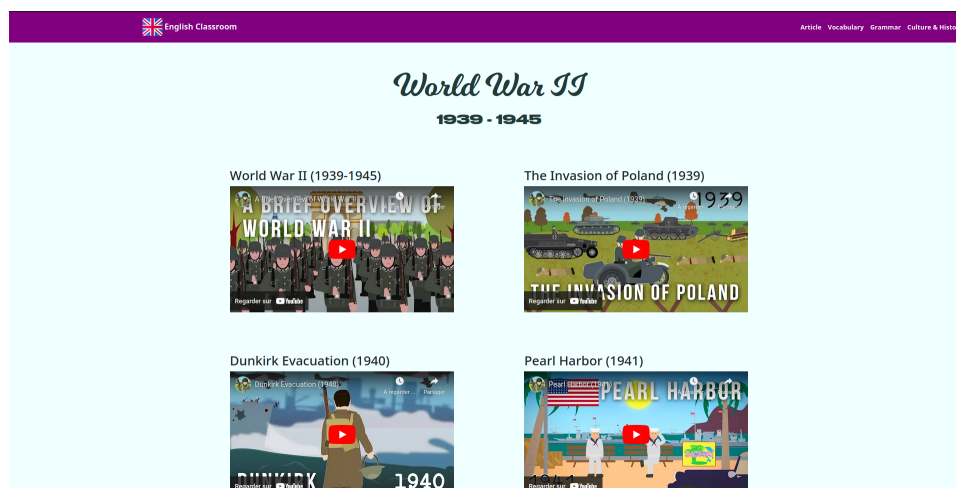


FIGURE 7 – Example of what a theme can provides

3 Technical Documentation

3.1 Website layout

We used Bootstrap, an open-source web development framework, to layout our website. Bootstrap uses pre-defined tools and components to create responsive and aesthetic websites using HTML, CSS, and JavaScript.

We used Bootstrap's features to easily create cards displaying an image and an associated theme, as well as to set up the navigation bar.

We also used numerous icons from the Flaticon website to illustrate each theme and category, making the site more visually appealing. These images are free, but we included the corresponding links in the "flaticon" file.

3.2 Server Web

We chose to use Flask, a Python framework, to develop our website and create a local server on our machine. We used Flask's basic features, including opening new web pages and passing variables between Python and JavaScript.

3.3 Database

We have created an SQL database for our website, which contains records with four attributes : a primary key with a unique identifier, the associated theme, the French word, and its English translation. We have also included grammar exercises in the database, with a primary key (an auto-incremented identifier), the associated theme, the question, and the answer.

We can see an example of the database here :

id	sujet	question	answer
1	Gardening	Une abeille	A bee
2	Gardening	"Défense de marche..."	"Keep off the grass"
3	Gardening	Arroser les fleurs	To water the flowers
4	Gardening	Cueillir des fleurs	To pick flowers
5	Gardening	De l'ail	Garlic
6	Gardening	De l'aubépine	Hawthorn
7	Gardening	De l'épinard	Spinach
8	Gardening	De l'herbe	Grass
9	Gardening	Des feuilles	Leaves
10	Gardening	Des haricots	Beans
11	Gardening	Des haricots verts	Green beans
12	Gardening	Des légumes	Vegetables
13	Gardening	Des lentilles	Lentils
14	Gardening	Des mauvaises herbes	Weeds
15	Gardening	Des pois	Peas
16	Gardening	Des pois chiches	Chickpeas
17	Gardening	Désherber	To weed
18	Gardening	Du chèvrefeuille	Honeysuckle
19	Gardening	Du houx	Holly
20	Gardening	Du lierre	Ivy
21	Gardening	Du lilas	Lilacs
22	Gardening	Du maïs	Corn
23	Gardening	Du muguet	Lily of the valley

FIGURE 8 – Database

3.4 API

We had difficulties finding a free API for Text to Speech. Eventually, we obtained access to the Web Speech API and used JavaScript to define the voices to use. This was an important step, as the library offers a wide selection of voices in different languages (38 French voices and 102 English voices).

```
function speakFrench(text) {
  const synth = window.speechSynthesis;
  const utterance = new SpeechSynthesisUtterance(text);
  utterance.onerror = (event) => {
    console.error('Speech synthesis error:', event.error);
  };
  //French voice : 38
  utterance.voice = synth.getVoices()[38];
  utterance.rate = 1;
  utterance.pitch = 1;
  utterance.volume = 1;
  synth.speak(utterance);
}

function speakEnglish(text) {
  const synth = window.speechSynthesis;
  const utterance = new SpeechSynthesisUtterance(text);
  utterance.onerror = (event) => {
    console.error('Speech synthesis error:', event.error);
  };
  //English voice : 102
  utterance.voice = synth.getVoices()[102];
  utterance.rate = 1;
  utterance.pitch = 1;
  utterance.volume = 1;
  synth.speak(utterance);
}
```

FIGURE 9 – Javascript Code for API Text-to-Speech

For the "Culture and History" section of our website, we used the YouTube API. Thanks to a link provided by the API, we were able to easily integrate videos onto our website, which allowed us to enhance our content with multimedia.

As for the "Articles" section, we created an API key with NewsAPI. We then used the API documentation to display articles on our site using JavaScript. This feature allowed our site to offer up-to-date content to our visitors.

For the NewsAPI, we use this code :

```
<script>
const apiKey = '{{apikey}}';
const url = 'https://newsapi.org/v2/top-headlines?sources=bbc-news&apiKey=${apiKey}';

fetch(url)
  .then(response => response.json())
  .then(data => {
    const articles = data.articles;
    const newsContainer = document.getElementById('news-container');
    let newsHTML = '';

    articles.forEach(article => {
      const title = article.title;
      const description = article.description;
      const url = article.url;
      const imageUrl = article.urlToImage;

      newsHTML += `
      <div class="col-md-3 mb-3">
        <div class="card">
          
          <div class="card-body">
            <h5 class="card-title"><a href="${url}" target="_blank" rel="noopener noreferrer">${title}</a></h5>
            <p class="card-text">${description}</p>
          </div>
        </div>
      `;
    });

    newsContainer.innerHTML = newsHTML;
  })
  .catch(error => console.error(error));
</script>
```

FIGURE 10 – Javascript Code for NewsAPI

3.5 An easily customizable tool

First of all, we aimed to simplify the use of HTML pages on our site as much as possible. For the vocabulary section, we use only one HTML page, whose content changes automatically depending on the selected theme.

For the grammar and Culture History sections, we created an HTML page for each theme, but all pages have the same template.

We set up a while loop to automatically add vocabulary words to the web page in "Learning" and "Test" modes. Simply adding the corresponding vocabulary words to the database will display them on the page.

We used the same technique for grammar exercises. Simply adding content to the database will display it directly on the web page.

However, to add new themes, this must be done directly in the code. We created Python lists that list all theme names for vocabulary, grammar, and Culture History. Adding the name of a new theme to this list is enough to add it to the web page, as our code reads this list to create all the elements of the page.

In the Culture History section, it is also easy to add new themes (as mentioned earlier), as well as videos. Thanks to the YouTube API, just one line of code needs to be added to the HTML file corresponding to the theme to add the video.

4 Conclusion

In summary, our application is easily customizable as we have designed the code to allow for the addition of new themes and exercises in each category in a simple manner. Our site is primarily geared towards beginners who want to learn vocabulary, grammar, and improve their reading and listening comprehension.

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